

Making Sense of the Evolving Small Forest Landowner Voluntary Carbon Market

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We are at an unprecedented moment in history—the world's best science tells us that humanity is running out of time to act on climate change. To sustain the resilience of our planet's natural systems and our standard of living, we must now take meaningful action at societal scales to reduce our climate change impacts, with an eye on achieving global net zero carbon emissions by 2050. While this is a daunting mission, our profession is well positioned to ensure that forests significantly contribute to society's much needed greenhouse gas (GHG) reduction solutions.

• Forest ownerships can be maintained, managed, and expanded with a



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carbon storage objective (aka a “natural climate solution”) to sequester additional carbon from the atmosphere.

• Forests can be managed across ownership boundaries to provide intact landscapes and refuge for plants and animals migrating to more suitable habitats in response to climate change.

• Forest products, such as cross-laminated timber, will gradually replace non-renewables, i.e. steel and concrete, in residential and commercial construction.

However, with a few notable exceptions, governments have struggled to enact meaningful de-carbonization policy changes that embrace the contribution of forests in mitigating climate change. This leadership void is largely being filled by major corporations voluntarily pledging to reduce their greenhouse gas emissions by setting ambitious yet essential goals to limit global warming to 1.5° Celsius, as delineated by the Intergovernmental Panel on Climate Change (IPCC) and pursuant to goals of the Paris Agreement of 2016. New technologies that reduce emissions from the production

of goods and services only go so far down the path to “net zero.”

For a critical window of the next several decades, carbon offsets (aka credits) will be an important transitional solution to make up for any remaining GHG emissions as low-carbon technologies are developed and adopted. In forest carbon offset markets, buyers—typically major corporations, but also smaller companies and individuals—provide payments to private landowners to implement practices that sequester measurable additional carbon.

For larger forest landowners, there are well-established paths to market via voluntary and compliance markets. However, due to significant project development costs and ongoing maintenance and reporting expenses, most forest landowners of less than 5,000 acres have been unable to tap into carbon revenue for their sustainable forest practices. Now, as our economy starts to rapidly decarbonize, small forest landowners and their service providers are seeing a growing demand for carbon offsets that are emerging concurrently with the advent of new offset project inventory and verification technologies. A variety of platforms are in development to help small forest landowners monetize this opportunity, such as the Family Forest Carbon Program built by the American Forest Foundation and The Nature Conservancy, and the CORE Carbon platform from Finite Carbon. These platforms operate in what is known as the “voluntary market,” where buyers voluntarily purchase for-



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est carbon offsets to meet their GHG emission reduction goals.

For foresters who work as liaisons with these landowners, there are key factors to consider and understand when assisting landowners to navigate this sometimes confusing and evolving space.

Compliance versus voluntary

To date, most Western foresters' experience with carbon markets is with the California compliance market. Compliance projects are well-known for generating large paydays for a select set of landowners and are also characterized by significant upfront and ongoing project costs, as well as overall time-intensiveness, both in project implementation and in the landowner commitment of 100+ years. In addition to high project costs and complexity, recent rule changes have decreased the number of offsets that may be used by California regulated emitters and that are generated from outside the state. This has had a chilling effect on compliance offset pricing and liquidity, resulting in even fewer landowners able to access an already niche opportunity.

However, just as the fledgling voluntary carbon market of the early 2000s was an important precursor to the compliance market, the compliance market has been a critical proving ground for the emerging voluntary offset space. The compliance market provides a much-needed standardization for forest carbon initiatives: all compliance projects are developed under identical rules governing permanence, leakage, precision, and additionality, regardless of location in the country. While the projects are diverse in ownership, forest qualities, and economics, resulting credits are viewed as uniformly high quality. Predictability, consistency, rigor, and transparency are benefits afforded to offset producers and buyers alike in the compliance realm—all sorely missing from the early days of the volun-

tary market. Even with significant limitations, the California compliance market has greatly advanced forest

carbon offset opportunities. With a standard set of requirements, relatively stable de-risked project returns to landowners became possible for the better part of the last decade.

Refreshingly, in existing and emerging voluntary carbon programs, subscription to a very long-term, heavily regulated management scheme is no longer required for landowners to obtain carbon value from their forestlands. Costs to develop a voluntary forest carbon project are substantially lower than compliance projects and, through innovation and adoption of new inventory and verification techniques, these costs should continue to decrease.

As new platforms come online for smaller forest holdings to meet demand in the growing voluntary markets, small forest landowners stand to benefit. Forestry professionals who provide guidance to landowners on how to manage their land to meet their goals should understand the different benefits, costs, and management requirements among these programs. As advisors to forest landowners, foresters

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One barrier to small forest landowners entering carbon markets is the significant upfront costs to verify a carbon project. Larger landowners such as Washington State's Spokane Tribe of Indians have the forest resources to create a traditional carbon project and absorb the costs of third-party verification by carbon offset verifiers, such as Tina Sentner with NSF Certification LLC who did the Spokane Tribe verification.



