04

Climate Concerns Around Carbon Markets and Offsetting

Many people and governments advocate for using carbon markets that allow carbon offsetting as a tool to address climate change. They argue that they help the world cooperate and raise necessary finance to take actions to avoid the most dangerous climate impacts. They say that the buying and selling of carbon credits will make it more likely for the world to reach the agreed climate targets because it raises money that allows actions that reduce greenhouse gas emissions to take place where they are easier, quicker and cheaper to implement.[90] They believe that the money countries or communities can make by selling carbon credits can encourage them to take actions to protect and rehabilitate forests.[91] They argue this can avoid greenhouse gas emissions being released into, or remove greenhouse gases from, the atmosphere.

Critics, on the other hand, have concerns that the structure, assumptions and methodologies of carbon offsetting means that carbon offset markets do not help address climate change, and may even represent a serious threat to the climate.

As discussed in the prior Explainer, if your people and community see sufficient benefits from engaging with carbon credit projects or programmes, you might want to do so regardless of the impact of the project or programme in addressing climate change. This explainer presents some common environmental critiques and concerns about carbon markets and offsetting for your community to consider:[r]

- **Distraction from real solutions:** Many critics are worried that carbon market offsetting takes away focus from other activities that are needed to reduce CO2 emissions, including supporting resilient, local, agroecological food systems and protecting the lands and traditional knowledge of indigenous peoples.[92] Critics argue that carbon offsetting also lessens the pressure on large companies and rich countries, which are disproportionately responsible for climate change, to transition away from using fossil fuels.[93] If companies can get away with continuing to emit greenhouse gases as usual just by paying for carbon credits, they argue, they have little incentive to actually reduce their own emissions.[94] Indeed, currently, the biggest buyers of carbon credits are oil and gas companies, airlines, tech companies and other major polluters who use them as offsets[95] and continue to invest far more money in sustaining their operations than reducing the material and energy they use.[96] Many see this as a form of 'greenwashing', or making activities seem more environmentally friendly than they actually are, that encourages the continuation and even expansion of high-carbon emission activities.

r Communities who are already facing harsh impacts from climate change may consider it important for any climate mechanisms they participate in to help reduce emissions, even if it is clear that the main responsibility for action lies with the actors most responsible for causing climate change.

- **Problems with offsetting in the context of forest carbon credit markets:** As discussed in Explainer 2, carbon offsetting is the idea that a buyer can 'cancel out' their CO2 emissions by buying carbon credits, because the carbon credits represent actions that are reducing or preventing the same amount of CO2 emissions somewhere else.[97] Critics underscore however that from a scientific point of view, it is not possible to 'cancel out' a ton of CO2 that is released from burning fossil fuels by making sure one ton of carbon is stored in forests.[98] This means that the logic of **'offsetting' fossil fuel emissions with forest carbon sequestration does not work in practice**. Why? Because when fossil fuels are burned and released into the sky, this releases carbon that would otherwise be permanently stored under the ground in the fossil fuel. Trees that are planted to store carbon that was released from fossil fuels do not cancel that out because they will not store the carbon **permanently**.[99] The life of a tree is not long enough to store carbon for the amount of time needed to make up for the release of carbon that would otherwise have been stored for millions of years. In addition, a lot of trees are not even left to live their full life – many are burned or cut down, releasing carbon back into the atmosphere, even when efforts are made for that not to happen.[100] Trees planted to make up for burning fossil fuels also take a long time to grow, and younger trees do not store as much carbon.

  None of this is to say that protecting forests and planting trees are not important actions, or that money should not be directed towards those actions. The point critics of carbon offsets make is that doing so should not be used to 'cancel out' burning fossil fuels, because they argue that, in reality, offsetting does not work.

- **Flawed accounting**: The creation of some carbon credits is based on a **prediction of how much CO2 would be emitted without the carbon credit project/programme** and therefore how many tons of CO2 emissions the project/programme helps to **avoid**. The idea is that if the carbon credit project developer can show that they are saving or preventing one ton of CO2 from being released into the atmosphere, they can generate one carbon credit that represents that saving. Carbon credit project developers often do this by showing that the project is protecting an area of forest that would otherwise have been deforested. The problem with this is that evidence suggests that in many cases, projects or programmes have **exaggerated the existing threats** to forests and therefore the predicted future emissions of CO2 that would have happened without the project or programme.[101] This means they end up creating carbon credits that buyers use to claim 'net zero' emissions even though **additional sequestration of carbon actually does not take place**.[102] A recent study found that 90 per cent of the forest carbon credits certified by one of the main carbon credit standard bodies did not actually represent any emission reduction.[s]

s The carbon certifying body in question, Verra, has disputed the findings from this study.

