

Testimony presented to the House Agriculture and Forestry Committee -- 4/11/2019

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I. Introduction and credentials

I've been a private consulting forester since 1989. My clients include small and large landowners, municipalities, non-profits, and state government. Since 2011, I've conducted verifications of forest carbon projects across the country. I've been the lead verifier on over 25 projects, including the first project verified under the California Cap and Trade protocols, and the largest project to date verified under those rules. I was a member of Governor Scott's Climate Action Commission (2017-2018) and served on the Legislature's Biomass Energy Development Working Group (2009-2011).

II. Objectives of my testimony

My comments are intended to provide useful background for the committee on the process of developing a forest carbon project, particularly as it pertains to the proposals in Sections 12 and 13 of S.160.

III. General Background

The trading of carbon credits from forests represents perhaps the most established and robust example of Payments for Ecosystem Services (PES) in our economic system. Various types of offsets have been created, but most are connected to *reductions* of greenhouse gasses. By contrast, forest carbon offsets represent *sequestration* or a drawdown of CO₂ from the atmosphere. In the US, carbon trading took a leap forward with the initiation of the California Cap and Trade legislation in 2012. That emissions "cap" encompasses close to 80% of the economic output of the 5th largest economy in the world. 152 million credits have been issued under this program to date, with forest credits representing 80% of that total (121 million). Cap and trade markets exist in a regulatory framework, and the credits developed are often referred to as compliance credits. The Regional Greenhouse Gas Initiative is another example of a cap-and-trade mechanism that covers utility emissions in 9 northeastern states. Most developed countries have established emission trading systems (ETS) under a cap and trade framework. In contrast to a compliance market, credits are also developed and traded under a voluntary system. In this market, companies (and individuals) choose to purchase credits in order to offset a portion of their emissions. Offsets in the voluntary market are generated from a wider variety of types, including forest offsets.

To date, virtually all offset trading occurs in over-the-counter transactions. Prices are negotiated and the quality of the offset influences the price. Voluntary buyers in 2016 paid \$191.3 million (M) to offset 63.4 million metric tonnes of CO₂ equivalent (MtCO₂e)ⁱ. Since then, the market has been expanding, with nearly twice the 10-yr average number of offsets created and retired in 2017. 2018 data suggests the trend is continuing.ⁱⁱ In the compliance market, offsets prices are determined by a combination of supply and demand, typically constrained by a floor price set in policy. As one important measure of the maturing of this market, California Compliance Offsets (CCOs) were traded on a recently established trading exchange for the first time this week, moving the transaction to a more transparent platform. In the voluntary market (globally), forest carbon offsets bring the highest price of any offset type (~\$9/metric tonne on the average).ⁱⁱⁱ

From my perspective, a variety of policy and market developments suggest the trajectory for forest carbon offsets, and really for most offset types, will continue to be robust. The rules, institutions, and attitudes by investors and companies have all matured substantially in the last 5 years. While it is true that the California compliance market demand will be constrained by post-2020 program rules, demand may expand through more entries into the Western Climate Initiative and prices will continue to rise (by program design). I believe, the voluntary market demand will likely see continued expansion. With many small landowners and generally progressive views on new ideas, Vermont is well positioned to take advantage of this situation.

To bring this all back down to earth, a 20" maple, about 65' tall contains about 1/2 ton of carbon. Some programs allow for a portion of standing stocks to be credited, but all programs pay for "additional" carbon (in units of carbon dioxide equivalent). In the case of forests, that means growth in excess of any harvesting. An acre of well stocked forestland in Vermont may "grow" roughly a metric tonne of CO₂ equivalent per year—the units in which offsets are credited. After expenses, a landowner in a forest carbon program may be able to pay his or her property taxes from carbon.

One recent development is worth noting: Typically, there are substantial fixed costs associated with the development of a forest carbon project. This leads most developers of forest carbon projects to focus on larger landowners with high levels of carbon stocks, in order to cover those fixed costs. However, one developer is attempting to unlock the small landowner market—by attempting to keep the development and verification costs low. A prototype project (117 acres) in the compliance space is currently under verification (I am the verifier). While the details of the project are still confidential, the developer has been marketing its program to landowners in the Pacific Northwest and in Vermont. I have been told a handful of Vermont landowners that have contracted for project development, even though the developers have yet to see their methods approved.

IV. General comments—overall purpose of the proposed legislation.

The goals Sections 12 and 13 align with Recommendation 35 and 41 in the Climate Action Commission's final report to the Governor. (Pertinent sections included with this testimony.) I am not aware of any similar initiatives in the legislatures of any other states, yet I believe it is important and appropriate for Vermont to identify itself as leading in this area. Maintaining our forested landscape is in the best interest of all Vermonters and exploring new revenue streams for landowners is an important tool towards maintaining ownership viability. It may never work for all landowners, but it's currently hard to draw a line that says a parcel is too small to qualify.

