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

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Introduction

After spending the last 30 years working on climate change and the last 25 on carbon markets, I am a strong believer in the critical role they have played and continue to play in helping to solve the climate crisis. I believe that carbon markets are a force for good and am inspired every day by the thousands of incredible projects that have channeled millions of dollars to fight climate change, many of which also have benefitted individuals, communities and biodiversity. I am hugely encouraged by the recent developments and initiatives designed to strengthen carbon markets and believe we can build a new chapter that leads to even greater scale and climate impact.

Achieving this, however, will require a paradigm shift that moves us beyond treating a tonne of carbon as the ultimate end to embracing carbon finance as a means to a broader and more enduring objective. Carbon markets today mostly start and end with a tonne of carbon, without necessarily being designed as a transitional tool that leads to long-term sustainable outcomes. This should not be surprising. Carbon markets were born from the idea of putting a price on carbon and have been designed to ensure that a company can stand behind a tonne of carbon. As a result, they have deployed millions of dollars of investment and have demonstrated a new source of finance that is nimble, moves fast, and can fill key funding gaps (e.g., where banks aren't ready to lend capital to).

Nevertheless, carbon markets remain a niche opportunity that could benefit from a rethink of its ultimate objective, and therefore some of the tools and approaches it continues to use. Despite all of the efforts market stakeholders have collectively put into the design of carbon markets, not much time has been spent designing the system so that the limited but scalable finance provided through the sale of carbon credits leads to the kinds of transitions the world desperately needs. In an ideal world, carbon finance would be designed to introduce new technologies and practices, reduce costs and build the necessary capacity that catalyzes further and sustained climate action on its own, without the need for further carbon finance. While many market actors might be working under that assumption, the market as a whole has not made such an objective explicit. Unless we design this market to achieve that broader objective, we risk getting to the end of projects' crediting periods and face a situation where the underlying activities stop or do not scale.

Being able to move to the new paradigm will require transcending the market's current focus, which is currently almost exclusively on the details behind carbon crediting. These details are critically important because the accounting is at the core of what is being transacted. Importantly, these details are being addressed head on. For example, the [Integrity Council for the Voluntary Carbon Market \(ICVCM\)](#) is laser focused on ensuring the integrity of supply, while the [Voluntary Carbon Market Integrity Initiative \(VCMI\)](#) is ensuring the integrity of claims made in respect of the purchase and retirement of carbon credits (i.e., the demand side of the equation). In addition, numerous guidelines have been put forth to guide the market as it evolves, with the most recent one having been published last week by the [U.S. federal government](#). These are great initiatives and we need to make sure they enable us to move beyond the current debate so that we can reinvigorate the discussion around carbon markets and consider the opportunity we have to redesign this source of financing to fight climate change at scale.

A critical element of the new transitional paradigm will require a deep understanding of the drivers that can ensure the technologies and practices being introduced through the sale of carbon credits endure over time. This means that, on the one hand, carbon markets need to embrace opportunities where carbon finance can provide the early-stage financing that then enables long-term profitability. While the market needs to guard against providing financial support for activities that do not need an extra push early on, the truth is that many new technologies and practices face tremendous obstacles in the early stages. For starters, they often face entrenched business interests who will fight hard to avoid losing their market share. New entrants also have to demonstrate that their technologies or practices work as well or even better than the incumbent ones. Structured properly, carbon finance can ensure that it supports the businesses of the future that can make a dent in the huge climate challenge we face.

On the other hand, there are some project activities that will never be able to develop long-term sustainable business models (e.g., projects that reduce industrial GHGs). In these cases, we should not be content with letting them run through their crediting periods given that the end of those will likely mean a return to what was occurring prior to project implementation. It would also represent a missed opportunity for further climate action given that much of the investment has already been made. We therefore need to embrace government participation, including regulation in the future in exchange for the early financing that carbon markets can provide today.



The most critical reason to move to this new transitional paradigm is that the nature of the challenge has changed drastically. Carbon markets, and most of the rules governing carbon credits, were first designed when there was an understanding that climate change would eventually be brought under control through top-down regulation, including the development of cap-and-trade programs around the world. In this context, carbon credits were a tool that could help companies meet increasingly ambitious targets. The Clean Development Mechanism (CDM) set out under the Kyoto Protocol enshrined that approach.

That world, however, never came to pass; governments have been unable to muster the political wherewithal to regulate greenhouse gas (GHG) emissions. Instead, the world created the bottom-up framework set out under the Paris Agreement, which ideally adds up to keeping temperatures below 1.5°C. Nevertheless, important emissions targets continue to be missed, including year-on-year increases in GHG emissions, as opposed to the reductions needed to reach global targets. In addition, full implementation of all Nationally-determined Contributions (NDCs) would only limit warming to 2.5°C, a full degree warmer than our globally agreed target.¹

¹ United Nations Environment Programme (2023). *Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again)*. Nairobi. <https://doi.org/10.59117/20.500.11822/43922>



As a result of the challenge, we need to make sure that every single tool in the toolbox is designed to maximize its impact. That means carbon markets have to transcend their current role as a tool that enables companies to compensate for unabated emissions to a mechanism that also channels this unique and limited source of finance in a way that supports the green transition. In other words, we need to leverage all that we have learned about carbon markets to date, including the vast knowledge that has been developed in respect of the accounting of carbon credits, to shift the market from being focused exclusively on the offset side of the equation to supporting the types of transitions the world needs. Adding that view can help the market reframe its overall objective while informing some important changes that are needed to ensure it has maximum impact.