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must ask questions such as:

- What carbon product is the landowner producing and being paid for (e.g., a standard offset, a carbon-reducing forest practice, or a short-term carbon lease for deferred harvest)?

- How do voluntary buyers (and their stakeholders) perceive and value these various carbon products?
- How does enrollment in a carbon program affect the landowner's management activities?

Carbon Market Terminology

As with any discipline, carbon markets have foundational principles and terms that are used to evaluate forest offset programs. However, it is important to note that there is significant debate in the definition of these terms, and in the laudable pursuit to reduce barriers for forest landowners, there is a danger of overly diluting these fundamental principles. This dilution carries the risk of damaging the credibility of forest offsets to participate as a legitimate market mechanism for mitigating GHG emissions, with potential implications for forest offset pricing and demand. It is therefore critical to define the intent and defend the durability of the three most crucial and foundational offset principles: permanence, leakage, and additionality.

Permanence defines the longevity of the carbon benefits to the climate from any project. The concept of permanence is directly correlated to the length of the carbon contract or commitment period for a project. Of the programs now offered or soon to be available, commitment terms range from 1 to 100+ years. In other words, after the sale of offsets is made, a property must maintain or hold that carbon for a minimum of 1 to 100 years thereafter. This wide range begs the question: how permanent is permanent enough to concurrently have a positive climate outcome, provide reasonable GHG reduction value to buyers, and not serve as an unreasonable barrier to entry for the forest owner? It's doubtful that the best answer lays at either end of the extreme. One hundred years is a timeframe that appeals to very few landowners—alternatively, very short-term commitments translate to negligible climate value and high reputational risk for buyers.

Leakage is also highly variable amongst emerging forest offset program options. Leakage is the unintended carbon release that can occur as a result of committing to a carbon project. It can be internal, i.e., "I'm not harvesting this stand this year and will enter a carbon commitment on it, so instead I'll cut more of another stand that I own". Or it can also be external, i.e., a large landowner reduces harvest due to a carbon project commitment in a wood basket, displacing equivalent harvests to other landowners in the region to meet demand, and resulting in no net carbon sequestered.

To address leakage, in some programs the gross carbon generated from a project is reduced by as much as 40 percent, whereas other programs adjust total carbon to a lesser degree, or not at all. While a zero-percent leakage adjustment ignores market forces and is almost certainly not correct, it is likewise unreasonable for a 100-acre landowner to deduct 40 percent of net offsets for what little leakage risk their project might represent to the larger program.

Additionality is defined as the deliberate actions taken by a project owner to produce a new climate change benefit or carbon outcome that would not have happened without the carbon offset commitment. This is perhaps the most crucial and the most confusing core principle behind offsets. The interpretation of "additional" varies widely across landowners, foresters and other stakeholders, and there is still no consistent definition. Instead, there are different theories of additionality measured as a result of one core action: the legally binding commitment by a forest owner to comply with carbon program rules and manage their forest into the future with carbon sequestration as a recognized objective.

Beyond that initial bar, approaches to additionality vary widely among available and in-development forest carbon programs. This is in part because additionality is inexorably linked to the other principles of permanence and leakage. For example, an organization can make a strong case for the additionality of their program, e.g., a landowner didn't harvest for a year and all net growth was sequestered as on-site carbon, but if the permanence requirement is short term, the additional value is arguably high risk and de-minimis to the climate.

- What are the long-term costs and reporting commitments?

- What is the net guaranteed return, if any, to the landowner and over what timeline?

- Has the forest carbon protocol been vetted and approved by a reputable registry, such as the American Carbon Registry, Verra, or Climate Action Reserve? These independent organizations develop carbon protocols, verify and list projects, and ensure that projects consistently provide the promised climate benefits.

The future of carbon markets

Much has changed since the establishment of carbon markets at the beginning of the century. Major corporations are making bold commitments to address the climate crisis and are increasingly seeking to compensate forest landowners for implementing natural climate solutions—with the potential to provide more than one-third of the carbon benefits needed to mitigate catastrophic climate impacts over the coming decades. Rapid advancements in data availability and computer processing have made GIS and remote sensing applications magnitudes more efficient. This has presented an extraordinary opportunity to access, process, and manipulate forest data on a scale we have never seen before. Innovative platforms for detecting, tracking, and awarding landowners with carbon offset credits are emerging as a direct result of these advancements. Soon, forest landowners will have an array of carbon offset offerings at their fingertips, and the actions we take in this next decade will chart the earth's climate path for the rest of our lifetimes, as well as for our children and grandchildren. As we look forward, it is imperative to the interests of not only the landowner, but also society at large, that foresters uphold scrutiny of prospective carbon programs' benefits and impacts based on lessons learned in the last decade. ♦

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