



Off Course: Carbon Pricing Myths and Dirty Truths

Agriculture and forestry contribute an estimated one-quarter of all human-sourced climate warming emissions.¹ Governments are waking up to the urgency of reducing agricultural emissions while helping farmers adapt to a changing climate. However, many polluters are proposing market-based agriculture and forest offset scams that they try to sell as “solutions” to the climate crisis. Carbon pricing schemes over the past decade have shown that offset programs such as cap-and-trade are not meaningfully reducing emissions, and are actually worse than doing nothing. Instead, these greenwashing opportunities allow industries to “pay-to-pollute,” pushing the goal of remaining below 1.5 degrees Celsius of warming out of reach.

Ignoring these failures, policy makers are forging ahead to design new carbon programs and markets that incorporate more farmers. The European Commission (EC) includes carbon pricing and offsets in its “Farm to Fork” strategy, a key part of the European Green Deal to make the continent climate-neutral by 2050. The EC intends to develop a “carbon farming initiative” for certifying and accounting for agricultural carbon offsets.² In the United States, the Biden administration is considering carbon pricing as

part of its climate action plan, including proposals to create a carbon bank under the U.S. Department of Agriculture (USDA).³ Bipartisan legislation would also facilitate the sale of carbon credits from U.S. farms and forests.⁴

Carbon pricing is a scheme pushed by the fossil fuel industry in order to avoid reducing its own emissions. Pursuing carbon pricing is in fact worse than doing nothing.

Key findings

Carbon pricing often leads to net increases in greenhouse gas emissions. Polluters are purchasing offsets for practices that would likely have been adopted in the absence of carbon pricing schemes. This includes the majority of offsets purchased under mechanisms provided by the Kyoto Protocol, as well as those issued under California’s cap-and-trade program.⁵

Agriculture offsets are no substitute for fossil fuel combustion. Fields and forests are only temporary carbon sinks and can re-release carbon back into the atmosphere over the course of a few decades, or even in a matter of hours. The most important carbon sinks are the slow-exchange ones like fossil fuel reservoirs where, if left undisturbed, carbon is trapped for millennia.⁶ Offsets confuse this basic science by wrongly treating the Earth’s biosphere as an endless source of carbon storage.

Carbon pricing perpetuates environmental injustice. Communities located near “pay-to-pollute” facilities will continue to bear the burden of toxic air and contaminated water, and in some instances, they will experience pollution increases.⁷ Carbon pricing is yet another opportunity for agribusinesses to squeeze revenue from our food system on the backs of marginalized communities while distracting us from the ongoing farm crisis and emissions-intensive agricultural practices like factory farming.



Chasing carbon pricing schemes locks us in to a fossil fuel future and all but guarantees climate catastrophe. Instead, we need to stop the expansion of new fossil fuel infrastructure and production, as well as factory farming, while helping communities transition off these destructive industries.

The many pitfalls of carbon pricing

Carbon pricing is sold as a way to address greenhouse gas emissions by putting a price on carbon to capture its environmental and public health impacts. Polluters then choose between reducing emissions or paying a carbon tax / purchasing carbon credits. Proponents of carbon pricing schemes claim that the schemes shift the costs of pollution reduction to the polluters who can most afford it.⁸

In reality, these “pay-to-pollute” offset schemes result in little to no reduction of net greenhouse gas emissions — and in some cases, they *increase* emissions. Carbon pricing fails for a number of key reasons. These are the top three:

1 Minimal to no “additionality”

Additionality is essential in carbon pricing. This refers to the added emissions reductions created by an offset project.⁹ But evidence shows that carbon offset projects are rarely “additional.” For example, the Kyoto Protocol provides two mechanisms for pricing and selling carbon offsets.¹⁰ According to a 2016 report issued by the European Commission, 85 percent of offset projects issued under the Clean Development Mechanism had a “low likelihood” of additionality.¹¹ Similarly, a 2015 Stockholm Environment Institute report found that around 75 percent of offsets issued under the Joint Implementation program were non-additional.¹²

Additionality is particularly relevant to agricultural offsets, since many practices that sequester carbon are beneficial in and of themselves. Even without a carbon payment, farmers might still adopt practices like cover cropping to improve weed management and generate additional income. A USDA study estimated that roughly half of all payments for conservation tillage were nonadditional. Fertilizer reduction

fared even worse; if these were incorporated into a carbon pricing program, “a large majority of the offset credits generated would be nonadditional” and would result in increased aggregate emissions.¹³

