



Up in smoke - California fires once again highlight dangers of forest offsets

Companies are increasingly adopting “climate-neutrality” targets, which often include relying on forests to compensate for pollution. After yet another such offset project was swallowed by flames in California, unresolved questions about forest and land offsets resurface.

It’s a simple tagline for green marketing campaigns: “Enjoy our product, it’s climate neutral”. While the tagline is simple, the reality behind it is much more complex - and dangerous.

Land-based offsets, such as those from re-forestation or forest protection projects, are problematic for several reasons, including the difficulty of identifying “what would have happened without the project” (i.e. setting a baseline) and ensuring that emissions are reduced and not simply shifted to another location (i.e. avoiding leakage).

In this article, we focus on a third, particularly topical in light of the California wildfires, aspect: the risk that any emissions absorbed and stored by a tree could be released after a very short amount of time (the risk of “reversal” or “non-permanence”).

Trees store carbon and use it to grow. When a tree dies, the carbon is released back into the atmosphere. For a polluting activity (by a company, country or an individual) to be carbon-neutral, in theory, the tree should store the carbon for at least as long as the emitted greenhouse gases stay in the atmosphere. This can take several millennia, but it is often assumed, for simplicity, that carbon remains in the atmosphere for 100 years.

Can “buffer pools” ensure climate benefits?

The most common system to attempt to guarantee the (climate) value of forestry offsets is to use a form of insurance called a “buffer pool”. Here, some credits created by a forestry project are set aside and cannot be sold. If trees from the project die, credits will be taken from the buffer pool and cancelled. This means that nobody will ever be able to use them to compensate for their emissions because the credits have already been used to offset the release of carbon



from trees. The objective is to create a form of mutual insurance as credits from all projects are “pooled” together.¹

So do buffers work to guarantee permanence? The simple answer is that nobody knows. Advocates of this strategy, implemented by all major voluntary programmes, point to the fact that there has always been enough of these credits to balance the few reversal events which have occurred until now. While this is true, the fact that buffer pools have worked until now says nothing about how they will function over the long term. The oldest forestry project from the largest programme on the voluntary market², Verra, was registered in 2009, only 11 years ago. Therefore, no buffer has yet existed for long enough to face a very significant amount of risk - and the warming climate will increase those risks.

Stating today that buffers are effective, is like purchasing fire insurance for your house, and after 10 years declaring that the insurance is working because the house is still standing.

This brings us to two specific aspects of buffer pools: first, how many credits are set aside, and second, how long is the “insurance contract” for.

On the first point, the quantity of credits set aside varies according to several factors such as the type of project. It is often around the 20% mark. On the second issue, the credits are often stored for 10-40 years, with one programme aiming to guarantee insurance for 100 years.

Several questions arise from these provisions.

1. Are enough credits set aside?

Until now, buffer pools have been able to easily compensate for reversals. However, as recent [analysis into the California wildfires](#) showed, it is unclear how these buffers would function in the long term, in particular as climate impacts increase. Since no risk can be insured indefinitely, the question is whether it will work for long enough.

¹ Here we use the term “insurance” for simplicity. Note that in some cases, projects can subscribe to an actual insurance instead of participating in a buffer pool system. With an insurance, the developer (or another entity, whoever is responsible for guaranteeing permanence), does not set credits aside, but will pay an insurer a fee, and the insurer will be charged with purchasing valid carbon credits to compensate for any reversal, if a reversal occurs.

² A programme is an organisation which determines specific rules for how projects should be implemented, how emissions reductions should be measured, and how carbon credits should be issued. Here we consider that there are 4 main programmes on the voluntary market: Verra, Gold Standard, Climate Action reserve, and the American Carbon Registry. A vast majority of carbon credits on the voluntary markets are issued by the first two programmes.



2. Does the buffer pool system guarantee permanence for long enough?

In most cases, it doesn't. Setting up an insurance system for 10-40 years to compensate for emissions which will stay in the atmosphere for at least a 100 is just not enough. However, simply increasing the insurance period does not solve the problem, because at some point uncertainty starts to kick-in. For example, the one programme which aims to guarantee permanence over a 100 years - the Climate Action Reserve - requires project developers to monitor any potential reversals from their project for a hundred years after a given credit was issued. This means that the project developer is not only entering into a contract for himself, but also for at least 2-3 generations of workers/landowners after him. Despite some attempts to take this intergenerational risk into account, the credibility of such a contract is questionable to say the least.

3. What happens at the end of the (buffer pool) insurance period?

Once the monitoring period is over, there is no more insurance. Programmes generally cancel the credits which had been set aside. This assumes, at best, that no reversal will take place that would be larger than the number of credits initially set aside. For example, if the project had set 20% of its credits aside, the implicit assumption is that no reversal will ever occur that would be larger than 20% of the total credits issued. This assumption is questionable in light of increasing climate impacts.

It's still better than nothing - or?

Actually, it might not be. Protecting forests requires finance and should be a top climate policy priority. It is also clear that financing reductions today is better than reducing emissions in the future. But we cannot afford to invest in "cheap reductions" at the expense of developing long-term technologies and switching to more sustainable lifestyles

In fact, when a company finances a forestry offset project, it is not financing an emissions reduction/removal. It is financing an emission postponement, temporary storage of carbon. Claiming carbon neutrality is therefore inaccurate. Credits should at most be temporary and expire after a certain number of years, as was the case under the UN carbon market the Clean Development Mechanism (CDM) for example.

Advocates of offsets promote them as a way for ambitious companies, which are already doing all they can to reduce their own emissions, to go the extra mile. But the reality is that we just don't know whether this is the case today, or whether offsets are used as an excuse for inaction instead.

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Detailed reporting of absolute emissions and, separately, financial contributions to forestry projects, would be a much more transparent way of demonstrating climate action. This way, we would get rid of the murky concept of “climate neutral” at company level and be able to truly distinguish between those who reduce their emissions - and potentially also provide finance to protect and restore forests - from those who hide behind offsets.

If it is true that companies are investing in forestry projects out of a commitment to the climate, rather than for PR purposes, then it shouldn't matter if they could no longer claim to be “carbon neutral”. On the contrary, they should embrace a more transparent system which makes their climate pledges more credible and keeps cutting pollution from the use of fossil fuels separate from protecting trees.