I prepared this report to set out the main insights I have been able to distill after more than two decades of participating in the market. I wrote this report with the hope that the insights I am sharing can help inform and improve carbon markets as they evolve, and in the process support the restoration of trust and confidence that I believe is already underway. In particular, I am hoping that by adding another dimension to the debate (i.e., the need to ensure carbon finance is used as a transitional tool), we can have a more thoughtful discussion about what it is we are trying to achieve and the rules and requirements that govern the market. I sincerely hope that this report will complement the work others are doing to move the markets forward. In the end of the day, carbon markets can only achieve climate impact at scale if they both address issues around integrity and establish a broader, more enduring and compelling objective.

This report is being published as a series, with each chapter covering a distinct topic related to the overall concept of using carbon finance as a transitional tool. The first chapter introduces the general concept -- the need to think about the broader transition by considering the point at which carbon finance should stop, developing a process that is less cumbersome to navigate and outlining some of the tools we already have that can help lead the way forward.

Future chapters will complement this concept and:

- Propose an alternative way of thinking about and testing for additionality that has, at its core, enabling the transition of sectors of the global economy;
- Explore both the opportunity and the need to engage governments in a thoughtful and productive manner that enables them to leverage carbon finance to facilitate the green transition;
- Discuss the need to integrate the various aspects of natural climate solutions (NCS) so that carbon can provide an effective tool to both manage broader landscapes and enhance the durability of NCS interventions, thereby leading to a broader transformation of the Agriculture, Forestry and Other Land Use (AFOLU) sector; and
- Revisits the crediting of grid-connected renewable energy projects with the new lens of needing to consider the broader transition.

I conclude the series with some reflections on the sheer scale of the challenge at hand, and why it is critical that we move towards a new paradigm for carbon markets that considers carbon finance as a transitional tool to support the green transition and help meet the targets set out under the Paris Agreement.



Chapter 1

Designing for the Green Transition

Although carbon markets have spent a considerable amount of time and effort working out the various rules and requirements that govern the creation, sale and retirement of carbon credits, scant attention has been paid to the long-term impact that these markets have. In an ideal world, carbon finance would provide the upfront financing needed to catalyze the transformation of entire sectors of the economy. For example, carbon finance can provide the early capital needed to introduce new practices, build capacity and, in the case of new products, begin establishing local production, distribution and repair networks. All of these can de-risk larger-scale investments that then lead to large-scale adoption.

Nevertheless, carbon markets have not been designed to serve that transitional role, at least not explicitly. The original purpose of carbon markets was to put a price on carbon and help companies meet stringent emission targets. By providing alternative options for meeting these targets, carbon credits avoided painful economic displacement that could then create a backlash and threaten further climate action. As a result, the rules and requirements around carbon markets were designed to achieve the lowest-cost abatement opportunity, which means there has been an almost exclusive focus on making sure that the emission reductions and removals achieved equaled the damage the polluting company was unable to reduce itself.