2 Carbon pricing schemes are open to fraud and manipulation

The value of offsets depends on calculations made by private companies selling offsets, third-party verifiers and regulators. This creates an environment conducive to speculation and manipulation.¹⁴ Big companies with more information about offset project parameters stand to gain the most through fraud and data manipulation, which are long documented in carbon pricing schemes.¹⁵

For example, private companies selling offsets often set their own additionality baselines — the levels of emissions that would have occurred in the absence of the offset projects. Raising this baseline also raises the value of offset credits. A 2017 study suggests that higher emitters tend to set higher baselines, even in the presence of third-party verification.¹⁶ Companies may also deliberately increase emissions prior to initiating offset programs in order to raise the baseline. According to a coalition of environmental groups, up to a third of offset credits sold under the Kyoto Protocol could be fraudulent, with some companies opting to “produce gas just to burn it” in order to raise the value of their offset credits.¹⁷

In the end, fraud leads to net increases in the very pollutants that offsets were meant to reduce.¹⁸ For instance, 82 percent of credits reviewed under the California Air Resources Board’s U.S. forest offset protocol “likely do not represent true emissions reductions,” resulting in an additional 80 million tons of CO₂ emissions.¹⁹

3 Carbon pricing schemes raise emissions and lock us into a fossil fuel future

Carbon pricing enables offset purchasers to delay making the emissions reductions necessary to avoid catastrophic climate change. An analysis by Food & Water Watch found that U.S. states participating in the Regional Greenhouse Gas Initiative (RGGI) actually

increased natural gas generation by 11.2 percent over the first seven years of the program. In contrast, renewable generation increased only 2.4 percent over the same time period.²⁰

Carbon pricing extends a lifeline to an industry that is polluting our air, water and climate. It distracts us from the real solutions: cutting pollution at the source and rapidly transitioning to 100 percent clean, renewable energy like solar and wind, accompanied by the widescale deployment of energy efficiency.

Why carbon pricing will not work for agriculture

We should encourage farmers to adopt practices that reduce emissions, enhance soil health and make farmland more resilient to a changing climate. But incentives should come from public funding like existing USDA conservation programs or the European Common Agricultural Policy (CAP), not risky carbon pricing schemes. In addition to carbon pricing’s inherent failures, agricultural offsets are fundamentally unsuitable to such programs.

A tale of two carbon cycles: Differences between fast- and slow-exchange reservoirs

Carbon is not sequestered forever, and will eventually be released back into the atmosphere. It lingers there for a few years to several millennia, depending on the type of greenhouse gas. Scientists refer to the exchange of carbon between reservoirs like rocks and plants and the atmosphere as the carbon cycle.²¹

Soil and plants are part of the fast carbon cycle. Any carbon sequestered by practices like cover cropping or no-till agriculture may be released in a matter of decades — or even sooner thanks to wildfires or other land disturbances.²²

In contrast, slow carbon cycles have turnover rates that measure in the millennia. Slow reservoirs include the deep ocean, as well as geological formations where fossil fuels are stored. In the absence of disturbances from volcanic eruptions or fossil fuel extraction, carbon can remain here for thousands to millions of years. But our addiction to fossil fuels is emptying

these slow reservoirs at alarming rates, releasing carbon dioxide and methane — the chief drivers of atmospheric warming. Replenishing slow reservoirs can take thousands of years or more.²³ Simply put, you cannot “offset” fossil fuel combustion by temporarily storing carbon in soil or crops.

Furthermore, while polluters can emit into the atmosphere almost instantaneously, the greenhouse gases that they produce can linger in the atmosphere for many years before being fully sequestered, where they contribute to climate change and its incontrovertible impacts.²⁴ To illustrate, researchers estimated that a forest restoration project on 10,000 hectares of degraded farmland in Uganda would take over 100 years to reach the same carbon storage capacity of an old-growth forest. It would take roughly 60 years for the forest to absorb just a year’s worth of carbon emissions from a coal plant.²⁵

