Unlocking Private Financing for Carbon Removal

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Carbon removal projects must prove bankability to unlock lower-cost debt financing and scale beyond early-stage equity funding.

Diversified revenue streams and long-term contracts can help mitigate policy uncertainty and strengthen project economics.

Bankable offtake agreements with creditworthy buyers and predictable revenues are increasingly essential to securing project financing.

Developers that reduce technology risk, strengthen cash flows, and build confidence among financial partners will be best positioned to attract capital and scale.

Building a commercial-scale carbon removal project is capital intensive. Like buying a home or a car, most developers do not have enough capital on hand to cover the full cost of construction. Instead, they rely on financing: financiers provide the upfront capital needed to purchase equipment, build facilities, and bring projects online, with the expectation that they will earn a return on the capital allocated. The return depends on the type of capital and the level of risk associated with the project.

Equity, whereby a financier provides capital in exchange for part ownership of a project, is often the type of capital used in the early stages of developing a new technology, but it can be costlier. Financiers expect a higher return on their investment – reflecting the higher level of risk. As carbon removal technologies mature, in order to scale up commercially they need to access cheaper sources of capital in the form of debt whereby a lender provides a loan to be repaid over time through the project's future revenues.

But before a lender provides financing, they need confidence that the project is bankable.

A bankable project is one where a lender believes the future cash flows are strong enough, and the risks to future cash flows are manageable enough, to justify providing capital. In other words, the question lenders are asking is simple: what is the likelihood that we will get our money back?

For carbon removal projects, achieving bankability can be challenging. Many projects involve first-of-a-kind technologies, rely on evolving policy frameworks, and operate in a market that is still developing. Understanding and addressing these risks is critical for projects seeking to reach a final investment decision. Below are perspectives on the state of carbon removal project finance and are not meant to be financing criteria specific to BMO.

Proving the Technology Can Deliver

Many carbon removal projects being developed today rely on technologies that are being deployed in real-world environments for the first time. While laboratory results and pilot projects can demonstrate technical potential, lenders need confidence that the technology will perform reliably at commercial scale.

This is because scaling up often reveals challenges that cannot be fully predicted in a lab and creates uncertainty. A project may look promising on paper, but the key question is whether it can consistently deliver the expected volume of carbon removal over the lifetime of the project.

Developers can reduce technology risk by demonstrating their technology in increasingly representative environments and at progressively larger scales. Some developers adopt a strategy to seek financing one stage at a time as their projects scale. Each successful deployment builds confidence that the technology can perform as expected and improves the project's ability to attract further financing.

Turning Policy Support into Investable Economics

Government policy can play a significant role in the economics of many carbon removal projects. Incentives, regulations, and carbon markets can have a major impact on both project costs and expected revenues.

However, lenders evaluating projects over decades need confidence that the underlying policy environment will remain sufficiently stable.

Policy uncertainty does not necessarily make projects impossible to finance, but it can increase the perceived risk. If future revenues or costs depend heavily on policies that may change, lenders have less certainty about whether a project will generate enough cash flow to repay financing.

Developers can strengthen their project's economics by reducing reliance on a single source of revenue. This can include accessing government incentives where available, signing long-term offtake agreements and developing additional revenue streams not tied to carbon credits.

The Importance of Bankable Offtake Agreements

Advanced market commitments, where governments or companies agree in advance to purchase carbon removal credits that will be delivered in the future, have been critical to enabling early carbon removal projects.

However, a commitment to buy future credits is not the same as guaranteed revenue. Before providing financing, lenders need to understand how reliable those future revenues are and whether they will be sufficient to repay the loan.

When assessing offtake agreements, lenders typically consider several factors including:

Price and volume: What percentage of the projected cashflows – a function of both price and volume - used in loan underwriting is guaranteed by the agreement?

Term: Does the length of the agreement align with the repayment period of the loan?

Offtaker creditworthiness: Is the offtaker financially capable of fulfilling the commitment over the life of the agreement?

Delivery risk: Is there risk to the delivery or creation of the intended carbon credits in the agreement?

In today's market, offtake agreements are often the foundation of a carbon removal project's financial structure. Structuring these agreements with financing requirements in mind will be essential as the industry moves from early commitments toward commercial-scale deployment.

Why Financing Remains Difficult

Despite growing realization that proven, commercial scale technologies will increasingly be needed to remove carbon dioxide from the atmosphere, securing project funding remains challenging. One reason is simple: the industry is still young.

Unlike established industries with decades of operating history, standardized contracts, and proven project models, carbon removal projects are often assessed individually. Every new project requires lenders to evaluate unique technologies, revenue models, and risk profiles from the ground up. This increases the time, complexity, and cost of financing.

Policy uncertainty is another significant barrier. Investors and lenders value predictability because they need to forecast project performance over long time horizons. When incentives, regulations, or market rules are uncertain, business models become less reliable, increasing perceived risk and reducing returns on a risk-adjusted basis which may make funding these projects less profitable.

What Developers Can Do Today

While financing early carbon removal projects remains challenging, developers can take several steps to improve their ability to secure capital:

Reduce technology risk by deploying projects in environments that better reflect commercial-scale operations and demonstrating performance over time and in stages.

Build resilient business models by diversifying revenue streams, combining public incentives with private demand, and developing additional sources of value beyond carbon credits.

Structure offtake agreements with financing in mind by ensuring commitments provide sufficient revenue certainty through adequate projected cashflow contract coverage and robust offtaker creditworthiness.

Achieving bankability is ultimately about building confidence that a technology will perform as expected, that revenues will materialize, and that risks are understood and manageable. As the carbon removal industry matures, projects that can demonstrate this confidence will be best positioned to move from ambitious concepts to financed, commercial-scale realities.

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