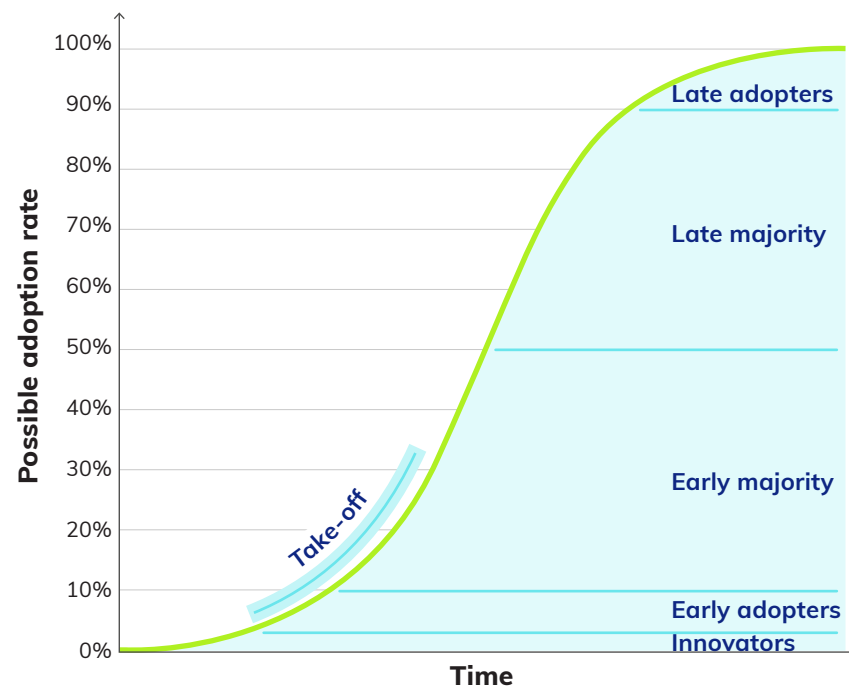


The existing paradigm has resulted in thousands of projects and significant investment, and it has generated tremendously positive impacts on people, communities and ecosystems. In some cases, private project developers, NGOs and multilateral banks have leveraged carbon markets to achieve a broader mission. To a certain extent, jurisdictional crediting programs are largely geared toward such goals. However, the vast majority of the market's activity has been done with a view to achieving reductions or removals that one can stand behind, with secondary consideration for how the investment being deployed through carbon markets can be used to catalyze the long-term transitions we really need. Such an outcome may be broadly desired by the vast majority of market participants, but it has never been made explicitly clear. As a result, the existing rules and requirements do not necessarily lead to those types of transformational outcomes.

The Challenge is Adoption at Scale

This framework means we are only focusing on half of the equation – the creation of carbon credits – and that we are missing a golden opportunity to design and deploy carbon finance as a proper transitional tool to assist in our challenging journey towards sustainability. A simple way to think about this is to consider the adoption curve (Figure 1), which posits that new technologies and/or practices get adopted over time by different segments of the population until they become common practice.²

FIGURE 1. S-CURVE ADOPTION CURVE



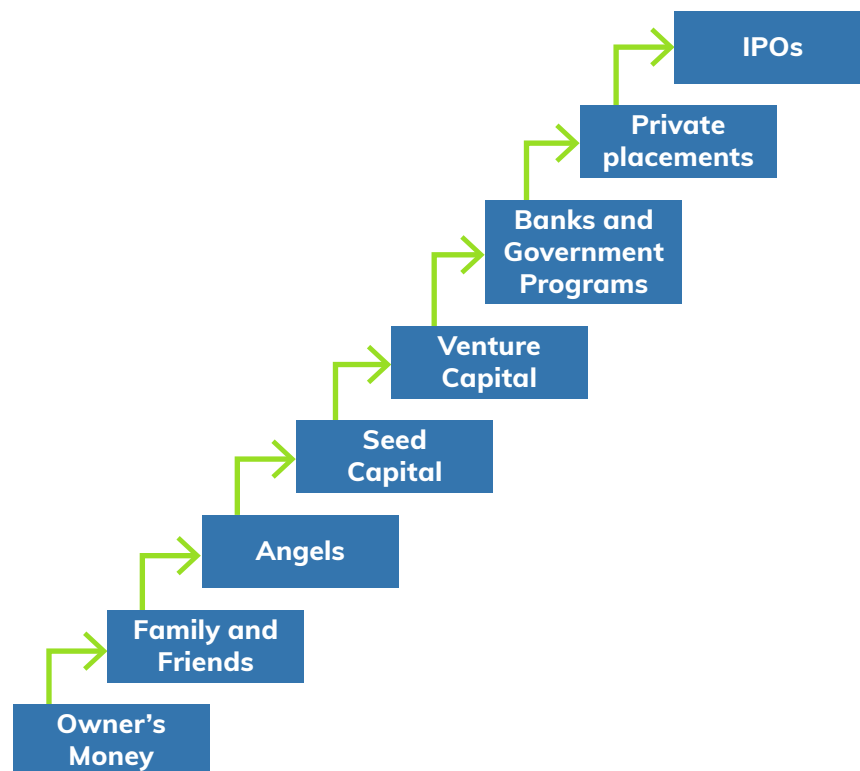
Source: www.pinnaxis.com

² This diagram introduces five different segments of the population (i.e., Innovators, Early Adopters, Early Majority, Late Majority and Late Adopters, or Laggards) and the challenges each one of them faces as they adopt new technologies or practices. The next chapter will dive into this further and use this framework as a jumping off point for rethinking how to assess additionality.

In this context, carbon finance can be framed differently, with a broader objective. Specifically, what if we thought of carbon as a means to an end, rather than the end in itself? For example, what if we use carbon finance to introduce new technologies and/or practices up until the point that new interventions no longer depend on this additional source of finance. The team at Exeter University has elegantly called these **Positive Tipping Points (PTPs)**, and they are built on the idea that a small change (e.g., strategic upfront financing to introduce new technologies and practices) can lead to widespread, self-sustaining shifts to low- or no-carbon technologies or practices.

Achieving that long-term adoption will require a whole host of enabling conditions. One of the most critical ones is the provision of commercial-grade investment opportunities, beyond the mostly concessionary options available at the point new technologies and practices are first introduced to new markets. Figure 2 below illustrates a generalized financing continuum, setting out how businesses that grow can seek new, larger and different pools of capital. Carbon finance tends to be located on the lower-left hand side of the diagram. If carbon finance is to serve a truly transitional role, it needs to be a stepping stone to greater investment. In other words, carbon finance needs to be designed such that it is helping to solve some of the challenges with moving up the finance continuum, such as de-risking future investments in the sector.

