

The Truth About Offsets

Issue Brief • May 2013

In recent years, a push has been made to transform environmental protection around the world from regulatory regimes to cap-and-trade schemes. Under cap-and-trade, a polluter is allowed to emit a certain amount of pollution in a given period. If the polluter wants to emit more pollution than allowed, it may, but it must first buy pollution credits from another company.

Under cap-and-trade, polluters are offered the opportunity to “pay to pollute,” turning decades of environmental efforts on their head and undermining improvements in environmental health. The linchpin of these cap-and-trade schemes is “offsets,” or credits from outside the regulated industry that polluters can buy in order to keep on polluting.

For example, say a manufacturer is permitted to emit 5,000 tons of carbon dioxide per year, but wants to emit 7,000 tons. Under cap-and-trade, the manufacturer would look to buy 2,000 tons of carbon dioxide emissions credits from another company, or would look to “offset” those 2,000 tons by buying an offset credit from someone outside the cap-and-trade regime.

Of all the problems with cap-and-trade, offsets are the most egregious. In fact, when the U.S. poultry group Delmarva Poultry Industry, Inc. described water quality trading as a way “to help farmers earn money while providing polluters with the opportunity to increase their pollution,” they were referring to offsets.¹ Offsets are unwieldy and do not lead to sufficient pollution reductions. They are subject

to abuse and do not represent a realistic approach to pollution abatement. Any program relying on them is suspect.

Offsets and Cap-and-Trade Markets

Offsets serve as an additional alternative for meeting emissions reduction requirements. They too are tradable credits, and represent a theoretical emissions reduction, avoidance or sequestration of emissions or other pollutants from an entity falling outside of the targeted industry in a cap-and-trade market.² Through offsets, a company can pay to theoretically prevent emissions outside of the cap, instead of reducing emissions at the source.³

For example, a power plant in California could pay for a section of forest to not be cut down in Oregon. This would count toward the polluter’s required reductions even though emissions are not reduced in California but are in theory prevented in Oregon. Because trees store carbon but also release greenhouse gases into the atmosphere if they are cut down, not cutting down trees is considered an offset.



But, the assumptions behind offsets do not hold up. The U.S. Government Accountability Office (GAO) points out that, “In theory, offsets allow regulated entities to emit more while maintaining the emissions levels set by a cap and trade program or other program to limit emissions.”⁴ The reason this is theoretical is that it is unclear whether offsets create the emissions reductions they promise.⁵ Pollution continues at the source while it is assumed that reductions are made at the offset location, which may or may not be the case.⁶

The supposed benefits that offsets are intended to provide often fail to materialize. Offsets are supposed to be more cost effective than trading emissions credits, are to provide incentives for emissions sources outside of the cap to reduce their emissions by selling offsets, and are supposed to reduce the costs of complying with cap requirements.⁷ But in reality, they allow polluters to substitute unverifiable reductions for real reductions.

Moreover, the concept that offsets are cost effective and reduce compliance costs, along with many other benefits, is misleading.⁸ Several requirements must be met in order to verify them, and the process of verification is actually quite expensive.⁹ While the price that an offset sells for might be lower than that of an emissions credit, establishing an offset’s credibility is costly, and therefore not cost effective.¹⁰

The Many Shapes and Sizes of Offsets

Offsets can be categorized by what kind of resource is involved — primarily air, water or other natural resources. Current debates about climate change focus on carbon dioxide through projects like biological sequestration, re-

newable energy, energy efficiency and non-carbon dioxide offsets. Other air pollutants, such as those that cause acid rain, have also been part of cap-and-trade programs.¹¹ Water quality trading usually focuses on excess nutrients — nitrogen and phosphorous — entering waterways from agricultural and industrial runoff, wastewater treatment utilities and power plants.

