Comments on the Draft Federal Offset Protocol: Improved Forest Management on Private Land

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We commend the government for moving forward with an offset protocol on Improved Forest Management. IFM has significant potential for providing low-cost emission reductions. While exact numbers are hard to find, Canada's 27,000 ha of private forest lands have the potential to increase sequestration[1] and reduce emissions[2] of millions of tons of CO2 each year in Canada.

IFM, particularly through conservation, is a critical opportunity to align climate mitigation with biodiversity protection – two urgent priorities for Canada and the world.

While we believe the draft protocol is generally sound, subject to the suggested improvements below, we caution that forest offset accounting and crediting is still an emerging area, subject to substantial uncertainties and criticisms. We therefore urge the government to use this protocol as a regulatory sandbox: a learning-by-doing opportunity to develop improved methods, data and estimates (on baselines, leakage, reversal risk, etc.), with a commitment to review its effectiveness after a short trial period (e.g., 5-10 years).

The following points are recommendations for strengthening the draft protocol.

1.0 Introduction

We recommend the government move ahead promptly with developing a separate offset protocol for *public* forest lands, since that is where the bulk of forest carbon risks and opportunities lie.

3.1 Baseline condition

The draft protocol would not apply if a "project site, or any portion of it, is subject to a restriction prior to the project start date that mandates conservation…"

This exclusion is too broad,

i. Excluding the whole project site if "any portion" is protected seems illogical. At most, the protected portion should be excluded (subject to comments below)

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[1] IFM can deliver an estimated 7.9 Mt of CO2 sequestration by 2030 on all forest lands in Canada, and private lands make up 7% of that forest land base.

[2] For example, Canada had 11.5MT of CO2 emissions from deforestation in 2020, most of it from private lands. And that figure does not include the additional CO2 emitted from forest degradation.

ii. Owners who set aside lands for carbon storage purposes should not be penalized versus those who waited to do so. This creates a perverse incentive for the owner to take the land out of protection status, and begin carbon-reducing FM activities, in order to qualify for an offset. However, already-protected lands should be eligible for offset credits only where there is credible evidence that:

- one of the main purposes of the protection was carbon sequestration, and the owner intended to secure offset revenues (from either a voluntary or regulated market) to make such protection viable, and
- maintaining a project site in conservation requires carbon revenues.

To further promote additionality, and a conservative approach, the protocol should apply a default discount rate of up to 40% of the total credits that would normally be issued on already-protected lands (see recommendations below under section 3.2)

3.2 Baseline scenario

The protocol requires the proponent to assess (a) typical forest management (FM) activities in the region and (b) project-specific conditions (historical activities), and then s/he must select the most conservative of the two – i.e. the one that results in fewer credits.

We support a conservative approach in general. It is important to ensure that offset credits reflect real, additional reductions. However, we think that this requirement – to always select the most conservative scenario, regardless of which is more realistic – may have perverse consequences in certain situations, and could be improved. In particular, it penalizes landowners who historically have done little or no harvesting, and creates no incentive for them to ensure conservation in the future.

While it is difficult to determine if any *individual* forest owner intends to increase logging above historic levels, some operators will. This can be a particular problem when the land is sold.

This creates a dilemma for offset protocols. One the one hand, allowing proponents to use a baseline based on typical regional forest activities and conditions (as California does) is overly generous – it allows windfall offset credits to many owners who would not have increased logging under business as usual (BAU). On the other hand, indicating that the baseline can never be greater than the historic level of FM activity ignores the reality that many owners (including new buyers) demonstrably intend to increase FM activity; it thus fails to incentivize conservation and can lead to additional CO2 emissions from private lands.

That is why most forest offset protocols, including the proposed BC protocol,[3] provide that a project baseline may reflect FM activities above historic levels, in the right circumstances.

We recommend a balanced approach: one that can incentivize conservation of lands that historically have had little or no FM activity, but recognizes that claimed plans to increase FM activities are often difficult to verify reliably. One such potential approach is as follows:

[3] BC's draft protocol allows a baseline to be based on FM activity above historic levels where a proponent shows that continuation at historic levels is "not reasonably likely to occur" (s. 5.2.4)

- First, allow a proponent to provide evidence if they intend to increase FM activities (and CO2 emissions) above historic levels. This evidence could include written forestry plans, contacts with local mills or harvesters, evidence that regional markets and mills can absorb increased production, or evidence that increased harvest is common in the region, etc.[4]
- If credible evidence of such plans is presented, the proponent could then use the typical regional FM activities as the baseline scenario.
- However – to be cautious, recognizing that such plans are not wholly reliable – the number of credits generated from this reduced baseline level could still be discounted, e.g. by a default rate of 30-40%.[5]

This kind of 'middle ground' approach is not a perfect solution, particularly in the longer run. But it is better than an approach that provides no incentive to avoid increased FM activity (and CO2 emissions).