FIGURE 2. THE FINANCING CONTINUUM



Source: www.chegg.com



Image credit: Dennis Jarvis
via Flickr, CC BY-SA 2.0

Three examples from the carbon markets serve to illustrate how carbon finance can play a key transitional role in respect of a particular sector's transformation.

- **Regenerative agriculture.** Changing agricultural practices is not easy for most farmers given the risks involved and the fact that there is a natural resistance to changing practices that have worked in the past, especially where daily sustenance is at play. Carbon finance can therefore cover the initial costs and risks associated with regenerative agricultural practices, and demonstrate that these practices, over time, can be beneficial to farmers by diversifying their incomes, generating higher yields (in many cases) and improving their ability to deal with droughts and floods. The adoption curve suggests that once enough farmers have adopted these practices, they become common and new farmers adopting them no longer need an extra incentive (e.g., carbon finance) to make the switch.

This does not happen by itself, however; ensuring these outcomes also requires adaptation by the institutions that support farmers. Banks, for example, can play a key role in lending to farmers making the transition, but will only do so if early experiences (e.g., those financed through carbon finance) have de-risked the entire proposition. Entrepreneurs may also start providing services and support to farmers making the transition (e.g., training, troubleshooting, specialized equipment), but only once it becomes profitable, which implies achieving a minimal level of adoption. The measurement, reporting and verification (MRV) industry also may be keen to invest, but only once there is sufficient demand for monitoring soil carbon samples that then encourages entrepreneurs to invest in laboratories that can test these.



Image credit: Russell Watkins/Department for International Development via Flickr, CC BY 2.0

- **Clean cookstoves.** This theory of change could also play out in respect of clean cookstoves given that the benefits of these devices are very well documented (e.g., cleaner indoor air, less time spent and reduced insecurity for women searching for wood in outlying areas), suggesting that, over time, families may be willing to pay for purchasing and maintaining clean cookstoves. That may not be the case in the early days of distribution, especially because costs at this stage are likely to be prohibitive for families. However, investments in local manufacturing and distribution channels, as well as qualified technicians to repair damaged equipment, could end up lowering the cost so that purchasing a clean cookstove becomes more accessible, at which point carbon finance will no longer be necessary. None of this is likely to happen as long as cookstoves are imported from afar and given out for free.

- **Low-carbon concrete.** New technologies such as those that embed CO₂ into cement provide excellent examples of how carbon finance can help mainstream these kinds of innovations. By introducing new technologies carbon finance can help bring down manufacturing costs, provide the testing grounds to demonstrate that the new concrete produced with this innovative solution is just as strong as traditional concrete, and de-risk new investments, thereby further strengthening adoption across the entire industry.

In all of these examples carbon finance can move beyond simply generating emission reductions and removals to serving the critical role of de-risking the scaling of these new practices and technologies. This does require that we start with the end in mind, meaning that we need to consider what the world should look like once carbon crediting has run its course and is no longer available. Doing so will require careful research and consideration, and yet is well within reach if we draw lessons from other sectors of the economy where these transitions have occurred.

However, the rules and requirements that currently govern carbon markets, especially those related to assessing additionality, are not well-suited to enabling the types of sectoral transitions the world needs. Carbon finance is, for all intents and purposes, a subsidy, and a thorough approach would suggest needing to consider and plan for what happens when that additional source of finance runs out. Carbon finance should not be expected to run forever, nor should we be hoping that some other similar source of finance will come in and save the day. In addition, our current approaches for determining additionality have created a process that is simply too cumbersome to navigate, which ends up undermining investment and limiting the kinds of sectoral transitions we desperately need. The good news is that we already have a working model that we can use as the basis for updating how we test for additionality.

Markets Tend to be Efficient

One critical aspect of carbon markets, and any market for that matter, is that they enable investments in new technologies and practices in a transparent and efficient manner. This is particularly relevant given the demands of having to reduce emissions within one's own supply chain. While this approach is laudable, it can be incredibly challenging in cases where the sources of emissions are diffuse and/or poorly reported, such as in the case of agricultural inputs into the supply chains of food companies. Likewise, it can be difficult to procure a sustainable product because it simply may not exist in the market where demand exists. Low-carbon concrete is a great example where transportation costs make it prohibitive to ship across long distances. In both of these examples, investments in these new practices and technologies will both reduce emissions and, if the interventions are designed correctly, lead to the full transformation of the sector, which will go a long way in addressing the need to track and mitigate emissions down to the source.



What is the End Game?

One of the key limitations of the carbon markets' current rules and requirements is that they do not effectively set out the point at which carbon finance is no longer necessary to enable the evolution of the sector. As a result, the current rules and requirements do not set the market up for considering whether the activity or practice that has been introduced through carbon finance will survive on its own. This long-term equilibrium could be achieved, for example, because the activity has been demonstrated to be economically viable on its own, and/or governments have put regulations in place, both of which become more likely if we ensure that carbon finance brings down costs, builds the necessary capacity and de-risks future investment. If we do not consider this in the design, we risk coming to the end of projects' crediting periods with no plan to ensure the continuation of the project activities. In the examples above, we might get some farmers to switch to regenerative agricultural practices, some households to adopt clean cookstoves, and the production of limited volumes of low-carbon concrete, all of which would certainly generate emission reductions and removals. However, unless we design the system to maximize the likelihood that the entire sector switches to the less polluting alternative, we may end up with a marginal impact, or worse yet, backsliding to the situation that prevailed before these projects ever got implemented.