With regard to air pollution, biological sequestration involves storing carbon dioxide from the air into the ground, or preserving existing stores to prevent releasing it back into the atmosphere.¹² Renewable energy releases fewer or no emissions, and avoids emissions that would have occurred with fossil fuels.¹³ Energy efficiency projects use technology to reduce emissions and increase efficiency.¹⁴ And non-carbon dioxide offsets come from other emissions like methane gas, nitrous oxide, hydrofluorocarbons, sulfur dioxide and sulfur hexafluoride.¹⁵

Offsets for water pollution often happen through nutrient water trading arrangements. Under the U.S. Environmental Protection Agency’s water quality trading plan, designated “nonpoint” sources of pollution under the U.S. Clean Water Act, such as farms, are now free to sell credits for these pollutants to “point” sources such as power plants, wastewater treatment plants and other “end-of-the-pipe” industries.¹⁶

In addition, further distinctions exist depending on an offset’s scope — domestic, national, international, etc. The different levels refer to the region or jurisdiction. Specific programs like the Clean Development Mechanism (CDM), set up through the Kyoto Protocol, generate international offsets from developing countries to be bought by industrialized countries.¹⁷

Several Criteria Must Be Met to Ensure Credibility

Offsets must meet several requirements to be credible. Verifiers must prove that an offset is additional, permanent, quantifiable, verifiable, enforceable and real.¹⁸ These are defined as:

- **Additional:** The offset and the emissions reductions they generate must be in addition to business-as-usual — they cannot come from programs already required by law or that are pre-existing;
- **Permanent:** Emissions removed, avoided or sequestered from going into the atmosphere must not be undone later;
- **Quantifiable:** The emissions reductions produced by an offset must be measured, and it must be possible to reproduce the findings;
- **Verifiable:** The emissions reductions from an offset must be monitored and documented. Systems to do this must be in place;
- **Enforceable:** There must be an oversight body that enforces the requirements of offsets to ensure that weak or fake offsets do not make it into the market; and
- **Real:** There must be evidence that the offset is both appropriate and accurate.¹⁹

The Weakest Link

Many problems plague offsets. But the most egregious have to do with the fact that a majority of offsets cannot be verified or credible — they are a theory that cannot hold up in reality. Offsets are a loophole and liability that does not lead to emissions reductions, and most of all they are not cost-effective alternatives to actual reductions in pollution.

Verifying offsets is not truly attainable because meeting all of the requirements is near impossible. This creates opportunities for fraud, corruption and minimal emissions reductions — if not increased emissions — because of illegitimate offsets that cannot meet the requirements.²⁰ Offsets do not reduce emissions at the source and may or may not create reductions elsewhere, making them a serious threat.

One of the most important requirements for offset verification is additionality, but this is very difficult to prove.²¹ It involves calculating what emissions would have been without an offset project and showing that the reductions were not already occurring or would not have happened anyway.²² This requires extensive monitoring and the use of a baseline to compare the status quo to an offset project scenario. Because of the difficulty in establishing additionality, non-additional offsets already have been issued under existing markets, meaning that real reductions might not happen.²³



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Since additionality depends on a solid baseline, establishing this baseline is critical for measuring emissions.²⁴ However, there is “inherent uncertainty associated with estimating emissions reductions relative to projected business-as-usual baselines.²⁵ This is because determining a baseline is also a complicated process, and without one, calculating emissions reductions is almost unattainable.²⁶

Ensuring permanence is a crucial requirement as well, but is equally difficult to achieve. Once an offset has been created, this must not be reversed or undone. Biological sequestration projects like forest offsets are particularly vulnerable to this, since trees can easily be cut down, damaged by fire or destroyed through other natural disasters.²⁷ Guaranteeing permanence also requires retiring the offset credits after they are sold to avoid double counting.²⁸

Jeopardizing Real Emissions Reductions

For emissions reductions to truly occur, we must reduce and stop polluting. But offsets allow polluters to pay to pollute. If real and sustained emissions reductions are to ever occur, offsets cannot be part of the process.

Forward crediting and forward selling is particularly common with offsets that take a long time to create — trees sequester carbon over many years. Forward crediting is the practice of allocating an offset before it can have produced the expected emissions reduction.²⁹ The emissions reduction might not even happen in the future, but the credit is created and allotted in the present — it’s like selling an “I-owe-you.”