Inconsistencies and uncertainties in carbon measurements

Methods for measuring the amount of carbon sequestered in agricultural lands and forests remain uncertain and inconsistent. A 2018 study looked at three common methods for measuring soil carbon and found that they each led to differing results. Measurements also changed depending on the soil depth from which samples were taken.²⁶ In fact, practices like no-till farming have been shown to store little to no carbon in the soil, depending on the measurement depths.²⁷ Uncertainties also exist in forest carbon modeling. A study by researchers in the field notes that while estimating the biomass of forests is crucial in calculating carbon sequestration, the ability to make accurate estimates is “unknown or severely limited.”²⁸

Similarly, the length of time that carbon is stored in agricultural lands is uncertain. Rates of decay can vary by the form in which carbon is stored, as well as by geographic and climatic differences. Some carbon compounds persist for thousands of years and others for only a few hours.²⁹

Moreover, land disturbances can cause rapid carbon releases. Change in agricultural management or severe weather events like wildfires can return



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sequestered carbon more quickly than an offset project estimated.³⁰ Reports show that many offset projects either partially or no longer exist, or were never initiated in the first place.³¹ One notorious example is the Hungarian startup that “donated” credits to offset the Vatican’s emissions, while using the publicity stunt to sell offsets to European governments and corporations for a forest that was never planted.³²

A convoluted and fundamentally imperfect system of accounting makes it nearly impossible to quantify carbon sequestration, rendering offsetting programs ineffective. As climate change worsens, land-based carbon storage cannot be considered a viable long-term solution as emissions continue unabated; sequestration offset projects will be at risk of fire, disease and decomposition under a warming atmosphere.³³

Carbon pricing schemes exacerbate social and environmental justice

Chasing carbon pricing schemes may be worse than doing nothing.³⁴ Dubbed “carbon colonialism,” these offset schemes generate wealth for over-consuming countries, third-party verifiers and powerful corporations. Meanwhile, they lock out local populations in poorer areas from land and resource decisions in their own backyards.³⁵

Carbon pricing schemes disproportionately burden vulnerable communities

Offsets made in one community mean that a polluter in another will continue to spew toxic emissions. Carbon pricing does nothing to reduce the toxic burden of communities living at the fenceline of polluting facilities — and in many cases, increases it.

For example, Food & Water Watch found that the RGGI cap-and-trade scheme is increasing harmful air pollution in areas with extreme environmental justice disparities. Neighborhoods that experienced increases in carbon dioxide emissions had disproportionately more poverty and people of color than those that experienced decreases in emissions.³⁶ Evidence from California's cap-and-trade program shows similar results. Unfortunately, these environmental justice communities often lack the political clout to stop industrial expansion or unfair market-based schemes.³⁷

Carbon offset programs also subsidize projects that spew their own toxic emissions, such as manure digesters on factory farms. These facilities extract factory farm gas from manure and other waste, a process that releases methane, a powerful greenhouse gas. Factory farm gas production and combustion also releases other harmful pollutants including nitrates, ammonia and hydrogen sulfide, which poisons the low-income communities and communities of color already disproportionately burdened by factory farm pollution.³⁸

A soil carbon bank will not solve the farm crisis

Lawmakers and public officials are touting carbon markets as a silver bullet to boost farm income and keep farmers on the land. But offset payments will not undo the corporate takeover of our food system responsible for gutting farm income and driving farmers to bankruptcy. Carbon offsets could, in fact, fuel even greater consolidation of agribusinesses and farmland.

Carbon market schemes are being pushed by the same agribusiness behemoths that spent decades wiping out competitors and courting policy makers in order to build a farming system that largely works in their interests.³⁹ This enables them to capture ever-greater

shares of farm income. Today, farmers across the globe struggle to meet the cost of production and earn a living in the face of volatile crop prices and cheap imports.⁴⁰

Skeptics question how valuable offset payments will actually be and what share will reach farmers once agribusinesses and third-party middlemen take their cuts. A U.S. farmer representing USA Rice testified before Congress that his participation in an early carbon market scheme generated a single check of \$133.⁴¹ One-off payments like these will not provide sustainable, living wages for farmers or challenge the corporate stranglehold that squeezes farm income in the first place.