Image credit: Z22 via commons.wikimedia.org, CC BY-SA 4.0

I have seen what happens when there is no long-term plan. A number of the LFG capture and destruction projects I developed under the Clean Development Mechanism (CDM) while at EcoSecurities have been mothballed because once the carbon revenues dried up (after the 10-year crediting period ended) there was no one else to cover the costs. As a result, some of the equipment (flares) has been vandalized, there are pipes in the ground that are not being used, the technicians we trained are working elsewhere and methane emissions are being emitted to the atmosphere. The same thing could be said for many of the projects

that relied on carbon finance to destroy industrial emissions. Once the sale of carbon credits stopped, many of these struggled because there was no way to finance ongoing operations. There was some understanding and perhaps misplaced hope at the beginning of these projects that government regulations would materialize, but they never did. In the end, these projects did reduce emissions (highly additional by our current definitions, by the way) and enabled some European companies to meet their Emissions Trading System (ETS); however, we did not plan for a longer-term transition, and therefore missed an opportunity to foster further climate action.

At the same time, the LFG projects we developed that generate electricity are still operational, which highlights an important tension in the carbon markets – that projects that have an underlying economic rationale (i.e., they can make money) tend to be viewed with suspicion as to whether they are deserving of carbon finance. Such skepticism is good as it will ensure integrity, but the market needs to embrace those projects that can be economically self-sustaining in the future, precisely because they are the kinds of businesses that can readily lead to the type of longer-term transitions we desperately need. Indeed, these types of projects are uniquely positioned to answer the question about when to stop approving new projects, provided we can define the PTP.



As it stands, most of the tools used to assess additionality do not address this question, or do so in a way that does not lead to a clean resolution.

- **Additionality tool.** When using both the CDM and the AFOLU additionality tools, the question about when to stop approving new projects is never raised explicitly. Rather, it is handled implicitly by assuming that crediting will stop once projects are considered non-additional. This makes for an inherently fraught process because what counts as additional varies by project and means there is no clear cut off point, which also undermines long-term investment in the sector.
- **Standardized methods.** These approaches, which are the newest innovations for assessing additionality in the carbon market and include both positive list approaches and performance benchmarks, do not effectively address the question about when new projects should stop being approved. While many of the positive list approaches currently in the market rely on activity (i.e., market) penetration for the activities being approved, these tend to be insufficient for a number of reasons, including the fact that they:
 - Do not reflect any differentiation across sectors or project types; and
 - Are not properly benchmarked against any academic or theoretical research that would underpin a theory of change based on a broadly agreed upon objective, including the level of market penetration needed to ensure new practices or technologies become common practice.

It is worth noting that the CDM has a tool for assessing common practice that relies on a market penetration of 20 percent. However, this assessment is not meant to replace the use of the additionality tool and is therefore not used as a threshold for determining additionality.

Another key limitation of the dominant approach to assessing additionality is that it is inherently short-term. By focusing exclusively on the immediate project being considered, the dominant approach seeks to determine whether the project would be built today, without considering what is needed for the full transition in the future. While this may work for identifying project opportunities where a company can use the emission reductions or removals against a target, it deprives the market of a longer-term perspective. In particular, the current approach does not provide the long-term confidence investors need to make large bets, such as those that are required to build local manufacturing, distribution and repair capacity. This short-term thinking makes it very difficult to contemplate what the end game should look like.

Standardized Approaches – The Basics

Carbon markets have made several attempts to standardize key elements of the crediting process to avoid the project-by-project assessment required when using the additionality tool. While there are a number of different approaches, generally speaking these break down into two broad categories.

- Positive lists.** These approaches pre-determine those activities that are by definition additional based on a variety of factors, which can include low market penetration, no financial returns beyond the sale of carbon credits, or a financial assessment done at a macro scale. For instance, the regeneration of degraded lands in a particular region could be considered a positive list approach given that such lands are often not restored on their own. Positive list approaches do not address the crediting baseline, which still needs to be done on a project-by-project basis. In the case of the regeneration of degraded lands, one would have to estimate how much carbon would be stored in the absence of active restoration efforts and subtract that from what is achieved by implementing the project.
- Performance benchmarks.** These approaches pre-determine both additionality and the baseline across an entire sector, normally by establishing a requisite threshold of performance per unit of input or output. These thresholds establish both the point at which an intervention is considered to go above and beyond what otherwise would have happened (i.e., is additional) and the volume of credits a project developer can generate. While performance benchmarks are more commonly considered for industrial sectors where the thresholds can be set on the basis of units produced (e.g., tCO₂ per tonne of cement produced), there are some excellent examples in the AFOLU sector (e.g., [VM0035](#) under the VCS Program, which establishes a performance benchmark for improved forest management projects implementing reduced impact logging).