V. Specific comments—Section 12.

I offer some revised language for section (a) in my attachment. I would also propose the following as an addition to (b) (3): If there is sufficient activity in private markets that pilot projects would serve little additional benefit and the purposes of subsection (d) can be achieved without the added cost of developing pilot projects, then these projects can be deemed optional.

I'm concerned that developing a project is involved and expensive. The intended "learnings" from a pilot should be clear, if not articulated in the bill. Currently, no one in DFPR has the technical

capacity to develop a project. Hiring an individual with these skills would require a salary in the \$60,000 range. Developers often suggest that the total cost for the development of a reasonably sized project is in excess of \$150,000 and can take more than a year—just to get to the verification stage. Shepherding a project through verification, approval, and crediting can easily take another year. While there may be an appetite in the DFPR for a project on state land, I question whether the intent of this section might be achieved by studying the projects in Vermont that currently exist or are in process. While learning from existing projects may limit exposure to the details of project development, familiarity with the process at a more general—and practical—level may be achieved at a much more reasonable cost.

VI. Specific comments—Section 13.

While I generally support the logic and intent behind this section, it seems to place a substantial burden on the DFPR, with insufficient guidance and no specific funding. If I were such an entity considering contracting with the state, I could envision a range of services from outreach and marketing, legal, contracting, feasibility studies, inventory, and project management—all in the service of aggregation, but not yet broaching the actual development of a specific project according to any program rules. At least until enough experience was gained, the technical aspects of project development, project reporting, and offset brokerage would likely be in the hands of a different technical service provider or developer. Verification must be contracted separately. Based on my personal experience with over a dozen different developers and service providers across the country and in Canada, I'm aware of only one current arrangement where a non-developer "entity" plays a somewhat similar role--TNC's Working Woodlands program. I have been involved in two verifications under this program, both on lands owned by quasi-public watershed protection organizations. I believe TNC would like to expand this program, but the bulk of their recent carbon project activity has been on fee-owned lands—not with landowners attracted to this program. I believe there is potential for the envisioned entity arrangement to work, but I also believe the entity "model" has yet to be proven. I am aware that at least one non-profit organization in New Brunswick has a similar concept it's developing. New possibilities for partnering with developers and service providers may be emerging, but placing DFPR on a strict timeline, with no clear direction or funding seems risky.

There is one predominant model for developer compensation: most arrangements cover all up-front costs for project development and, in return, expect a portion of the carbon offset proceeds. The developer's capital is typically from venture partners. The "small landowner" program is similar, and negotiates a payment schedule as part of the contract, in this way controlling all of the carbon proceeds and securing its fee in the process. Ideally, a project developer might be enticed to work on a fee-for-services basis, allowing a more transparent view into the process—and presumably less profit for venture partners. There are some service providers that might consider this arrangement, but it would represent a relatively novel approach. Because time frames are often drawn out, development "capital" may still be required to cover costs until credits are actually sold.

VII. Summary

Developing a carbon project, even for a single landowner is complex, expensive, and drawn out. Very few aggregation projects have been completed. Clearly, Vermont landowners are interested in this and a robust suite of experienced developers exists, ready to offer services. Novel

approaches to addressing the challenges of smaller-size projects are being developed and tested. Creative approaches to aggregation are being tested—even here in Vermont. There is ample justification for the legislature to act in a way that promotes the development of these projects. My primary concern is that we also act in a way that assures the maximum benefit for any state revenues allocated to this effort. Given the fluid nature of the industry, flexibility is important. On the plus side, Vermont has a number of individuals, institutions, and funders who would like to support these efforts. I would have this committee consider providing funding for some level of additional staff in DFPR to become the resource person for carbon projects. His or her role might include investigating existing efforts, gathering interested and knowledgeable parties, and matching the needs for action to the capacities that exist or can be cultivated. An “entity” may result that looks considerably different from the simple arrangement proposed by this legislation.

ⁱ Hamrick, K; Gallant, M. 2017. State of the Voluntary Carbon Markets 2017. <https://www.forest-trends.org/publications/unlocking-potential/>

ⁱⁱ Hamrick, K; Gallant, M. 2018. Voluntary Carbon Markets Insights: 2018 Outlook and First Quarter Trends. Ecosystem Marketplace. https://www.forest-trends.org/wp-content/uploads/2018/09/VCM-Q1-Report_Full-Version-2.pdf

ⁱⁱⁱ Hamrick, K; Gallant, M. 2017. State of the Voluntary Carbon Markets 2017. <https://www.forest-trends.org/publications/unlocking-potential/>