



4 of 6 in the series

Financing the Transitions the World Needs: Towards a New Paradigm for Carbon Markets

- ▶ Chapter 4: Integrating Natural Climate Solutions

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Summary of Previous Chapters

Throughout this report, I am setting out the case that the carbon market needs to be redesigned in a way that the limited finance it provides can serve as a catalyst that enables the long-term transition of sectors of the global economy. While Chapter 1 framed carbon finance as a potential tool to ensure such transitions, Chapter 2 proposed a new way of thinking about additionality, with a view to adapting this important concept so that the market can channel the financing it provides towards innovations that can eventually stand on their own. Chapter 3 discussed how to ensure the green transition for projects that will need ongoing support once the carbon finance that sustains them in the early stages comes to an end. Specifically, Chapter 3 proposed that governments could commit to regulating GHGs from certain sectors of their economy in the future in exchange for investments made through carbon markets today. Chapter 3 also discussed how such a concept (i.e., Corresponding Commitments) would complement the architecture of the Paris Agreement and be critical to achieving its objective of keeping global heating in check.

Background

The new paradigm focused on using carbon finance to ensure the transitions the world needs is particularly well-suited to natural climate solutions (NCS). These solutions cover a wide range of interventions (e.g., forest conservation, restoration of degraded lands, reforestation, agroforestry, regenerative agriculture, biochar) that can create the foundation for a sustainable economy. This is especially the case when these activities are considered together, as part of a package designed to be supported at first through the sale of carbon credits but over the long-term through the development of sustainable economic models.

One of the great contributions of carbon markets, especially the VCM, has been its ability to bring additional sources of finance to the protection and restoration of natural habitats. The work conducted on NCS has highlighted the importance of protecting and restoring nature and that these solutions must be part of the long-term solution to climate change. Financing NCS through the sale of carbon credits has also played a key role in highlighting the fact that carbon finance can help individuals and communities directly by enabling them to counter the economic drivers responsible for large-scale forest and land degradation. The protection and restoration of natural habitats facilitated by carbon finance has also helped stem the loss of biodiversity that is critical to healthy ecosystems.

However, some of the requirements governing parts of the carbon market limit the ability of carbon finance to usher in broader and more transformative interventions. The rules governing project and issuance approvals prevent the integration of various activities that are inherently complementary to each other. As a result, the focus on separate and individual project activities limits the potential for achieving integrated solutions and therefore greater climate action that could very well deliver the broader transition I have argued is needed. The siloed approach to project approvals in respect of NCS also undermines the development of business models that could help address concerns about the permanence of the reductions achieved. This chapter proposes some concrete changes to the rules and requirements that govern NCS financed through the carbon markets so that they can serve as a tool for the broader transition the world needs.





Landscape Thinking

The markets' rules for NCS projects need to be updated to enable more successful interventions across broader landscapes. As mentioned in previous chapters, one of the biggest challenges carbon markets face is that it is incredibly difficult to integrate the range of NCS solutions (e.g., forest conservation, reforestation, improved forest management, agroforestry, regenerative agriculture) into a single project. As a result, projects wanting to do more than one intervention have to undertake, for each intervention, the cumbersome, time-consuming and costly project development process that has become the Achilles Heel of carbon markets (i.e., preparing a lengthy project description, having that validated by an auditor and then approved by the relevant GHG crediting program).

It should therefore come as no surprise that projects tend to focus on a single activity, even though these could complement each other. For example, forest conservation projects could expand their scope of activities beyond their project boundaries to restore areas nearby through reforestation efforts and the promotion of agroforestry and regenerative agriculture, all of which would strengthen the buffer zone around the protected forest. Such integration could also help to resolve the growing divide that pits avoidance credits and removals against each other and threatens to derail very important investments we can make to protect natural habitats.

There are a number of reasons for integrating both avoidance and removals credits within a broader landscape approach, especially because doing so would enhance projects' likelihood of long-term success.

- **Complementary carbon finance.** Revenues from avoidance and removals are complementary. While revenue from avoidance can be generated relatively quickly (e.g., as soon as a project stops deforestation), revenue from removals tends to take a lot longer (e.g., until the trees grow or carbon is sequestered in the soil), which makes these projects challenging from a purely financial perspective. However, proper integration of these activities into a sophisticated revenue model would enable projects to leverage the available finance in a way that enables long-term resiliency. For example, revenues from the sale of credits related to avoided deforestation could be used to invest in activities that create removals, such as nurseries and the restoration of degraded areas nearby.
- **Additional revenues beyond the sale of carbon credits.** Revenues from the sale of forest and agricultural products can be leveraged for long-term economic sustainability, especially if these products meet emerging sustainability standards increasingly required by consumer goods and food companies. For example, produce or commodities coming from previously degraded land that now has a certain amount of tree cover would likely find its way to a supply chain looking for sustainable products and inputs.
- **Resilient business models.** Projects that diversify their sources of revenue, across both carbon (i.e., avoidance and removals together) and additional non-carbon sources (i.e., agricultural and forest products), will be more resilient because they will not end up depending on a single source of income. This is basic economics and financial management, but the rules that currently govern the market ignore this important principle.
- **Support the transition.** Projects that integrate various NCS activities can build the foundation for effective sustainable development across an entire landscape. By making investments across various project activities, these interventions can both protect existing habitats and seed the restoration of others. At scale, this could involve large investments that can build the businesses of the future.