The table below summarizes the key differences between how projects are assessed against both additionality and the crediting baseline using the main tools available in the market today -- additionality tool, positive lists and performance benchmarks.

Overarching Approach	Additionality		Baseline and crediting	
	Project-by-Project	Standardized (across sector)	Project-by-Project	Standardized (across sector)
Additionality tool	✓	✗	✓	✗
Positive lists	✗	✓	✓	✗
Performance benchmarks	✗	✓	✗	✓

Process vs. Assessment: There is a Difference

Much of the debate today around additionality, as well as other issues related to the integrity of carbon credits, revolves around the critiques that some individuals have leveled at specific projects. While these critiques can serve to improve key aspects of the market, it is important to recognize that they are fundamentally different than the outcomes reported by certified projects. Specifically, these critiques tend to be based on specific criteria selected by those making these assessments, which is in stark contrast to the outcomes from projects which are following specific procedures set out by GHG crediting programs. By and large these procedures are developed following robust regulatory-like procedures that include getting input from experts, conducting public consultations and developing the final rules and requirements that projects must follow. These procedures are not perfect, but they reflect a fundamentally different process than what is followed by individualized assessments. In a way, this represents an apples and oranges comparison, and we need to be thoughtful about using these individualized assessments to improve the process, not throw it out completely.

Cumbersome, Costly and Time-consuming

The other important consequence of relying on the dominant approach for determining additionality, as set out in the additionality tool, is that it tends to require an incredible amount of paperwork and review, and as a result creates long backlogs for project approval. Generally speaking, the process requires the preparation of lengthy project descriptions that include numerous justifications that then have to be vetted by both auditors and the relevant GHG crediting program.

This challenge is not new to the carbon markets. Indeed, one of the driving objectives behind the creation of the VCS Program in 2005 was to create a counterpoint to the CDM, which at the time was causing lots of concerns amongst market stakeholders, especially in respect of the length of time the CDM and its Executive Board were taking to make decisions about projects.

The initial rationale for creating the VCS was therefore sound -- the CDM was overly bureaucratic and slow. However, the requirements underlying the VCS were not fundamentally different than those that underpinned the CDM, and the main changes/simplifications that were made initially (e.g., putting more trust in VVBs, the multi-registry system, and allowing projects to submit registration and issuance requests at the same time) did not sufficiently revise the underlying rules and procedures that created the backlogs in the first place.



Image credit: ©2009CIAT/
Neil Palmer via Flickr
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One of the enduring impacts of the additionality tool is that it has created a tacit requirement for conducting in-depth, project-level reviews that seek to ascertain the dynamics in a particular sector of the economy. This makes sense given that proper use of the additionality tool requires a deep understanding of the sector in which the project occurs, which means that a proper review of any project should reflect thorough knowledge of the challenges a particular technology or practice faces in the context of its sector. However, this approach creates an incredibly arduous process that has direct consequences on the approval process.

- **Long backlogs.** It is no mystery that the system is currently hampered by massive backlogs, with projects languishing for long periods in either the initial auditing or final review process managed by GHG crediting programs. These time lapses are a result of the way the process has been designed, which requires the preparation of a project document, review by both auditors and the GHG crediting programs, and multiple rounds of reviews that involve the developer and the auditor, the auditor and the crediting program, or all three parties. We have created a universe that requires project developers to prepare what is essentially a PhD thesis (project descriptions commonly run past 100 pages) that then has to be defended twice, before an auditor and then before the relevant GHG crediting program.
- **Need for deep sector expertise.** As mentioned above, the dominant approach to additionality requires a deep understanding of the sector in which the project is operating. This ends up putting a tremendous amount of pressure on both auditors and the relevant GHG crediting programs to have the necessary expertise on hand. Anecdotal evidence suggests that much of the back and forth between project developers and either the auditors and/or the relevant GHG crediting program is dedicated to explaining the ins and outs of particular industries.

- **Disenfranchise key stakeholders.** The existing review process disenfranchises individuals, communities and companies from the global south by making it very difficult for them to access carbon finance. The drafting of project descriptions is not for the faint of heart and requires specialized knowledge and significant resources. Indeed, the current review process further creates a cycle of dependency on high-priced consultants, generally from the global north.
- **Ongoing questions about benefit sharing.** One of the key consequences of disenfranchising stakeholders from the global south from participating in the carbon markets is that it is practically impossible to determine whether a particular benefit sharing model is fair or not because these are most often intermediated by developers and consultants from the global north.

For a long time the approach to solving the challenge related to the complicated review process has been to throw more people at the problem – hiring more staff to deal with the oncoming rush of projects and building the necessary expertise, both within the auditing community and at the GHG crediting programs. This has proven elusive, and while still may be possible, the market would still be left with a fairly clunky approach that is hard to scale and therefore hampers climate action.

Hard to Capture Everything in a Number

Even though it is broadly recognized that additionality can be assessed in many ways (e.g., by looking at a variety of barriers), there is a tendency amongst many stakeholders to view financial additionality (i.e., comparing the internal rate of return of the project in question with and without carbon revenues) as the correct way of looking at this complicated topic. However, a strict financial additionality perspective is likely to miss some of the structural, financial, political and regulatory challenges innovative technologies and practices face when trying to gain traction in a new market.