Ideally, we would have better data and tested methods for identifying the most accurate baseline scenarios. Therefore, as noted above, we recommend that government use this protocol as a regulatory sandbox: a learning-by-doing opportunity to develop improved methods, data and estimates (on baselines, leakage, reversal risk, etc.), with a commitment to review its effectiveness after a short trial period (e.g., 5-10 years). During that trial period, it could even put a cap on the amount of forest offset credits that could be used, as is common with other types of sandbox regulatory experiments.

Dynamic Baselines

A dynamic baselines approach is becoming increasingly common in forest offset protocols. This approach matches treated (project) areas with objectively selected controls (baseline). Properties similar to the offset property in terms of ecosystem, factors driving carbon stock change, market conditions, landowner type, etc., can be used to set the baseline. The same baseline plots must be subject to continuous, periodic re-measurement throughout the project crediting period[6], which means that changing market and climate conditions can be integrated into baselines, thus improving the precision of GHG emission reductions and removals[7].

[4] In other words, provide evidence that continuation of the historic FM activity level is "unlikely to occur", to use the test in BC's draft protocol.

[5] We would recommend a default discount rate, in the range of 30-40%, with the ability for a proponent to provide evidence to lower it somewhat (e.g. down to no lower than 20-25%) if it provides particularly strong evidence. Until there is better evidence to calibrate the appropriate discount rate (ideally tailored to each region), the default rate should err on the side of being slightly high – as reflected in these proposed rates.

[6] See Verra's *Methodology for Improved Forest Management Using Dynamic Baselines From National Forest Inventories*. From: https://verra.org/wp-content/uploads/VM0045-IFM-Methodology-Dynamic-Matched-Baselines-v1.0.pdf, accessed on September 8, 2023.

[7] Haya et al. (2023) provides an overview of the pros and cons of using dynamic baselines. From: https://www.frontiersin.org/articles/10.3389/ffgc.2023.958879/full, accessed on September 8, 2023.

The main drawbacks of this dynamic baseline approach are the greater level of uncertainty about the number of credits from a project (which will discourage buyers), and relatively high data requirements[8] which are often difficult for individual proponents to meet.

Given these opportunities and challenges, we support moving towards dynamic baseline accounting in three main ways.

1. The protocol should allow (but not require) proponents to use a dynamic baselines approach, and define the main components. To encourage them to do so, given the greater cost and uncertainty, the protocol could put a cap on the maximum amount that a baseline level could be increased (i.e. reducing the amount of credits) under a dynamic approach – e.g. by no more than 5-10%. However, there would be no cap on the amount by which the baseline level could be lowered (increasing the credits). By capping the downside risk, the protocol can encourage proponents to use a dynamic approach, which increases the opportunity for learning-by-doing during this trial period.
2. The government should focus on creating the enabling conditions to allow wider use of dynamic baselines in the near future. Those would include (i) refining methodologies and lowering barriers to use of this relatively complex approach – such as endorsing specific statistical matching methods, providing software for centralized (automatic) baseline assessment (an emerging practice in the voluntary carbon market), and defining how often the baseline is updated and how that would apply to credits given for the remainder of the project's lifetime; and (ii) taking steps to unlock and/or create data sources that would allow IFM projects to be evaluated using dynamic baseline methods.
3. Create a testbed: Ideally, the government can reach an agreement with one or more provinces to experiment with the use of dynamic baselines in certain regions. Such an agreement could incorporate points 1 and 2 above: the governments co-invest in building the data sources to allow IFM projects to be evaluated using dynamic baseline methods; cap the downside risk to proponents from using a dynamic approach (for the trial period); and provide the capacity to support proponents in creating robust, dynamic baselines. This can serve as a sandbox, whose learnings can inform the broader development of effective, dynamic approaches in a broader area. Importantly, this testbed is necessary to objectively evaluate the climate impact of projects registered under this protocol (even if dynamic baselines are not part of that assessment).

6.4.3 Environment

We strongly support the approach of no net harm to any environmental attribute. This is critical. However, the protocol is vague about how a proponent must demonstrate and support this result. Presumably most proponents will not have expertise in environmental impacts and management.

[8] This is particularly challenging for IFM interventions, which may generate subtle changes in stand structure or composition, likely requiring high resolution optical satellite imagery.

