Participation in The Voluntary Carbon Market

Information for private forest landowners in Conway, Massachusetts

Sponsored By The Conway Select Board

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Presented By: Bay State Forestry Service and Wigmore Forest Resource Management

Funding For This Project was Provided By: Mohawk Trail Woodlands Partnership Grant Through the Massachusetts Executive Offices of Energy and Environmental Affairs (Mass EEA).

Mohawk Trail Woodlands Partnership? It's a Forest-based Economic Development Conservation Project

Purpose: Bring recognition and additional financial and technical resources to 21 municipalities in western Massachusetts primarily via a special designation by the United States Forest Service and Mass EEA.

Goals:

- Increase sustainable economic development related to forestry and natural resource-based tourism
- Support for conservation on private lands and the use of sustainable forestry practices.
- Improve fiscal stability and sustainability of the 21 Towns in their district.

Who we are and why we invited you tonight?

Mary Wigmore- Private MLF working in western Massachusetts for over 40 years.

Michael Barry and Colin Mettey - Private MLF working in western and Central Massachusetts.

Conway Select Board retained us to facilitate a grant project with the following goals:

1. Conduct a survey of private forest landowners to determine their interest in participation in an aggregate project in the voluntary carbon market, and
2. Prepare a report for the Select Board about the options for the development of an economically viable aggregate Improved Forest Management project with private forest lands within Conway.

The Voluntary Carbon Market (VCM)…what it is and why it works for this potential project?

Carbon markets are used to effiecently allocate resources to reduce atmospheric CO2 levels and can either be Voluntary or Mandatory.

Mandatory or compliance markets are regulated by law and used by companies and governments to account for and manage GHG emissions.

The Voluntary market is regulated by standards that monitor and verify the quality and validity of voluntarily traded carbon credits (mtCO2e). It is a voluntary way to effiently allocate finacial recourses to reduce atmospheric CO2 levels.

Buyers in the VCM generally are businesses, NGOs and individuals providing the opportunity to offset emissions to fulfill personal or corporate social responsibility agendas and/or market and social pressures.

It's the Voluntary Carbon Market (VCM)…a market has a commodity for sale and willing **buyers. What's for sale…Carbon Offset** Credits

1 metric tonne of CO2 equivalent emissions reductions or removals from the air.

Any tradeable certificate that represents one ton of CO2 or equivalent GHG.

Branded by Registry that the project is listed **on…VER's, ERT's , or VCU's,**

Over a lifetime of 100 years, one tree could absorb around a tonne of CO2.

Developing your project and choosing a registry.

When enrolling in a carbon registry, it is best to begin by choosing the project type. Typically for forested properties, Improved Forest Management (IFM) is used.

The registration of carbon credits is carried out by independent organizations called Registries.

The registries undertake formal validation of your offset project so that the project may then be issued carbon credits and be listed on the voluntary market.

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American Carbon Registry
AT WINROCK INTERNATIONAL

VCS VERIFIED CARBON STANDARD
A Global Benchmark for Carbon

Improved Forest Management Project Types

The following 4 practices are intended to reduce GHG emissions in different ways

Reduced Impact Logging (RIL)
Uses RIL Logging Practices in place of conventional timber harvesting standards

Logged to Protected Forest (LtPF)
Converts Logged Forests to Protected Forests, eliminating harvesting for timber

Extended Rotation Age / Cutting Cycle (ERA)
Extends the rotation age or cutting cycle of even-aged forests, increasing carbon stocks over time

Low-Productive to High-Productive Forest (LtHP)
Converts low-productivity forests to high-productivity forests, transitions species composition to more desirable / more site-suited species

Improved Forest Management Project Requirements

Specific Requirements vary between different programs/standards

<u>Forest Certification / Forest Management Plan</u>

Forest Stewardship Council (FSC)

Sustainable Forestry Initiative (SFI)

American Tree Farm System (ATFS)

USFS Forest Stewardship Standards

Improved Forest Management Project Requirements

Forest Composition / Silvicultural Requirements

Contain or progress toward 95% native vegetation

Limits on percent of forest cleared to establish regeneration within harvests

Limits on percent of land in young forest (under 20 years old)

Retention of coarse woody material / standing dead and down woody material

Projects MUST demonstrate "additionality" over time through forest inventory measurements, in order to remain eligible for payments made / credits received

The Conway Select Board is investigating the formation of a an Aggregate to enter the VCM. This group would consist of several private landowners in Conway and surrounding geographical locations.