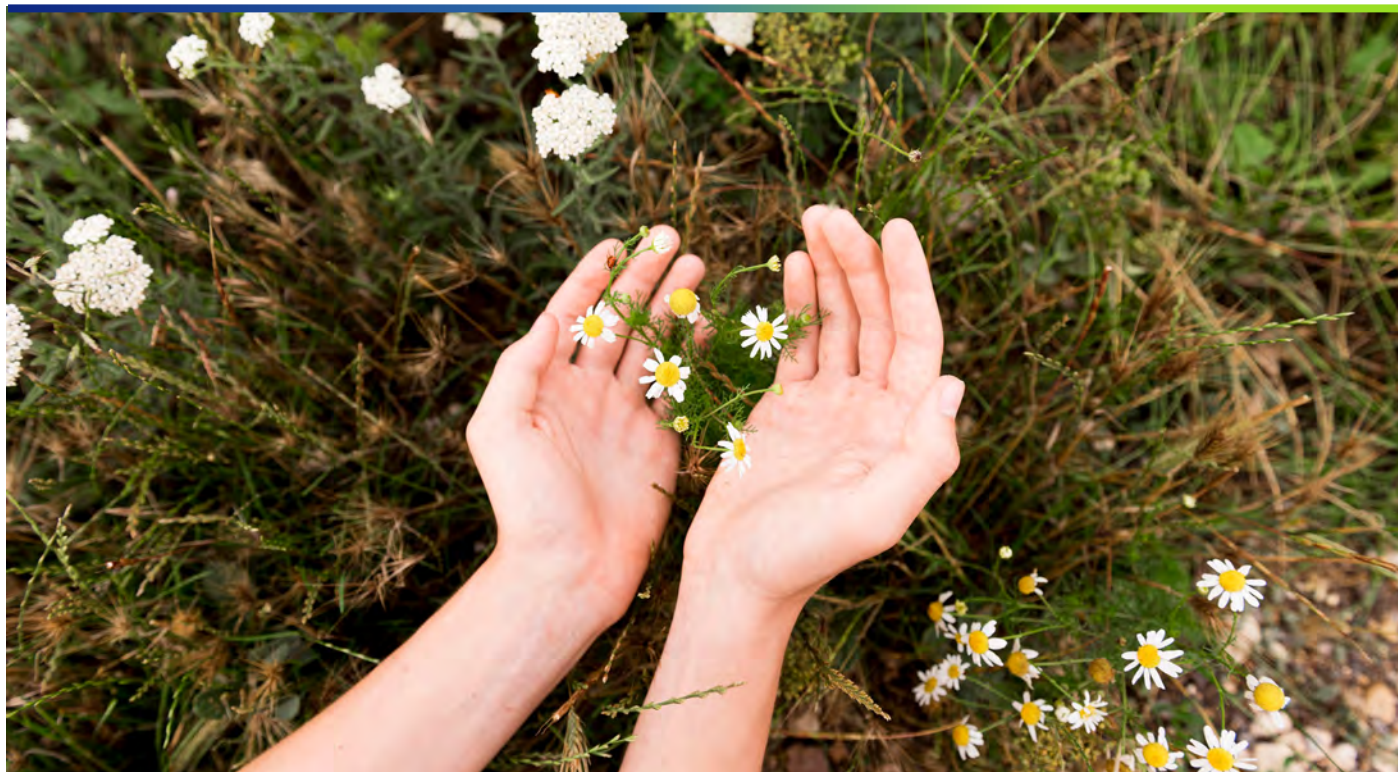
In most cases new technologies and practices are seeking to displace existing, incumbent providers of goods and services who will fight hard to avoid any loss of revenue or market share. These fights will play out in the regulatory realm (e.g., through extensive lobbying), through the media, where new practices or technologies may be cast as being ineffective or even risky, or other venues. Either way, entrenched interests are unlikely to bow out serenely from a market they have come to dominate, and these competitive dynamics and the challenges they pose for new entrants are not readily captured through comparisons of individualized project costs.

These kinds of challenges are more effectively incorporated into standardized additionality assessments where one considers sector-wide dynamics when developing the methodology. Project-by-project additionality assessments, especially those based on financial additionality, with their reductive approach to comparing projects, do not readily take the above considerations into account. For example, in tropical forests, project-by-project additionality assessments are not well suited to considering the fact that there are entrenched, and more often than not, armed and dangerous criminal organizations working to exploit the forest and at the same time exert pressure on communities to not report or take action against illegal logging or mining activities. It is incredibly difficult to put fear and intimidation into an IRR calculation.

In the agricultural sector, there are a number of elements that are not easy to capture when applying a typical additionality assessment. For instance, intermediaries who buy a farmer's produce can exert tremendous pressure to maintain the status quo. Likewise, providers of tilling equipment and fertilizers will surely tell farmers dreadful stories about the risks related to adopting regenerative agricultural practices. And yet, it is incredibly difficult to quantify the exact impact of these pressures when trying to reduce the evaluation to a simple number that attempts to compare two different outcomes.

