

A BRIEF OVERVIEW OF CARBON SEQUESTRATION, CARBON-OFFSETS, & PAYMENTS TO PUBLIC LANDOWNERS TO KEEP THEIR FORESTS INTACT

I. What is carbon sequestration?

Carbon sequestration is the process of capturing and storing carbon. Trees --branches, roots, and foliage--naturally remove carbon from the atmosphere. The larger the tree, the more carbon removed and stored. An eighty-year-old, 250-acre forest holds about 260,000 tons of carbon dioxide (the atmospheric version of carbon) and absorbs an additional 1,100 tons per year (Davey Resource Group, 2021).

II. Why does carbon storage matter?

“Burning fossil fuels, deforestation and other land use changes are disrupting the carbon cycle by increasing the concentration of carbon dioxide in the atmosphere. This disruption is significant for our climate because carbon dioxide is the most important gas for controlling Earth's atmospheric temperature.” (carlton.edu.)

We have too much carbon dioxide in the atmosphere; temperatures are rising, creating damaging and expensive effects. (Floods, drought, uninhabitable heat --in some parts of the world--massive human and animal migration.)

III. What are carbon offsets?

“Buying a carbon offset is when a participant (person, company, government, other group) voluntarily buys a unit of carbon, usually a ton, to counteract greenhouse gases released by their activities.” (Norman, 2020, *Carbon Markets 101*.) Carbon-offset projects generate credits that give big companies an inexpensive way to claim large emissions reductions. It is a trading system: industries release carbon, on the one hand, while protecting or increasing carbon storage, on the other.

IV. Why are forest owners being paid to leave forests intact and, in that way, help to maximize carbon sequestration (or “carbon capture”)?

Forest owners can commit to carbon sequestration contracts by leaving their forests intact. These carbon sinks (once inventoried and certified) can be marketed as carbon offset credits.

V. Voluntary vs. mandated carbon markets: **Separate, unrelated markets.**

There are two MANDATED or involuntary carbon markets - also called cap & trade markets. One is RGGI, the other is the Western Greenhouse Initiative.

There is also a **VOLUNTARY** carbon market. “The voluntary carbon market enables private investors, governments, non-governmental organizations, and businesses to voluntarily purchase [carbon offsets](#) to offset their emissions. The largest category of

buyers comprises private firms that purchase carbon offsets for resale or investment. ...Voluntary offset buyers are often driven by certain considerations such as safeguarding their reputation, ethics, and [corporate social responsibility \(CSR\)](#)... [ONE] benefit of the voluntary carbon offset market is that it works in harmony with domestic compliance markets. It complements the regulatory market by providing an avenue where projects that are not achievable in the regulatory market can be achieved. Also, it allows governments, NGOs, and private companies to implement projects that go beyond what they are required to do in compliance markets.” (corporatefinanceinstitute.com).

“The market for these credits is booming, according to BloombergNEF, a clean-energy research group. In the first 10 months of this year, companies used more than 55.1 million carbon credits to offset their emissions (equivalent to the pollution from 12 million cars), a 28% increase from the same period in 2019.” (Elgin, 2020, Bloomberg Green.)

VI. Who is eligible for carbon-offset project payments?

Pennsylvania **Public** and **PRIVATE forest landowners in select PA Counties (including Indiana County right now)** have the option to have their forests inventoried and certified as carbon offsets. These carbon offsets can be sold on the voluntary carbon market.

The Nature Conservancy’s [Family Forest Carbon Project \(FFCP\)](#) website puts it this way: “Your woods are valuable. Your land provides privacy, wildlife habitat, clean water, and clean air. It also stores carbon, which many businesses are willing to pay for as part of their commitments to reduce their carbon footprint.”

(Typically, there are NO UPFRONT COSTS. Upfront costs of inventorying, certifying, and marketing the carbon credits are typically absorbed by the non-profit organization that is overseeing the carbon-offset program.)

VII. How can a **MUNICIPALITY** receive annual payments for their standing forest?

TWO companies, City Forest Credits and SIG (Spacial Informatics Groups) are certifying municipal lands in Pennsylvania for carbon credits now -- and selling those credits (on behalf of the municipality) on the voluntary carbon market. The two most recent municipal carbon offset projects have sold carbon credits at either \$30.00 or \$35.00 a ton

Municipal projects have been completed in Bethlehem, Pa, Elizabeth Township, PA, and another Western PA township (details to be released soon); Indiana County Parks, Dubois, and other PA municipalities are currently investigating carbon projects for their public lands.