

FOREST CARBON MARKETS & PROGRAMS



Department of
Environmental
Conservation

Information for forest landowners

For nearly two centuries, burning fossil fuels has caused carbon dioxide (CO₂) to build up in the Earth's atmosphere, trapping the sun's energy and causing the Earth to heat up like a greenhouse. This warming trend has begun to cause changes to local climates (higher temperatures, more frequent and intense storms, etc.), which will impact our health, our ability to produce food, and the survival of native plants and animals. Since trees absorb CO₂ from the atmosphere and store carbon in their trunks, branches, and roots, they are one of our best tools in combating climate change. Trees and forest management can be used to offset CO₂ and other greenhouse gas emissions through forest carbon markets.

What are forest carbon markets?

Forest carbon markets are where businesses, municipalities, and other organizations can purchase carbon credits to offset their CO₂ and other greenhouse gas emissions. A carbon credit is created when landowners undertake specific projects to increase their forests' ability to absorb CO₂ and store carbon. Reducing emissions of CO₂ and other greenhouse gases can be difficult and expensive, so forest carbon markets provide these entities with an alternative to reduce their impacts on climate change. In this way, the increased CO₂ intake from forests in one location offsets CO₂ emissions in another.



Forests absorb carbon dioxide from the atmosphere, helping to combat climate change.
David Cappaert, Bugwood.org

How can landowners participate in a forest carbon market?

Landowners can sell their carbon credits directly through a forest carbon market, but undertaking a carbon offset project is expensive, so many landowners participate through forest carbon programs where third-party companies assist with the up-front and ongoing costs of the project in exchange for a share of the profits.

There are three main types of carbon offset projects that can be used to participate:

- **Avoided conversion:** protecting the forest from future development to keep the carbon in the forest's trees and soils. These projects usually include the establishment of a conservation easement or the transfer of private land to public ownership.
- **Afforestation, reforestation, or revegetation:** growing new trees to remove CO₂ from the air and store carbon. For these projects, trees are planted and/or conditions are created that will encourage the growth of trees in an area.
- **Improved forest management:** using practices that increase the amount of CO₂ removed from the air and carbon stored in an existing forest. One way to do this is to limit the number of trees that are cut in the forest.

To be considered a valid carbon offset project:

- The amount of CO₂ absorbed by a forest, and/or the amount of carbon it stores, must be higher than it would have been had the project never taken place;
- There cannot be a loss of forest carbon in another area (e.g., a landowner reduces the number of trees cut in one forest, but cuts more in another to compensate);
- It must have a long-term time commitment to ensure the additional CO₂ absorption isn't short-lived; and
- It must be periodically checked to verify that the impact of the project continues to meet the carbon credits awarded.

Things to consider before undertaking a forest carbon offset project

- Carbon offset projects can be costly. Some of the up-front costs may include creating a management plan, certifying the forest, conducting a forest inventory, and calculating the amount of carbon that would be removed and stored in the area without the project. Additional costs may include removal of weeds, purchasing and planting trees, thinning the forest, delaying harvest, maintaining a forest management plan, conducting additional inventories, and reporting. If you are working with a forester or forest carbon program, know what project costs will be covered and for what duration. In addition, note any fees and the percent of carbon profits that will be deducted for their work. For forest carbon programs, ask if they have stable prices and buyers.
- Forest carbon offset projects usually require long-term time commitments which typically range from 20–125 years.
- In most forest carbon markets, the person who signs the contract is held accountable for the carbon stored in the forest, the execution of the project, and any penalties for the entire timeline of the project—even if the land is sold. In other cases, participation in the forest carbon market is tied to the deed. Whether accountability is tied to a contract or a deed, future sale of the land will be impacted, and future landowners may be restricted in how they can manage the forest.
- Restrictions to tree harvesting and other limitations may reduce future forest income opportunities.
- Other restrictions and requirements on your land, such as a conservation easement, participation in New York’s Forest Tax Law program (480a), and timber harvest agreements, may not be compatible with participation in a forest carbon market or program.
- Forest pests and diseases can impact your project by reducing the amount of carbon stored long-term, which could result in a loss of profits and/or termination from the forest carbon market. Currently, ash, hemlocks, beech, and elms are some of the species in New York that are heavily impacted by pests and diseases.



Planting trees can absorb carbon dioxide and offset emissions released by companies.
NYSDEC

Where can I find more information?

- Visit <https://www.dec.ny.gov/lands/123660.html> for more information about forests and climate change.
- Contact your local DEC forester (<https://www.dec.ny.gov/lands/97398.html>) to learn more about forest management and receive technical advice for your forest.
- Useful publications:
 - *Forest Carbon Markets for Vermont Landowners*, <https://bit.ly/VTcarbonmarkets>
 - *Open Space Institute’s list of carbon market assistance programs*, <https://bit.ly/carbonmktassistance>
 - *Protecting Your Legacy: A Massachusetts landowner’s guide to conservation-based estate planning*, <https://bit.ly/conservationlegacyplan>
 - *Estate planning for forest landowners: what will become of your timberland?*, <https://www.srs.fs.usda.gov/pubs/31987>

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