Offsetting

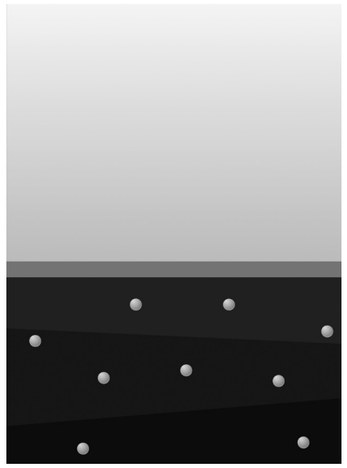
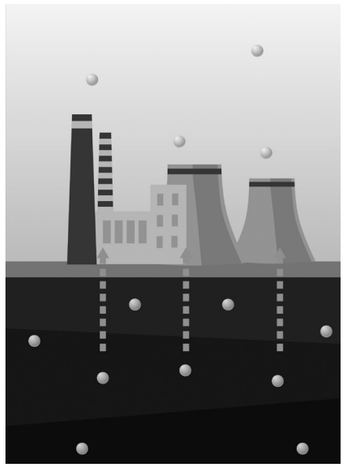
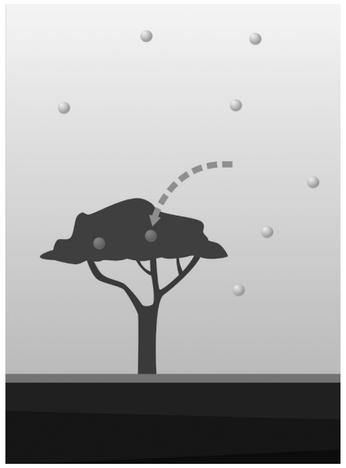
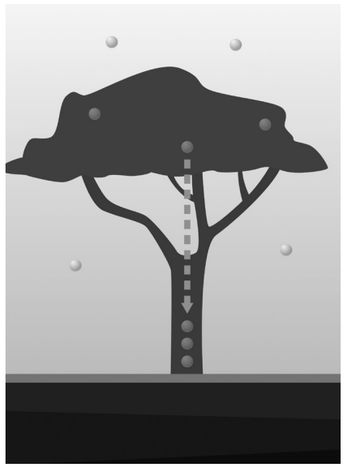
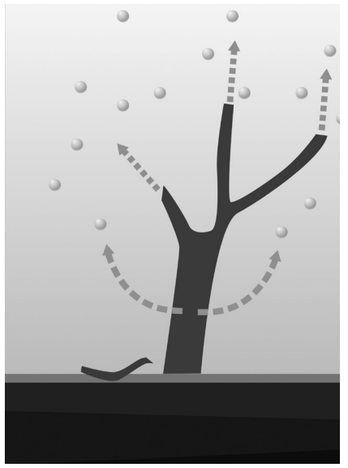
The below graphic seeks to show why , in the long term, it is not possible to ‘cancel out’ emissions from burning fossil fuels by planting or protecting forests.

It shows two simplified scenarios:

In summary, these two scenarios show that storing carbon in trees is not the same as leaving it stored under ground. The tree does not provide the same long-term storage as storing carbon under ground. Under ground, as part of a very slow carbon cycle (see Explainer 1) carbon will be stored for millions of years. This does not mean planting and protecting trees is not important. It is.

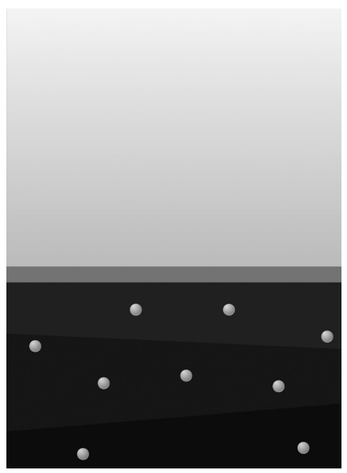
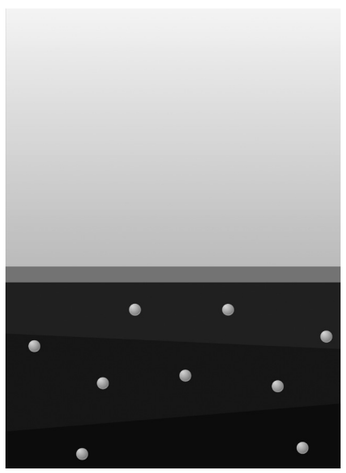
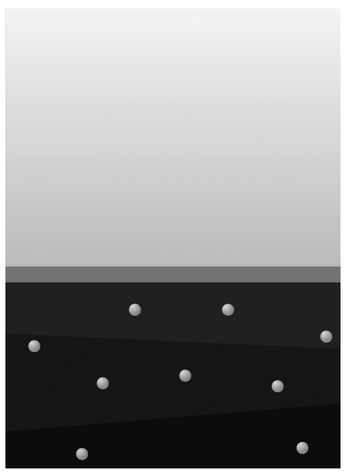
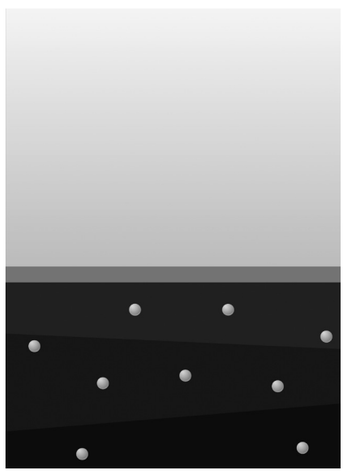
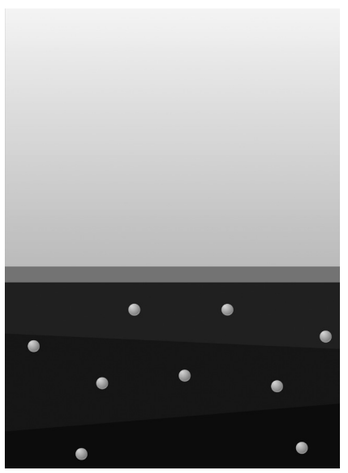
Scenario 01