The process of then selling these forward credited offsets is similar to trading futures on the stock market.³⁰ The credits represent future reductions, but are sold now, risking the possibility that the emissions reductions may or may not

materialize, but money is exchanged for these fictional credits anyway.³¹ It's a big game of trading smoke for mirrors, and has implications for achieving any level of meaningful reductions.

Cost-Prohibitive not Cost-Effective

Offsets are not the cost-effective and efficient solution that they appear to be, contrary to supporter's claims. The cost of legitimate verification alone can mean that some offset projects are not even possible — complete assurance is too expensive.³²

The cost of offsets continues to increase because complete assurance that all requirements are met calls for more rigor when evaluating the offset.³³ The more accuracy desired, the more it costs. Measuring offsets is also expensive because it calls for constant monitoring and sampling. Thus, to completely verify an offset and ensure that it meets all requirements would be prohibitively costly.³⁴ Offsets are not cost effective and do not guarantee emissions reductions.

Overall, offsets are just one example of many in how the market has not offered a cheaper solution to address the effects of climate change and emissions reductions. They are not more cost effective as a whole, and they exist only to benefit those producing pollution, but do not benefit the ultimate goal of decreasing it. Offsets do not lead to real, additional or permanent reductions.

Side Effects and Shortcomings

Offsets have many side effects and shortcomings, namely that they breed corruption; shift pollution elsewhere rather than reduce it at the source; and do nothing to mitigate the impacts of pollution on communities that are closest to emissions or discharge sources.

One opportunity for corruption happens if an offset is not retired. This leaves the door open for counting an offset twice — once as an offset and again as a direct emissions reduction.³⁵ Double counting can also happen when a project owner sells multiple offsets for one project.³⁶ For example, if a U.S. company uses international offsets from Indonesia to count toward its emissions reductions, but Indonesia also counts those avoided emissions as part of the country's national emissions, then the offset is counted twice and the amount of true reductions is inaccurate.

The threat of leakage is another side effect of offsets, and it is hard to prevent. Leakage happens when emissions controls cause pollution to shift elsewhere, leading to reduced emissions in the location under regulation and increased emissions in unregulated areas.³⁷ The pollution therefore "leaks" from one area to another.

For instance, if a country agrees to protect its forests, a logging company could move to unprotected land in another country and carry out logging there. If this happens, the total level of prevented emissions would be unchanged, because the leakage elsewhere cancels out the reductions in



the regulated area.³⁸ This can lead to health problems and conflict in local communities, because it can cause pollution and destruction where there previously was none.

Offsets do not reduce emissions at the source, which causes environmental and health problems for the communities surrounding an emissions source.³⁹ Taking a look at nutrient water trading, it uses nonpoint-to-point source trading on the premise that it is cheaper to reduce discharges from sources like farms than it is to force technological improvements in the point sources sector.⁴⁰ Rather than requiring direct reduction of point source pollution, a company can instead buy offsets from non-point polluters for prevented discharges. Meanwhile, communities close to a point source of pollution continue to face threats to their health and their environment.

In addition, problems of inequity are perpetuated by international offsets. The majority of global emissions come from Northern developed countries, with fewer coming from global South developing countries.⁴¹ International offsets allow northern companies to continue their emissions while it is assumed reductions occur in southern developing countries.⁴² However, offset projects in developing countries, like the CDM, have led to land grabs and conflict, all for the benefit of the polluters that buy the offsets.⁴³

Recommendations and Conclusion

Rather than leaving emissions reductions to the volatility of the market, which places profits over people and jeopardizes the integrity of shared common resources, emissions reductions must be regulated and enforced. Pollution should be neither allowed nor traded. The point of emissions reductions is not to make profits, but to reduce emissions. Offsets are only a further loophole and avoidance of achieving real, additional and permanent reductions.

Cap-and-trade markets are not the solutions they pretend to be. They lead to the widespread privatization and financialization of nature, and there are numerous opportunities for corruption that further weaken their legitimacy. These markets, along with the use of offsets, pose serious problems for common resource management, and must not be allowed.

Endnotes

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