Carbon Market Watch response to Verra's proposed "tonne-year accounting" method

Verra is proposing to introduce tonne-year accounting, a method whereby it would issue credits representing the permanent storage of 1tCO2 to projects that store carbon temporarily. Each tonne sequestered for one year would be worth one "tonne-year" and one hundred tonne years would make up one carbon credit. For example, storing 1 tonne for 100 years would create a carbon credit, but so would storing 100 tonnes for 1 year, or 10 tonnes for 10 years.

In parallel, Verra is running a public consultation on a methodology developed by NCX, which aims to generate credits for deferred timber harvest, with carbon storage duration as short as one year. It is noteworthy that NCX is clearly advertising its business proposal to landowners on the basis of 1-year contracts.

Managing radiative forcing

The proposed approach seems fundamentally flawed in its logic, where it assumes that balancing *cumulative* radiative forcing[1] over a given time horizon leads to equivalent outcomes, regardless of how the radiative forcing is distributed over that time period. This is the result of the proposed rule which would provide that storing 100 tCO2 for 1 year is equivalent to storing 1 tCO2 for 100 years.

The rise in global average temperature is due to the accumulation of greenhouse gases (GHGs) in the atmosphere, which increases the level of radiative forcing. The higher the quantity of (accumulated) GHGs in the atmosphere, the higher the radiative forcing. This in turn leads to higher global average temperatures, and hence more devastating climate impacts. Formulating this differently: higher radiative forcing means higher climate impacts.

Properly storing 1 tCO2 permanently, to compensate for emitting 1 tCO2, would lead to radiative forcing being balanced *at any moment in time*. But balancing *cumulative* radiative forcing over a given time horizon is very different, and it could imply higher climate impacts.

Tonne-year accounting and carbon budgets

It is unclear how this tonne-year approach can be compatible with the idea of a limited remaining global carbon budget. Given that the world has a fixed carbon budget available, storing CO2 for a short amount of time is of very little benefit and does not contribute to staying within that carbon budget. For example, if we have 100 tCO2 left in our budget, it makes no difference whether we store 10tCO2 for 5 years or not. Once the carbon gets released - after 5 years in this case - then our budget will still be short of 10 tonnes. Such very short term storage does not have any benefit in relation to the finite carbon budget we have available.

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[1] Defined by the MIT Climate Portal as follows: "*Radiative forcing is what happens when the amount of energy that enters the Earth's atmosphere is different from the amount of energy that leaves it. Energy travels in the form of radiation: solar radiation entering the atmosphere from the sun, and infrared radiation exiting as heat. If more radiation is entering Earth than leaving—as is happening today—then the atmosphere will warm up. This is called radiative forcing because the difference in energy can force changes in the Earth's climate*."

Some have argued that a large temporary decrease in emissions could help prevent the world from passing a tipping point. In theory, this might be the case, although it's unclear whether adopting tonne-year accounting would lead to significantly increased carbon storage, such that it can have a material impact to avoid passing a tipping point.

But in any case, this logic does not apply well in the current situation, where global emissions are *increasing*, not *decreasing*. With increasing emissions, the risk of passing tipping points is higher in the future compared to today. And therefore emitting 1tCO2e is more risky in the future than today. Of course, this is only relevant when talking about *when* a given tCO2e should be released. Ideally, that tonne should not be released at all. Emission reductions are urgently needed and should not be postponed.

Timing of impacts

Storing 100 tCO2 for 1 year will lead to a "large" decrease in radiative forcing (relative to storing only 1 tCO2 for 1 year). Emitting 1 tCO2 will create a "small" increase in radiative forcing. Using the tonne-year approach that is being proposed would imply that a large decrease in radiative forcing in one year, can compensate a small increase in radiative forcing over 100 years. Translated in terms of climate impacts, this would mean that avoiding large impacts today can compensate for a slight increase of impacts tomorrow.

This is myopic because all the benefits will accrue in the short term while the costs will materialise in the long term. Actors will benefit financially today (from not having to reduce the tonne that is being offset, and from selling a carbon credit) and society as a whole will benefit from lower climate impacts today. It is society in the future that will suffer from increased climate impacts.

Additionality concerns

Finally, the proposal to allow any AFOLU project to use tonne-year accounting, instead of relying on the current (imperfect) approach of buffer pools, raises concerns regarding additionality and selection bias. Projects which have higher risks of reversals in the mid- to long-term will likely turn to tonne-year accounting, in order to escape any requirements for long-term monitoring and compensation. This could be the case for projects in areas particularly prone to natural disasters such as forest fires, but also for landowners who are planning to harvest their timber in a few years, and see an opportunity to earn carbon credits in the meantime. Assessing the additionality, i.e. determining whether or not a given landowner was planning to cut down its trees, is difficult for forest projects in general, but even more so when it comes to evaluating risks for specific years.

In conclusion, we call on Verra to refrain from adopting the tonne-year accounting method, as it would further weaken the credibility and the environmental integrity of the Verified Carbon Standard.