It is important to use an approach that is environmentally credible, but does not add significant cost and delay, particularly for projects that do not raise significant environmental concerns.

One way to achieve this goal is to provide that pure conservation projects are assumed to cause no net harm – they need not show it -- as the protocol proposes. This could be extended to provide that *any portion* of the project area involving conservation need not show this.

Further, where the proponent, or the reviewing authority, identifies any activities that have the potential for significant environmental impacts, the proponent should be required to have a qualified environmental professional assess those impacts and the proposed mitigation measures.

7.0 Project GHG Boundary

The proposals to count and exclude various carbon pools seems sensible, with one important exception. The proposal would exclude fossil fuel emissions, both on-site and off-site. This is a potentially significant pool. While on-site emissions may sometimes be small, there are projects where they are significant – such as large lands with significant driving, or on-site processing activities. Moreover, off-site emissions, such as from transportation (to mills and end-markets) or processing, are often a large proportion of the life-cycle emissions from FM activities.

It seems highly inaccurate (and methodologically hypocritical) to give credit for the embedded carbon stored in forest products, but not give a corresponding debit for the CO2 emissions from the transport and processing to create those very same products and get them to market. Those fossil fuel emissions are typically very large – often 50% or more of the amount of CO2 embedded in the forest products.[9] If the fossil fuel emissions are not counted, then the CO2 stored in products should also not be counted, to give a more accurate and balanced accounting. In that case, it would be better to use the IPCC's original default rule: that all CO2 is counted as emitted when harvest occurs.

It can be argued that transport and processing emissions are already counted under other national reporting categories. That is true, but there is a difference between national accounting and project accounting. One can, and should, count fossil fuel emissions for project accounting, to have an accurate and balanced picture of a project's overall emissions. By contrast, failing to count fossil emissions would create a bias in favour of greater logging, by not counting a significant pool of emissions, and one that can be readily estimated.

For the same reason, it would be preferable to include product carbon in landfills. We agree that this pool is currently too uncertain to reasonably estimate, but improving those data and methods should be part of this trial period.

[9] See for example, Gower *et al*., *Following the Paper Trail: The Impact of Magazine and Dimensional Lumber Production on Greenhouse Gas Emissions: A Case Study* (Washington, D.C.: Heinz Center for Science, Economics and the Environment, 2006). This life cycle carbon assessment of forest products in BC and Ontario found that secondary fossil fuel emissions – mostly from transportation and processing – were a major source of emissions, normally accounting for more than half of the total carbon stored in the tree (depending on the product and region).

8.1.1 / 8.2.1 Calculating CO2 in HWP

In Tables 5 and 9, it is unclear what is the annual decay rate? The tables provide for 100-year decay rates.

- For products with 'zero' storage factor (paper, fuel), do they count as 100% emitted immediately? If not, how many months/years to decline to zero?
- For products with 'non-zero' storage factors (most others), is the decay rate *linear* to 100 years?

8.4.2 Market Leakage

The draft protocol says that a proponent who proposes to reduce harvest "must apply the market leakage default factor" in the tables.

We support the idea of default leakage rates; it is good offsets practice. And the proposed rates seem in the right ballpark – although this should be an area of ongoing research and protocol revision as needed.

One improvement would be to give proponents the option to show that their project deserves a leakage rate lower than the default. Many protocols include this feature. It gives proponents an incentive that encourages good project design. For example, a proponent could combine conservation with reforestation, or work with a regional mill or builders to increase their use of recycled forest product inputs, reducing demand for virgin timber. It should not be easy to demonstrate that a project has lower leakage – it should require convincing evidence.

Further, the default leakage rates should be based on more than just regions. They should factor in species and product types – since these can have quite different leakage rates.

Also, improving leakage estimates should be part of the ongoing research to make this protocol a learning-by-doing sandbox, to refine and improve the approach, given the different variables and uncertainties involved.

11.0 Environmental integrity account (reversal management)

The protocol proposes a 28% (default rate) reduction in credits, to cover reversal risks. It also includes certain practices that can reduce that rate.

We generally support this approach, but suggest some modest revisions.

First and foremost, the default rate should be calibrated to different regions, and their differing rates of reversal risk. For example, the risk of fires in BC's coastal rainforest is dramatically different from the boreal forest in AB and SK. It is odd that the protocol calibrates leakage by region, but not reversal risk.

Also, the protocol should allow proponents to demonstrate that they deserve a higher deduction (a lower discount rate) due to strong project practices. In particular, if a proponent can show leading-edge fire management practices, the standard 2% deduction seems low. This option should require convincing evidence, but it gives proponents and incentive to use best practices.