

Up in Smoke: Wildfires and the Myth of Carbon Offsets

When it comes to false solutions to climate change, few approaches receive as much attention and funding as carbon offsets — the idea that preserving forests or planting trees can somehow make up for fossil fuel climate pollution.¹ While private and public funds pour into these markets that claim to “offset” carbon emissions from industry, in reality, the markets are nothing more than an elaborate accounting trick. In fact, these projects can actually lead to additional carbon emissions.²

Increasingly, carbon offset projects face another challenge: an existential threat from wildfires, which are exacerbated by climate change.³ Food & Water Watch mapped forest offset projects in the California Air Resources Board (CARB) Compliance Offset Program, and overlaid them with data on wildfire hazard potential (WHP) from the U.S. Forest Service. We found that a significant portion of these forest offsets are at risk of literally going up in smoke:

- Over half of all land within CARB’s forest offset program is located on moderate to very high WHP land — amounting to nearly 3 million acres. Nearly 30 percent (over 1.7 million acres) is on high or very high WHP land.
- If the CARB forests on high / very high WHP land were lost to wildfire, they could release more than 51 million metric tons of carbon — equivalent to the yearly emissions of over 11 million cars.
- This 51 million metric ton loss would more than deplete CARB’s entire 2021 credit “buffer pool” set aside for losses from wildfires and other risks, leaving a deficit of over 20 million credits (or 20 million metric tons of carbon).⁴

Recent wildfires have already depleted CARB’s 100-year buffer pool specifically set aside for wildfires.⁵ It is clear that forest carbon offsets and other pay-to-pollute schemes are climate scams that allow corporations to increase carbon emissions at the expense of the environment and environmental justice communities. Instead of market-based schemes, we must address the root of the problem by transitioning away from fossil fuels and banning factory farms, both of which contribute significantly to deforestation and climate change.

What Are Carbon Offset Programs?

Carbon offset markets sell credits for biological carbon storage, such as planting trees or preserving forests.⁶ Polluting companies purchase these credits to avoid reducing their emissions. This can occur in a compliance market like the California Air Resources Board (CARB) Compliance Offset Program. This program launched in 2013 and sells credits generated from forest, livestock,

methane capture, and other projects across the country.⁷ Polluters purchase credits to avoid having to reduce their emissions to stay below California’s emissions cap.⁸ Voluntary offset markets also exist, where companies like Disney and Microsoft purchase credits to meet net-zero emission pledges.⁹ These markets also face existential threats from wildfires. For example, Microsoft purchased 1.2 million credits from two forest offset projects, both of which burned between August 2020 and July 2021, just months after the company purchased some of the credits.¹⁰

Offset projects rely on additionality, the underlying assumption that the carbon would otherwise not have been stored — for example, the trees would not have been planted or the forest would not have been preserved without the offset program.¹¹ This is difficult to substantiate, and offset projects have been known to over-credit projects, resulting in the creation of so-called “ghost credits” that do not actually capture additional carbon in forests.

Ghost credits are a rampant problem that can actually increase carbon emissions, as they allow corporations to pollute more regardless of the efficacy of credits.¹² In 2021, an estimated one in three credits in CARB’s offset market were ghost credits.¹³ While offset projects must be verified by a third party,¹⁴ these verifiers have incentives to be lenient when enforcing the additionality of credits, as all parties benefit financially from overstating a project’s environmental benefit.¹⁵

Over-crediting in the search for financial gain and the ability to pollute more has obvious implications for global climate change. Like other climate scams, offset schemes also disproportionately affect already burdened environmental justice communities.¹⁶ Due to the perverse incentives of the market, forest offset projects often attempt to alter the behavior of small farmers, Indigenous peoples, and low-income forest users instead of challenging large-scale sources of deforestation such as factory farms, logging, and mining operations.¹⁷ Some offset markets cause “carbon land grabbing,” which leads to the displacement of Indigenous peoples from their native forests, human rights abuses, and the failure to recognize and uphold Indigenous land rights.¹⁸ Adding insult to injury, at least one major carbon offset market has failed to pay local communities for their participation in offset schemes.¹⁹

Kicking the Can Down the Road (Problem of Permanence)