What is an Aggregate…

- Two or more individual forest landowners, no upper limit.
- No one participant can bring >5,000 acres to the project.
- The aggregate project must be under the management of 1 project proponent.
- Each owner must sign their own agreement and register with the chosen Registry.
- Entire project agrees to the standards, methodology, and protocol of the Registry.

Why join one…benefits

- Capitalize on efficiencies of scale to reduce project development, registration, monitoring, reporting, and verifications costs of the project.
- Sampling methodology less intense due to larger area in the project.
- Weighted risk of losses and costs is spread across the entire project through the crediting period.

How the VCM **works…an Improved** Forest Management Project project is designed, which describes the technology that reduces emissions or removes them from the atmosphere.

Who does what as the project is **built….**

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Project Developer: Design real-life forest management offset projects using an approved methodology to generate credits that are true, measurable, and additional.

Verification and validation Body-Third party, independent auditor that validates the methodologies used in a project and compliance **with the Registry's** standards. Verifies the offsets as true, accurate, and additional.

Registry-Administer and register carbon offset projects. Require compliance with their approved carbon accounting methodology, standards, and protocols. Track the credits.

THE CLIMATE TRUST

Project Development Chronology, Responsible Parties, and Estimated Costs

Start: Year 1

Complete: Year 3 to 5

Choose Project Developer

- 1. Open account and register
- 2. Feasibility study.
- 3. Complete the GHG Plan that demonstrates how the additional CO2 emissions reductions will occur, maps, methodology, calculations, and ecological benefits

The Registry

- 1. Project Developer opens account.
- 2. PD Registers the project with all associated documents.
- 3.Give unique serial number to each carbon offset and tracks them through sale and retirement

Validation and Verification

- 1. Hired by PD
- 2. Audits all documents, checks the methodology, and reports to the Registry
- 3. Verifies that the carbon offsets represent true and accurate reductions or removals of GHG emissions.

Commission on Gross Revenues: 12% to 35%

Open Account: Up to $500
Registration fee: Up to $10,000 with refunds, average <$500
Credit Issuance and Activation fees: .05 to .14 per credit.

FY2020 $25,000 to $50,000

Innovative Methodologies in 2020 and 2021 are driving these costs down

Project Development and Start Up Costs can reach to $150,000

PD's will front costs and take payment at time of sale

Offsets make sense when you understand the "secrets" in the GHG Plan
with regards to The Baseline Scenario and Additionality.....
Project Developers presents all the math for these concepts in the GHG

Baseline Scenario

- Presents the argument for the increase in GHG reductions and removals from the Improved Forest Management Project.
- Project Developer argues that without the IFM sustainable forestry practice laid out in the Forest Management Plans for the aggregate properties, forests would have been cut down.
- Determined by historical data on common harvesting practices that is extrapolated into the future (100 years).
- Modeling mathematically generates offset credits when compared to Net present value harvesting regimes over the 100 years.

This is the bad that the offset compensates for with the good

Offsets make sense when you understand the “secrets” in the GHG Plan with regards to The Baseline Scenario and Additionality…… Project Developers presents all the math for these concepts in the GHG

Additionality

- A project only sells the mtCO2e credits above and beyond what the forest would be generating without the project.
- If the proposed, Conway private forest owner aggregate manages their forest ecosystems in an exemplary manner and they generate excess reductions and removals of GHG from the air versus a "business-as-usual" forest management program, then those extra are what is for sale.
- An offset is good done to compensate for harm elsewhere- additionality is the extra good, the extra CO2 pulled out of the air because the Conway IFM occurred.

Two more concepts that are important for IFM **Projects and an Aggregate…** Also addressed in the GHG and accounted for before verification on the Registry.

Permanence: The longevity and stability of the carbon stocks in the forest, usually for 100 years.

- Any net reversal in GHG reductions used to offset emissions must be fully accounted for and compensated through the achievement of additional reductions.
- Harvesting is permitted, but must be compensated for by the growth in the forest, or else an avoidable reversal may be deemed.
- Unavoidable reversal: fires, insects, hurricanes, etc. are compensated in a shared "buffer pool".
- Avoidable reversal: excessive harvesting or unenrolling portion of the project areas or changes in the quantification of carbon sequestered MUST be compensated for by the forest owner or PD by returning an adequate number of CRTs.

