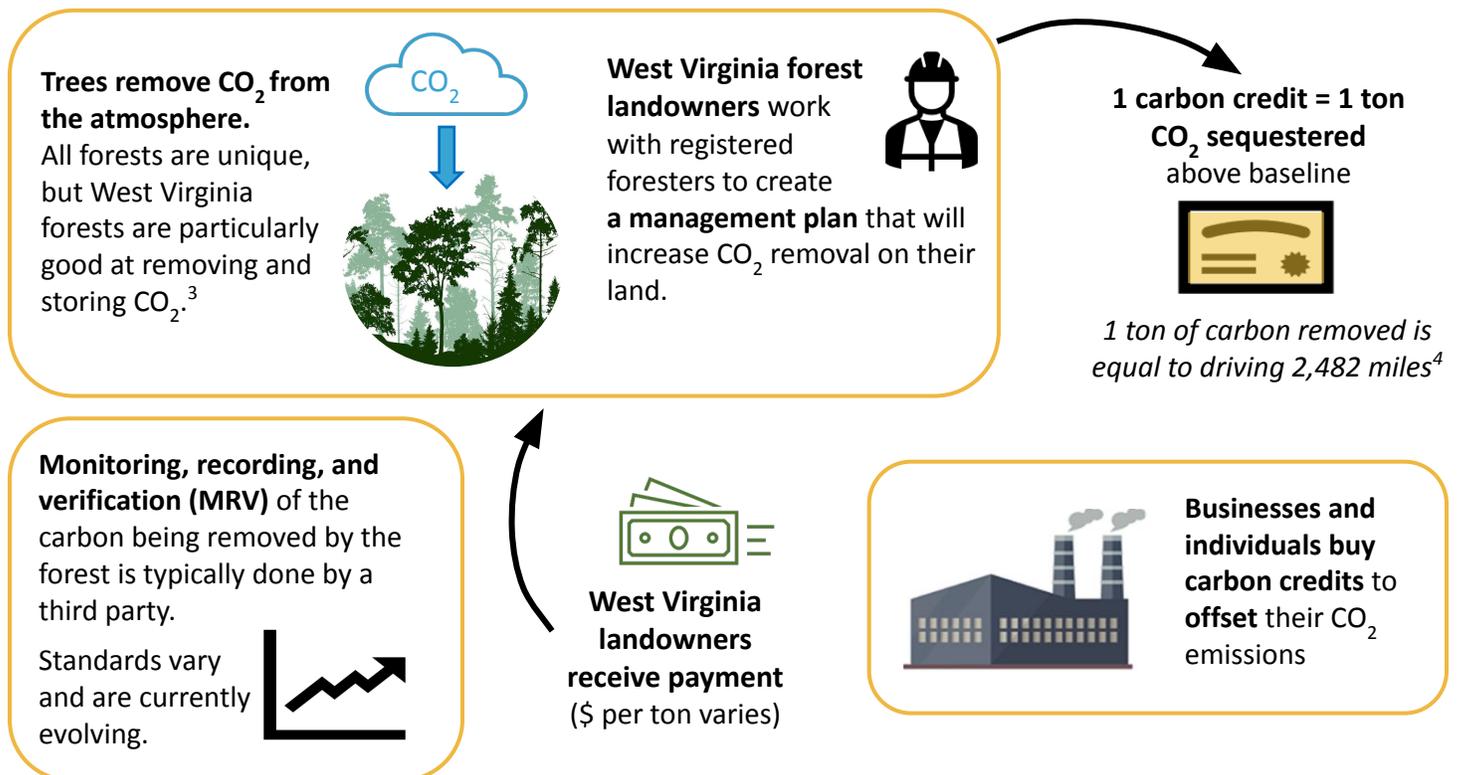


# Forest carbon markets and West Virginia

- **The 12 million acres<sup>1</sup>** of West Virginia forest are a valuable natural resource that can remove carbon dioxide (CO<sub>2</sub>) from the atmosphere, presenting a potential economic opportunity.
- **1 metric ton** of CO<sub>2</sub> taken up by managed forests can be sold as **1 carbon credit** to companies and individuals interested in **offsetting** their carbon emissions.
- To date, **almost 28 million credits<sup>2</sup>** have been sold to corporate landowners in West Virginia, and programs exist to facilitate **family forest owner** participation.