- **Higher prices.** Projects that are more resilient and support the transition are likely to fetch higher prices in the market because buyers will appreciate that this is a long-term investment in a particular region of the world. This should be the case for buyers from the consumer goods and food industries who would appreciate the long-term benefit of ensuring the green transition. This is in stark contrast with the current model, which is primarily focused on securing tonnes to compensate for unabated emissions.

Breaking down these barriers will take some time given the methodological and program rule changes that would be required, at least in respect of the major GHG crediting programs. Some of the new and emerging standards may figure this out as well.

Nevertheless, one change that could be relatively simple and quick to implement would be to clarify or eliminate the existing rule that requires areas to be deforested for 10 years before they can be reforested. While that requirement can often be resolved with a demonstration that the area was not deforested in order to enable its reforestation for the purpose of generating carbon credits, it is broadly understood to be a barrier. We now have technology (e.g., satellite imagery) that can help ascertain where removals activities could be undertaken without creating perverse incentives. In short, while this requirement made sense back in the day, today's urgent need for removals suggests the market could simplify this particular rule to enable broader investment in removals.



Key to ensuring carbon finance can play a role in the overall transition is recognizing that removals activities tend to be better suited to generating alternative sources of income, which are critical to creating long-term value. For example, reforestation, agroforestry and regenerative agriculture all have the ability to create further value from forest (e.g., timber) and agricultural products. Leveraging those economic drivers can therefore provide a solid foundation for the evolution of this particular sector of the economy, especially if carbon finance can be reoriented to enable broader landscape management and the creation of effective and sustainable business models.

Integration Can Enable Scale

The [Tambopata National Reserve REDD Project](#) in the Madre de Diós region in Peru is a great example of what this integration of both avoidance and removals credits could look like, while also highlighting some of the challenges projects face today. In that project, the local project developer ([AIDER](#)) and its partners used the proceeds from the sale of carbon credits related to the conservation of the forest to make two powerful investments. First, they built a processing facility for locally-grown cacao. Second, they established a cooperative for cacao farmers that enabled them to benefit from the local processing facility, provided they committed to protecting the forest. Specifically, farmers had to commit to not cut down any trees in order to plant cacao, and plant cacao in areas that had not been forested for at least five years.

As a result of this simple formula, hundreds of farmers have joined the cooperative and have replanted trees on their fields, thereby generating additional income through the production of high-quality cacao, creating a strong new business platform that will help sustain the local economy in the long-run, beyond the end of the carbon project. Importantly, the areas that are now producing cacao through a sustainable agroforestry model have helped both reestablish wildlife corridors and strengthen the buffer zone around the forest reserve that was being encroached upon before the project started.

At the same time, the removals that the Tambopata Project has been able to generate have not yet been accounted for given that each of these interventions (i.e., REDD vs. ARR) requires a separate project and all of the resulting complications that go along with that. What is critically important here is that by complicating the project developer's ability to secure further sales of carbon credits, the market is undermining an excellent opportunity to transform this particular part of the economy. If the communities working on this project had extra resources to invest in additional productive activities, such as processing facilities for other sustainable agricultural products, it is possible to imagine how the sector could be transformed and eventually no longer need carbon finance.

Potential Long-term Role for Government?

The Tambopata project also serves to illustrate the power of embracing government participation, as set out in Chapter 3. The genesis for this project was a call by the national government seeking financial assistance to manage and protect various natural protected areas because it lacked the necessary resources to do so. Carbon markets stepped in and have now made a powerful contribution to protect that area. What's more, the project has helped restore surrounding areas by building a new business model based on the production of sustainable agricultural products that improve people's lives.

This model could readily be scaled to transform this particular region of Peru. For one, the government may be willing to commit both politically and financially to the long-term protection of the natural protected area, especially if the resources for ensuring the protection of this area could be secured through a trust fund that could be funded over time. In addition, the new businesses that have been built already, along with the additional ones that could be viable under a transitional paradigm, would provide new incomes for small landholders and tax revenues for the government, thereby making the scaling of these efforts an incredibly viable proposition.

