

# Increase technical assistance for West Virginia family forest owners to enable access to carbon market revenues

## Executive Summary

Many family forest landowners [express concern](#) about affording their property taxes to keep their forests in their family. By participating in the carbon market, these landowners can earn revenue that can contribute to these expenses, enabling them to keep their land and pass it on to the next generation. Depending on the program and forest condition, family forest owners can earn [\\$6-\\$100+](#) per acre per year for actively managing their forests to store more carbon and other conservation methods.

Participating in such programs can be challenging, however, as even determining if their forest is eligible for a carbon program requires families to hire a registered forester to create a management plan. Further, each program's conditions differ and unbiased information is hard to find and assess without guidance.

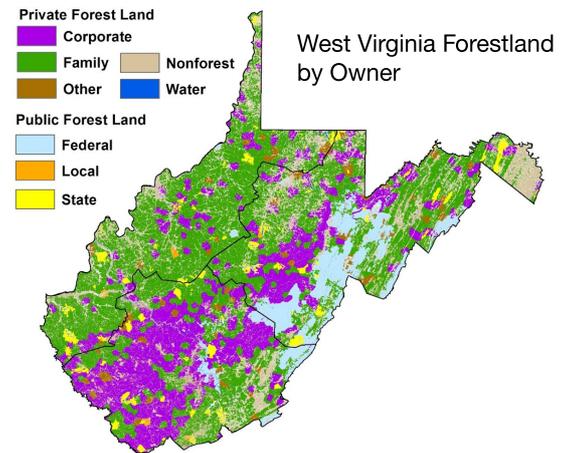
West Virginia policymakers should increase funding for state agencies and university extension services so they are better equipped to provide assistance to family foresters to help them with these assessments.

## Introduction

Approximately [78% of West Virginia's land area \(12 million acres\)](#) is forested, about half of which is owned by families (green area of map above). With appropriate management plans, these forests can remove additional carbon dioxide (CO<sub>2</sub>) from the atmosphere, and West Virginians can sell "carbon credits" to companies interested in meeting their net-zero emission goals, presenting a significant economic opportunity.

Today, nearly [28 million offsets](#) have already been sold by corporate landowners in West Virginia. Further, the Nature Conservancy/American Forest Foundation have [programs focused on family forests](#).

Landowners may also be able to sell some timber from the trees cut on their land, adding an additional revenue stream. This also supports the important forest products industry that contributes [\\$3.4 billion](#) in total annual output to the state's economy. In fact, the carbon in trees that are harvested and stored in [long-lived wood products](#) (e.g., furniture, building materials), count towards the carbon credits to be sold by the land owner.



### Key Messages and Recommendations

- West Virginia family forest owners face financial barriers and insufficient information to participate in the forest carbon market, which can provide a source of revenue.
- West Virginia lawmakers should increase funding to the Division of Forestry, West Virginia Department of Agriculture, the Division of Natural Resources, and University extension offices to provide needed resources to forest owners.
- West Virginia lawmakers should create incentives to forest products industry for long-term carbon storage
- West Virginia lawmakers should work with federal and state agencies to improve the protocols and methods for measuring, verifying and reporting carbon offsets.

Annual Economic Impact of Natural Carbon Sequestration Efforts in West Virginia (West Virginia University, 2022)

	Direct Impact	Indirect & Induced Impact	Total Economic Impact
Output (\$, millions)	12.2 – 54.6	6.0 – 26.7	18.2 – 81.3
Employment (jobs)	126 – 561	74 – 331	200 – 892
Labor Income (\$, millions)	7.8 – 34.8	2.7 – 12.0	10.5 – 46.9
Total Taxes (\$, millions)	0.7 – 3.2	0.3 – 1.1	1.0 – 4.3

Notes: Tax Revenue impact includes sales, personal income, property, and corporation net income taxes. Natural carbon sequestration includes forest management, agricultural practices, and wetland management, with forest management making up about 70% of all.

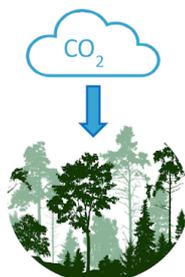
As shown in this table, West Virginians participation in carbon markets can create jobs and tax revenue to support rural community needs.

## Family Forest Landowners Need Technical Assistance to Benefit from Carbon Market

Most forest carbon market programs require landowners to work with a certified forester to develop a forest management plan, since [most do not have one](#). If they then decide to participate in the carbon market, they must actively manage their forest to increase the amount of new carbon stored by their forest each year. Then, most programs require that the carbon be measured and verified by a third party. Corporate landowners may have these technical and financial resources; however, these requirements can be prohibitive to family forest owners. West Virginia policymakers need to take actions that will provide needed technical resources to family forest owners interested in participating in or learning more about the carbon market.

### How Does the Forest Carbon Market Work?

Trees remove CO<sub>2</sub> from the atmosphere. All forests are unique, but West Virginia forests are particularly good at removing and storing CO<sub>2</sub>.<sup>3</sup>



West Virginia forest landowners work with registered foresters to create a management plan that will increase CO<sub>2</sub> removal on their land.



1 carbon credit = 1 ton CO<sub>2</sub> sequestered above baseline



1 ton of carbon removed is equal to driving 2,482 miles<sup>4</sup>

Monitoring, recording, and verification (MRV) of the carbon being removed by the forest is typically done by a third party.

Standards vary and are currently evolving.



West Virginia landowners receive payment (\$ per ton varies)



Businesses and individuals buy carbon credits to offset their CO<sub>2</sub> emissions

### What Can be Done?

To address the financial barriers and lack of information for family forest owners to access the carbon market, we recommend the following policies., Each was discussed with key West Virginia stakeholders:

- **Increase resources for The West Virginia Department of Commerce's Division of Natural Resources, Division of Forestry, West Virginia Department of Agriculture, West Virginia University Extension, and West Virginia State University Extension to provide technical assistance and advice to small forest owners on the economic potential and participation details of carbon credit or offset programs and markets.**
- **Incentivize or provide rewards for maximizing long-lived forest products and reducing carbon emissions associated with the industry, so the forest products industry can remain competitive and landowners can earn even more for managing their forests.**
- **Develop a federal and state tax credit for nature-based carbon removal investments similar to the existing federal [carbon oxide](#) sequestration tax credit (Internal Revenue Code [Section 45Q](#)).**
- **Work with federal agencies (U.S. Department of Energy and U.S. Department of Agriculture) and leading nongovernmental organizations to develop appropriate standards for net carbon accounting of stored and sequestered carbon in forests and forest products.**
- **Work with USDA and DOE to request and fund a study by the National Academies of Science, Engineering, and Medicine (NASEM) to determine the optimal harvest cycle for maximizing the carbon removal potential by forests and forest products.**

**For More Information:** This policy brief, written by Dr. Brooke Eastman, is based on a policymaker guide entitled [Carbon Dioxide Removal and West Virginia: A Science and Technology Policy Perspective](#), published under West Virginia University's [Bridge Initiative in Science and Technology Policy, Leadership, and Communications](#). The Bridge Initiative identifies challenges and opportunities facing West Virginia and provides a bridge between the expertise of WVU and West Virginia's policymakers. See <https://scitechpolicy.wvu.edu/cdr> or email [scitechpolicy@mail.wvu.edu](mailto:scitechpolicy@mail.wvu.edu) for more information, including another forest carbon brief.

West Virginia Forest by Owner figure credit: United States Department of Agriculture, [U.S. Forest Service](#), 2015.

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