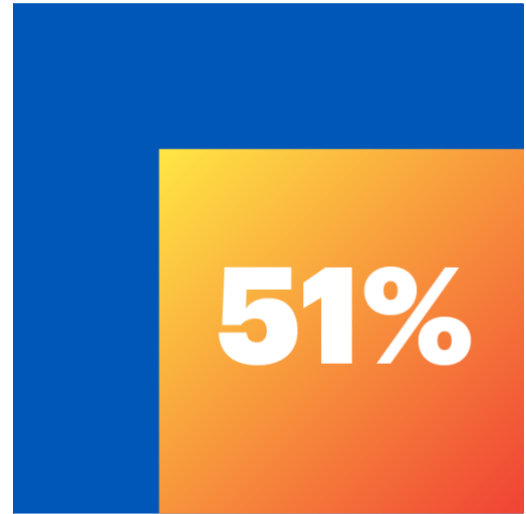
In the past few years, the American West faced some of its worst wildfire seasons on record thanks to climate change.²⁰ Wildfire risk is only expected to increase in the coming decades, threatening to further undermine the legitimacy of offset programs,²¹ which rely on claims of project permanence. For instance, two wildfires in 2015 and 2018 together wiped out over 1 million CARB offset credits.²²

Offset markets come up well short of their permanence claims for other reasons. Many offset projects only protect and monitor their protected forests for 40 years,²³ while the fossil fuel-based carbon emissions they are meant to offset have “effectively permanent atmospheric consequences.”²⁴ When these forests are destroyed by natural disaster such as fire, flood, or drought, they release significant quantities of carbon stored in the trees’ roots and wood and in the soil.²⁵

Offset markets claim to solve this permanence issue through “buffer pools,”²⁶ which reserve a percentage of a project’s carbon credits in case of forest loss due to natural or human events.²⁷ Predictably, there is a financial incentive for developers to commit fewer offsets to the buffer pool, as these credits cannot be sold off to companies, allowing the companies to pollute more.²⁸ Researchers found that the average offset project within the Reducing Emissions from Deforestation and Forest Degradation (REDD+) program should commit 28 percent of offsets to their natural disturbance buffer pool, but most projects committed the minimum amount (10 percent).²⁹

Wildfires are expected to at least quadruple across the U.S. in the coming decades, ravaging existing offset projects and depleting their buffer pools.³⁰ This process is already well underway: In August 2020, a large wildfire burned 72 percent of Oregon’s largest forest offset project over the course of one month.³¹ This single fire wiped out anywhere from 4 to 9 percent of the entire CARB buffer pool meant to cover 100 years of damages.³²

In less than a decade, wildfires depleted between 5.7 million and 6.8 million metric tons of carbon in CARB’s 100-year buffer pool. Only 5.9 million of the 31 million credits in CARB’s buffer pool are meant to account for wildfire risk, meaning that the entirety of the wildfire buffer credits may have already been lost.³³ Clearly, buffer pools cannot make up for the suspect permanence claims of offset projects.³⁴



Over half of all land within CARB’s forest offset program is located on moderate to very high Wildfire Hazard Potential (WHP) land

We Need to Hold Polluters Accountable for Reducing Emissions

Clearly, forest carbon offset markets are climate scams that benefit polluters and other industry players at the expense of our climate and of vulnerable forest-dependent communities.³⁵ Not only do these markets fail to realize their claims of offsetting carbon pollution, but they are, by construction, temporary measures that could lead to greater carbon emissions thanks to increasing forest fire risk due to climate change.³⁶

The fact that many CARB forest offset projects are on lands with high and very high wildfire hazard potential provides a stark example of how these projects could in fact become sources of carbon emissions.³⁷ To truly deal with carbon emissions, governments cannot skirt around the issue but must instead confront the guilty parties head-on by banning factory farms, curbing deforestation, and phasing out fossil fuels. Pursuing false, market-based solutions that benefit private actors is not a path to a livable future.

Methodology

Food & Water Watch analyzed the wildfire risks facing current CARB forest offset projects. We mapped these projects in ArcGIS Pro and overlaid them with Wildlife Hazard Potential (WHP) Data from the U.S. Forest Service. The WHP index classifies areas as having very low, low, moderate, high, and very high wildfire risk.³⁸ Areas with higher WHP values “represent fuels and other landscape conditions with a higher probability of experiencing high-intensity fire with torching, crowning, and other forms of extreme wildfire behavior under conducive weather conditions.”³⁹

We then performed Zonal Histograms over individual CARB offset projects to report the percentage of each project that falls within each WHP class. We excluded the unburnable, water, and undeveloped classes, consistent with other studies.⁴⁰ We then calculated potential carbon emissions from wildfires using average emissions from the last three years of wildfires and equivalent car emissions using the U.S. Environmental Protection Agency’s Green Vehicle Guide.⁴¹

Endnotes

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