The Power of Positive Tipping Points (PTPs)

If we are able to identify viable business models for activities taking place in the NCS sector, the idea of setting out **Positive Tipping Points (PTPs)** for determining additionality (as set out in Chapter 2) starts to come into focus. Specifically, carbon finance could be designed to serve as a catalyst to foster additional economic value in the form of traditional forest and agricultural products produced sustainably, leading to the long-term transitions the world needs. This means carbon finance could be used to usher in the kinds of changes needed to ensure the green transition – introducing new technologies and practices, reducing the costs needed to implement these, building the necessary capacity and, generally speaking, de-risking future investments.

Early finance provided through the sale of carbon credits could support entrepreneurs creating new businesses such as processing facilities for agricultural products, tree nurseries, and those built around training farmers to manage production with a certain amount of tree cover. A properly-designed PTP would end up creating a revamped ecosystem that would enable these activities to grow in the future on their own, without having to rely on the sale of carbon credits. For example, in a scenario where a sector has achieved its PTP, local banks would be willing to make small-business loans to a new cooperative that brings together producers of sustainable agricultural products.

Viewed through a lens that integrates various NCS activities and sets out properly-designed PTPs, one can envision how to transform the forestry and agricultural sector in states or provinces like Madre de Diós in Peru. For example, a potential threshold could represent a certain percentage of the farming community that is part of a sustainable supply chain. Achieving such “market penetration” would require the evolution of the entire sector and would likely reflect many of the key criteria needed to ensure a sustainable agricultural economy.





This highlights another key benefit of considering the concept of PTPs for determining additionality – that it would fundamentally revolutionize how investors look at this market, and investments in NCS in particular. Under the current rules, investment is rather limited, and this is due to a number of reasons.

- First, investors do not have much confidence that their investment will pay out given that there is a lot of uncertainty as to whether projects will be deemed additional.
- Second, the project-by-project assessment means investors have to wait incredibly long periods before finding out if their project will be approved.
- Third, the siloed nature of project types means investments are, by definition, limited in their scope.

Simply put, the complicated and limited nature of the siloed project approval process undermines investment in NCS.

However, under a model where a PTP has been established and results in a long-term perspective with clear guideposts, investors would have significantly more confidence in deploying their capital. Importantly, this would play out both in respect of investments made to generate emission reductions/removals, as well as with investments made in the underlying infrastructure (e.g., the nurseries, the processing facilities) needed to support a sustainable economy. The carbon market can therefore lay the foundation that can be built upon to ensure a deeper transition.

Relation to Jurisdictional Programs

The scope of the model described here will inevitably raise questions as to whether this is essentially a jurisdictional approach. Although it could be, it is not necessarily the outcome, and there are some important similarities and differences that are worth considering. In terms of the similarities, there are two main ones.

- Both are looking at interventions that would be implemented across a broader landscape than what is typically done under traditional project-based approaches. Even though most jurisdictional programs tend to be looking at national or state- or provincial-level interventions, efforts led by municipalities and/or states would more likely approximate the scope of what is being proposed here.
- Both approaches envision strong government participation. Although this is a hard and fast requirement under jurisdictional programs (by definition), close collaboration with governments can be pivotal to ensuring the success of these broader interventions as outlined in this report. For example, as explained in Chapter 3, it is likely that government participation will be necessary for the long-term protection of some natural habitats, especially those that do not have an underlying economic model to sustain them.

At the same time, there are some important differences. Specifically:

- Under a jurisdictional model, governments are the crediting entities and therefore lead the efforts to make investments, run the program and ultimately generate the credits and sell them on the market. The model presented here relies on private entities to lead the conservation and/or restoration efforts, as well as the sale of the resulting carbon credits. Nevertheless, in cases where trust funds are established to ensure long-term support for activities once there is no more carbon finance, it is quite probable that this would require an agreement between the government and the private sector.
- The point above is important as it helps to clarify a critical factor in respect of who will be taking the risk on any investments made. Generally speaking, although not always, the private sector tends to be better than governments at putting capital at risk, mostly because governments often do not have extra cash lying around that they can make risky bets with. This is reinforced by the fact that governments tend to have shorter-term time horizons due to the politics involved (i.e., the imperative to show improvements in the short term when seeking reelection).

These models are not mutually exclusive; some of the thinking I am proposing could very well be incorporated into jurisdictional programs. For instance, the concept of ensuring the transition of a particular sector within a jurisdiction could be incorporated explicitly into the design of policies and regulations to be implemented by governments working under a jurisdictional program. The idea behind a future commitment by the government to protect certain natural habitats in exchange for early financing today could be incorporated into jurisdictional programs through advanced market commitments of the type that are being made already to support jurisdictional REDD+ programs. Finally, the creation of long-term business models and the involvement of governments in the NCS sectors could lead to effective nesting of individual projects within jurisdictional programs, long considered the holy grail of forest conservation and restoration through carbon finance.