Two more concepts that are important for IFM **Projects and an Aggregate…** Also addressed in the GHG and accounted for before verification on the Registry.

Leakage: Two types of GHG emission which might occur somewhere **else due to the project's activities.**

Activity: If the IFM project reduces and removes GHG emissions through reduced harvesting or exemplary work, these carbon may pop up through intense harvest project elsewhere. Shift the emissions not offset them

Market: The sustainable forestry practices implemented in the IFM project may cause a shortage of wood products elsewhere, which result in over harvesting and an increase in GHG emissions.

If the IFM Project forest ecosystem follow a certified management plan under American Tree Farm System (ATFS), then risk is considered de minimus. Market leakage is assigned a risk value (20% to 40%).

Once all these considerations have been addressed…

Additionality has been achieved and the offset credits generated are on the Registry, **the project is ready for market…**

How are the credits bought and sold?

- Voluntary market pricing is largely dependent on the agreement reached between the project developer and the buyer.
- Pricing of credits is often determined through advance negotiation.
- Different standards will provide different markets for generating income.

Finances for projects generally come from four different players:

- Buyers: Those that buy offsets to meet compliance regulations or voluntary commitments
- Investors: those that have interest in financial gain from funding a project.
- Brokers: Do not buy project credits but match sellers with potential buyers in return for a percentage.
- Donors: Those that may provide complementary funding for project development.

Carbon Market Trends….

2020 to 2021 Market Conditions

- Demand for forestry credits increased 28% over 2019 to 2020
- **Companies feel urgency to reduce emissions, and since they can't** do it overnight, they are turning to the VCM
- Prices stayed low due to high inventory, but it is being bought up
- Poised to expand dramatically in 2021

Volume Credits Trades and Average Price on the Voluntary Carbon Market

Year	2017	2018	2019	2020
MmtCO2e offset credits traded	16.8	23.8	36.7	42.6
Average Price Across Major Registries	VCS $3.40 ACR $4.85 CAR $2.15	VCS $3.20 ACR $4.36 CAR $2.85	VCS $4.30 ACR $5.25 CAR $2.34	VCS $4.79 ACR $5.36 CAR $2.97

Revenues per Acre for IFM Aggregate Projects Based on Research on the Public Carbon Registries

Forest Stocking levels	Additional GHG Offsets Per Acre under IFM	2020 Revenues/Acre VCS	2020 Revenues/Acre CAR	2020 Revenues/Acre ACR
Low	7.42 mtCO2e	$35.54	$22.03	$39.77
Medium	15.18 mtCO2e	$72.71	$45.08	$81.36
High	19.40 mtCO2e	$92.92	$57.61	$103.98

- These are Gross Revenues-All the Costs of Project Development, Registration, Verification and Validation, Monitoring, Reporting, management plans et al must come out of these.

What you might expect to earn if participating in an Aggregate utilizing an Improved Forest **Management (IFM) Project…**

Payment for offset credits are set on the average offset credit volume across the Aggregate project Area	Remember you are only paid for the additional GHG reductions and removals from the atmosphere that occur as a result of the documented Sustainable Forestry Practices in the IFM Project	Projects that demonstrate a unique story and sound extra environmental and ecological benefits such as water quality, habitat, high forest resiliency, or RTE's bring higher prices

Is this a good fit for you and your forest?

Carbon markets offer new potential for adding value to conserved and working forests, by

- Providing supplemental revenue that can be layered on top of the other stewardship mechanisms available to landowners in our region.

Carbon market participation will not work for everyone or everywhere

- It will work best on properties that are medium (Conway: ≥40 acres) to large (>1,000 acres) in size.
- Well-stocked and well managed forests
- Hight potential to develop aggregate.

More to Consider....

1. Joining an Aggregate Project is a long-term commitment that requires patience and perseverance

- Contract lengths between 20-40 years and can be renewed up to 100 years.
- Penalties for leaving early, or reversal of carbon stocks (differ between registries).

2. A belief in the premise of the benefits of nature-based climate solutions

- Taking part in an effort to slow climate change

3. Exemplary forestry stewardship

- Up-to-date forest management plan
- Knowledge of the land
- Open mind to sustainable forestry (I.e. lower intensity, extended rotations and designation/creation of refugia

4. Willingness to work with a group of like-minded land stewards