In many ways we have a David vs. Goliath situation across a number of sectors of the global economy, and a purist approach to additionality, largely reliant on financial additionality, fails to take into account some of the most important challenges new technologies and practices face.





The Basis for a Future Model Already Exists

There are a number of bright spots that can lead the way towards a more effective way of assessing additionality. Specifically, the Climate Action Reserve (CAR) pioneered the use of positive list approaches for determining additionality,^{3,4} and these were subsequently adopted by the California Air Resources Board (CARB) as it developed its Cap-and-Trade program. The VCS Program, for example, added further guidelines that have resulted in a number of standardized methodologies, and positive list approaches became an important part of the small-scale project framework under the CDM.

Meant in part as a way to avoid some of the problems that were plaguing most of the CDM projects at the time (e.g., perceived subjectiveness of the process, lengthy review times, backlogs), these new methodologies have been developed on the basis that additionality should be determined on whether the project activity is common practice or not. This approach is both much more simple and significantly more workable given that projects have to simply demonstrate that they meet the eligibility criteria set out in the methodology, rather than having to prepare long project descriptions filled with justifications as to why the project would not have happened but for the existence of carbon credits and the finance they enabled.

³ While positive list approaches were first proposed by the NGO community as a rule for the CDM during the Marrakech Accords, they were meant as a filter and not as a stand-alone test for additionality.

⁴ While some programs such as CAR refer to positive list approaches as "performance methods", I have chosen to use the term "positive lists" both because I think the term describes the concept better and because it is important to distinguish between positive lists and performance benchmarks, which integrate both the determination of additionality and the baseline within the accounting methodology.

Despite the fact that the predominant approach for assessing additionality continues to be the project-based approach enshrined in the additionality tool, the institutions responsible for developing methodologies need to continue to drive the development of standardized approaches for a number of reasons.

- **Build on existing model.** As mentioned above, we already have a working model that streamlines the project approval process. There are a growing number of positive list approaches in the market, as well as the development of performance benchmarks. We need to continue pushing for these crediting frameworks so that we can continue to build confidence in this approach.
- **Develop corresponding approval procedures for standardized methods.** Even though there is an increasing number of standardized methodologies being developed and used, some programs have yet to develop the corresponding procedures that would enable streamlined project reviews. In other words, some programs are spending a tremendous amount of time and effort developing standardized methodologies, but have yet to develop the approval procedures that would enable projects to follow a much more streamlined review and approval process. Without such corresponding procedures projects using standardized methods don't necessarily get to avoid the lengthy, time-consuming and costly approval process. This is the equivalent of paying for the Lightning Lane option at Disney Parks but not being able to go to the front of the line.⁵ While this may be due, at least in part, to ongoing concerns about integrity, the perception or understanding that all projects using appropriately-designed standardized methodologies need a full, in-depth review is not adding much value from an integrity perspective.
- **Technology is transforming MRV.** Technology, big data and artificial intelligence are starting to address many of the concerns behind carbon accounting. Remote sensing technology, for instance, is making tremendous strides in measuring above-ground biomass, which will make the MRV process considerably simpler and enhance transparency. This could very well leave our existing conception of additionality and the review process we have built around it as the sole remnant of a dated approach.

⁵ This system used to be called Fast Pass but was replaced with the Lightning Lane option which is similar but not exactly the same.

Conclusion

To conclude, the market needs to move away from the project-based approach to additionality and the incredibly complicated review process that it requires. This is especially true for projects that are already using standardized approaches and where a deep dive into a particular industry in the review process is unnecessary. In these cases, GHG programs need to make sure the methodologies are robust, and both they and auditors should be checking key elements of projects (e.g., eligibility criteria). However, the heavy lifting should be done through the development of the (standardized) methodology. Once that is done, there should be a way to ensure streamlined approval processes.

The dominant construct of additionality that the market relies on today was developed more than two decades ago when the market was in its infancy and was designed to help achieve targets within compliance mechanisms. This construct has served to build the market to what it is today, but the market needs to move beyond it, both because this approach simply cannot scale and because the scope of the challenge has changed drastically. The world has largely failed to tackle climate change, which means we need to significantly scale investment in activities that reduce or remove GHG from the atmosphere by orders of magnitude.

We therefore need a new paradigm altogether that moves us beyond the current model and enables carbon markets to serve as a catalyst for the transition of key sectors of the global economy. If carbon finance is going to serve a bigger purpose, it needs to be redesigned to support the green transition and therefore achieve the targets set out under the Paris Agreement.

The next chapter will look at how to create this new paradigm with a detailed look at an alternative approach for assessing additionality that builds on many of the innovations that are already operational in the market.

Future Chapters

Chapters 2-6 of the series will be published on a weekly basis as follows:

Chapter 2: Rethinking Additionality	11 June 2024
Chapter 3: Embracing Government Participation	18 June 2024
Chapter 4: Integrating Natural Climate Solutions	25 June 2024
Chapter 5: Lessons for the Energy Transition	2 July 2024
Chapter 6: Towards a New Paradigm	9 July 2024