The first scenario, is where a company burns fossil fuels and makes a decision to plant trees to offset this. It shows carbon (represented by small bubbles) stored under ground; the carbon moving from the ground to the sky (when fossil fuels are burnt); a tree absorbing some of the carbon as it grows; and the carbon returning to sky when the tree dies.

STARTING POINT	1 YEAR	5 YEARS	50 YEARS	100 YEARS
				
Carbon stored under ground as fossil fuel.	Fossil fuels are extracted and burnt. Carbon is released into the sky as CO2.	Company decides to plant a tree to offset its emissions. The young tree absorbs a small amount of carbon.	As the tree grows it absorbs more carbon.	The tree dies and the carbon it was storing is mostly released back into the sky.

Scenario 02

The second scenario is one where fossil fuels are not burnt (and no emissions offset). It shows the same starting point as the first scenario, where carbon is stored under ground. In this scenario, the carbon is still under ground since the fossil fuel was never extraced.

STARTING POINT	1 YEAR	5 YEARS	50 YEARS	100 YEARS
				
No fossil fuel extracted. Carbon remains stored in the ground.	No fossil fuel extracted. Carbon remains stored in the ground.	No fossil fuel extracted. Carbon remains stored in the ground.	No fossil fuel extracted. Carbon remains stored in the ground.	No fossil fuel extracted. Carbon remains stored in the ground.

Disclaimer: This depiction is a simplification of natural processes and is not intended as a scientifically accurate representation.

Box 6: Flawed accounting - an example

A developer of a carbon credit project decides to protect part of the Brazilian Amazon forest. They plan to sell carbon credits based on the argument that if their project did not exist, that part of the Amazon would be cut down. The project developer does a mathematical calculation and predicts that their project will stop deforestation of 100 hectares of forest, and that this is equivalent to saving 40,000 tons of CO2 from being released into the atmosphere. The project is approved by a carbon credit standard body and checked by a third-party verifier, and the project developer sells the 40,000 carbon credits to an airline company. The company uses them to 'offset' its own carbon emissions from burning fuel during its flights.

Later, the project is analysed by researchers. They find that it is very unlikely that the part of the forest being protected under the carbon credit project would have been cut down anyway. As a result, the project was not responsible for preventing any carbon from being released into the atmosphere. The airline's claim that it had offset its emissions as a result of the project is therefore untrue.

- **Double counting:** Since the actors within the voluntary carbon market are not always well coordinated and because there sometimes is a lack of transparency around how emissions are counted, there is a risk of **double counting emission reductions or removals**.[103] This means that one activity to reduce or sequester carbon can be used **twice** as an excuse for other actors to release CO2. A lack of coordination between *countries* could also lead to double counting. For example, a country where a carbon credit project is being located can count the emission reductions or removals against their own climate targets while a country that buys the carbon credits also counts these against their climate targets.[104] There is a lot of attention to this risk in negotiations around the UN carbon markets and there are efforts to find ways to make sure double counting does not take place.[105]

- **Trying to fight the problem with the same system that caused it in the first place**: Some critics point out that climate change is directly linked to the dominant economic system of capitalism. Based on a concept of endless growth, this system pushes increasing natural resource extraction, pollution of nature and exploitation of people.[106] These critics highlight that finding a solution to these harms through carbon markets, which are also based on the same system of capitalism and rely on putting a money value on nature, is contradictory. Critics have warned for example that some actors involved in carbon markets see it merely as a money making market, and are not motivated by addressing climate change or preserving forests.[107] Some advocates argue that to address climate change, richer countries instead need to take a different approach to the economy overall: rather than using constant economic growth as their measure of success, they should aim for human and natural well-being. This, the advocates say, should include reducing unnecessary production and consumption in richer countries, and focusing on fair distribution so that wealth and resources are not held in the hands of a few people. This approach is sometimes called 'degrowth'.[108]

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