A Better Way to Address Permanence

Another compelling reason for thinking about the broader transition in the context of NCS relates to concerns about permanence. The market has built an impressive set of solutions to address this risk, most notably buffer mechanisms. In addition, enterprising insurance companies are designing new tools to address reversal risk. However, despite how confident one may be with the resilience of the current system, there is always a risk that reversals will occur, which inevitably undermines confidence in NCS. While the market needs to continue refining and improving the rules that govern buffer mechanisms, it is also imperative that the market support more resilient and sustainable business models that directly reduce the risk of reversals.

Implementing a transitional paradigm would go a long way towards addressing the risk of reversals.

- **Reduced risk of individual reversals.** By ensuring that the interventions endure over time and become common practice, there will be a reduced risk that any one stakeholder (e.g., farmer) will go back to the previous practices. This is often mentioned as a significant risk for many NCS projects. However, if the sector reaches its PTP and therefore adopts new, more sustainable practices at scale, the risk that any one project participant will revert to previous practices is reduced. Indeed, it is quite possible that the risk of reversal is greater at lower and insufficient levels of market penetration where the early adopters may simply run out of patience and feel their “bet” is not working out.
- **Overall impact.** Assuming we enable the transition of an entire NCS sector through carbon finance, the emission reductions or removals that will be achieved beyond those that were paid for through carbon finance will more than compensate for any reversals that might occur to the initial set of reductions or removals. For example, if we assume that a PTP additionality threshold set at 15 percent market penetration ends up resulting in 60 percent of the population adopting the innovation, the climate impact of paying for that initial 15 percent would end up being three orders of magnitude greater. If a 90 percent market penetration is achieved, the climate impact would be five times greater. This means that the entire volume of emission reductions or removals achieved through the sale of carbon credits could be reversed and still be compensated for by the additional climate benefits created by the overall transition.¹
- **Reduced buffer contributions.** Similar to government commitments that would backstop project activities in the long run, more resilient business models will likely result in reducing the risk profile of projects because an underlying business model will take over and reduce the risk of reversals. This would free up emission reductions or removals that would otherwise need to be deposited in buffer mechanisms. In turn, extra revenues these credits would generate could be used to either invest in further mitigation efforts or be dedicated to trust funds that could support the ongoing implementation of project activities once the carbon finance ends.

¹ To be clear, I am not advocating that the market builds in a mechanism to allow for such a compensation to take place. This example is merely to illustrate that the end result of a properly designed transition will represent significantly more climate action than if we continue to focus on a limited set of actions.

Strengthening Both Supply and Demand

This chapter has focused on how carbon finance for early-stage NCS investments can deliver high-quality credits to the market that support both the conservation of existing ecosystems and the foundation for a sustainable agricultural and forest economy, thereby underpinning the long-term transition of the sector. As discussed, this will require significant work to resolve some of the related methodological and carbon accounting issues. However, if these can be overcome, this could create a powerful platform for the creation of high-quality credits, especially as it could also serve to address concerns about permanence which continue to undermine confidence in this important sector. In short, applying the transitional framework to carbon finance opens up tremendous opportunities to use this source of finance to both protect and restore important ecosystems for the long term.

In addition to the above, I also believe that applying the transitional framework to NCS would strengthen demand for high-quality credits given the implications for the kinds of claims buyers can make. Specifically, investments in transformative NCS activities could generate powerful outcomes that could possibly obviate the need to track supply chain emissions down to individual producers.

This is especially the case for consumer goods and food companies whose upstream supply chains come from the agriculture, forestry and other land use (AFOLU) sector and whose emissions are notoriously difficult to identify and mitigate. Certainly there are numerous efforts underway to build systems to track emissions of complicated supply chains. However, many of these systems are not sufficiently sophisticated to enable individualized mitigation efforts by each individual producer, especially in developing countries. This severely complicates the ability for companies to implement this ideal solution.

An alternative approach would be to invest in the transformation of NCS sectors so that entire landscapes are able to make the green transition. This may not be as satisfying as demonstrating that the individual farm that produced a particular input is following sustainable practices, but it is likely to be significantly more practical to implement. And still, the claim can be rather profound – that the investment is leading towards a broader transition that enables all products from that landscape to be produced sustainably. In addition, this could turn the current debate around, from a focus on compensating for one's unabated emissions to a thoughtful approach on how to drive sustainable agricultural and forest practices at scale.



Future Chapters

Chapters 5-6 of the series will be published on a weekly basis as follows:

Chapter 5: Lessons for the Energy Transition 2 July 2024

Chapter 6: Towards a New Paradigm 9 July 2024