## Market Background

Several cost-share programs exist to help landowners develop the required forest management program.

Numerous third-party entities exist that purchase, sell, broker, measure, and verify carbon credits.

Currently, the carbon market is driven by private industry and the free market, and is largely unregulated.

The monetary value of a ton of carbon fluctuates, and has increased in recent years. Demand for carbon offsets is expected to increase.

<sup>1</sup>[USDA Forest Service](#); <sup>2</sup>[UC Berkeley](#); <sup>3</sup>[National Climate Assessment](#); <sup>4</sup>[EPA](#)

# Current Forest Carbon Storage Economic Opportunities in West Virginia

Program Name	Acreage Requirement	Pricing	Term Agreement Duration	Harvest Allowed?
California Air Resources Board (CARB)	40+ <i>(not profitable &lt;2,000 acres)</i>	Variable, depends on market \$20-\$100+ per acre per year <sup>1</sup>	25-year credit term & 100-year monitor term	Yes
Family Forest Carbon Program <sup>2</sup>	30-2,400	Depends on acreage, forest condition, management plan \$50-280/acre	10-20 years	Yes
Working Woodlands Program <sup>2</sup>	2,000 +	Variable, depends on carbon credits market	Variable, long-term easements (e.g., 40 years)	Yes
NCX <sup>3</sup> National Capital Exchange	None	Variable, landowner bids. Ex.: \$8/acre in 2020 PA bid <sup>4</sup>	1 year	No

Source: West Virginia University, 2022; based on data from [Forest Carbon Works](#)<sup>1</sup>, [The Nature Conservancy](#) and [American Forest Foundation](#)<sup>2</sup>; [NCX](#)<sup>3</sup>; [Penn State Extension](#)<sup>4</sup>

## FREQUENTLY ASKED QUESTIONS

### Can landowners harvest timber while in a carbon offset agreement?

In most carbon offset programs, **harvesting is allowed**. In fact, many programs *require* that the landowner owns the rights to their timber, and certain harvest practices may increase the number of carbon credits produced. However, one program in West Virginia, Natural Capital Exchange (NCX), *does not* allow harvesting during their 1-year contracts.

### How long are forest carbon offset agreements?

As shown in the table above, this **depends on the specific program**. Contracts can vary from 1-125 years. Landowners are not allowed to participate in more than one carbon offset program.

### What are the land and management requirements to participate?

All programs have different requirements for the land. **Most require a forest management plan from a registered forester**. Many consider the minimum tree cover, % of native species, number of acres, etc. Landowners participating in the Managed Timberland Program are currently still eligible to participate in carbon programs *that allow timber harvests*.

### What if a landowner wants to change or end their carbon offset agreement?

For most contracts, **early termination requires the landowner to pay back the carbon credits they received and a termination fee**. The fee covers the cost of monitoring and enforcing carbon credits on forest lands, which can cost over \$250,000<sup>1</sup>. If the land is bought, sold, or inherited, the new owner must uphold the contract, or the previous owner must pay back the carbon credit payments and fee.<sup>2,3</sup> **In the event of a natural disaster that kills trees and removes carbon from the land, landowners are not penalized, however the contract may be terminated.**

### Is participation in the carbon market by landowners voluntary?

**Yes, participation in carbon markets for landowners is *always* voluntary**. Some confusion comes from hearing about voluntary versus compliance markets. These refer to the **whether the companies buying offsets are doing so voluntarily**, or if they are *required* by law to offset their emissions such as for businesses operating in California.

<sup>1</sup>[Kelly and Schmitz, 2016](#); <sup>2</sup>[CARB](#); <sup>3</sup>[The Nature Conservancy and American Forestry Foundation](#)

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