Moreover, there is the question of equal access, given the fact that these schemes are most feasible on larger operations.⁴² This is an ongoing problem with agricultural supports, which offsets will make worse. A recent study criticized the European Union's CAP for distributing farm subsidies to larger farms in wealthier regions; similarly, U.S. farm subsidies have disproportionately benefited the largest farms over smaller ones and farmers of color.⁴³ Offsets purchases could easily fall into these same traps and promote further farmland consolidation. To make matters worse, farms that have already invested in regenerative practices, including certified organic farms, could be left out.⁴⁴

A soil carbon bank will prop up unsustainable farming systems

Given their enthusiastic support from agribusinesses, carbon pricing schemes are unlikely to steer us toward more sustainable food and farming systems and may instead entrench polluting ones. Agribusinesses are already greenwashing chemical inputs and factory farm gas as climate "solutions."⁴⁵ But incentivizing factory farm gas will prop up this unsustainable farming system responsible for significant greenhouse gas emissions and numerous public health problems.⁴⁶ Moreover, conservation practices like no-till farming that rely on fossil fuel-derived herbicides such as Roundup will not meaningfully reduce emissions or restore biodiversity.⁴⁷

We will not build a better food and farm system through *ad hoc* offset practices. Instead, we must help farmers transition from factory farms, and from overproducing corn and soybeans on chemical-dependent

monocultures. We can start by boosting funding to existing USDA programs that help farmers diversify their operations while eliminating support for factory farm gas production and other unsustainable practices.

Big Ag and Big Data

Emerging farm data platforms like precision agriculture or smart farming are building the infrastructure for agricultural carbon markets. They use sensors and drones to collect, compile and analyze data from participating farms, and offer site-specific recommendations around various decisions like planting and harvest dates and weed control. Proponents tout smart farming's ability to reduce chemical inputs by tailoring practices to a specific farm's needs rather than regional averages. Some hope to turn data on reduced emissions into offset credits that can be traded on carbon markets.⁴⁸

Big Ag and Big Tech companies are largely behind these smart farming platforms. It creates more value-added opportunity from which to profit, as well as the opportunity to market their own products as solutions to the problems they identify. Companies like Monsanto and Pioneer require farmers to first become their seed customers before participating.⁴⁹ This adds to the legacy of agribusinesses wielding intellectual property to their benefit — from Monsanto retaliating against farmers for seed patent infringement, to John Deere withholding diagnostic software necessary for repairing the company's tractors.⁵⁰

Moreover, participating farmers do not necessarily "own" the data coming from their farms. Instead, they might purchase these data in the form of analytics produced by the data platforms. There is growing concern over how powerful agribusinesses could leverage farmers' data. They could acquire farmland on the cheap, given that they have information on productivity unavailable to others. They could engage in price discrimination for seeds and chemical inputs given that they know a farmer's needs and ability to pay. Information on yields could even lead to market manipulation or speculation.⁵¹

Reducing and eliminating chemical inputs is imperative. But efforts should not require farmers to enter into one-sided contracts with powerful agribusinesses or to sign over rights to their data.

Conclusion

We will not stabilize our climate at 1.5 degrees Celsius or less of global temperature rise using phony carbon pricing schemes. Instead, we need to swiftly transition to a fossil fuel-free economy by enacting and enforcing emissions reductions and eliminating intensive emissions from agriculture like factory farming. Carbon pricing schemes simply kick this can down the road and all but guarantee catastrophic climate change.

Government must also help farmers reduce agricultural emissions under existing farm programs. Advocates have called on EU leaders to reform the CAP, including transforming existing direct subsidies to those that can deliver clear climate, social and animal welfare objectives. Similarly, the USDA can boost payments under existing conservation programs that remain "underfunded and oversubscribed."⁵² Additionally, governments must ban factory farms, a wholly unsustainable system, while providing assistance for farmers to transition to organic and regenerative crop and livestock systems.

None of this will be possible without removing the stranglehold that corporate agribusinesses have on our food system. Leaders should bolster antitrust laws and improve enforcement to give smaller, family-scale farmers and those practicing organic agriculture a fighting chance.

Food & Water Watch recommends that governments:

- Reject carbon pricing schemes in any form, and instead focus regulatory efforts on eliminating carbon emissions at the source;
- Transition to 100 percent clean, renewable energy by 2030 through an investment in a New Deal-scale green energy public works program that fosters a rapid transition to clean energy like solar and wind, accompanied by widescale deployment of energy efficiency; and
- Boost existing farm programs that incentivize holistic transformation away from monocropping and factory farms and toward agroecological and regenerative farming systems.

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