

December 14, 2018

RE: Leakage accounting

Dear Climate Action Reserve,

Thank you for the opportunity to comment on the draft revision of CAR's Forest Project Protocol. I wish to highlight two problems with the leakage accounting in the draft.

1. The draft protocol revision proposes to replace the currently used 80% leakage rate with 40% for projects with no legal encumbrance that have harvested at least once in the previous 20 years (equation 6.10). In the draft protocol, the 40% leakage rate is justified with a reference to the following report: *An Overview of Leakage Risk and Mitigation Approaches for Land Management Activities in Merced County, California*, Christopher Galik, 2018.

The 40% figure in the Galik report does not actually support the use of a 40% leakage rate in the protocol. Existing literature on leakage rates resulting from reductions in timber harvest in the United States supports keeping in place the current 80% leakage rate if not a higher rate.

First, Galik explicitly writes that the purpose of Figure 1 from which the 40% figure is taken is to distinguish those projects that have no or de minimis leakage risk from those that have significant leakage risk, and not to offer a usable leakage rate. He writes: "The value of the figure below should thus be seen in its conceptualization of the process for considering whether leakage is of concern, and less in the particular values assigned at the end."

Second, Galik cites two articles as sources for the 40% figure. One of them, Wear and Murray (2004),¹ estimates that the leakage associated with reduced timber harvesting on federal lands in the western United States in the late 1980s was at least 84%. Of the total reduction of harvesting on western federal lands, 43% was replaced by increased harvesting by private land-owners in the same region (western United States), and another 41% was replaced by increased harvesting elsewhere in north America. Some analysts may only be interested in local leakage. But to account for the effect of projects on carbon as is needed under an offset protocol, the 84% leakage rate is the more appropriate figure. The other article cited does not suggest a specific leakage rate.

Keeping the leakage rate at 80% is also supported by other studies that have estimated the leakage that would result from reductions in timber harvesting in the United States. Another study using general equilibrium modeling estimates that a reduction in timber harvesting in the United States as a whole would result in a displacement of 76% of that harvesting to elsewhere in the world.² Reduced harvesting by projects smaller than the whole United States would result in greater leakage,

¹ Wear, D.N., and B.C. Murray. 2004. Federal timber restrictions, interregional spillovers, and the impact on US softwood markets. *Journal of Environmental Economics and Management* 47: 307–330.

² Gan, J. & B. A. McCarl (2007) Measuring transnational leakage of forest conservation. *Ecological Economics*, 64, 423-432.

because the reduced harvesting could be displaced to elsewhere within the United States, not just internationally.

Third, an established principle of offset protocol development is that they use conservative figures when emission reduction parameters are uncertain. A conservative choice of leakage rate for reduced timber harvesting on United States lands is not below 80%.

2. The current Forest Project Protocol credits an improved forest management project for the on-site carbon stocks above the baseline at the start of the project without fully accounting for the leakage associated with the credited reduction in harvesting at the same time. The leakage associated with initial credited carbon stocks above the baseline scenario is deducted over 100-years instead of when the reduction in harvesting actually is presumed to have happened and is credited. In other words, in the first year of an improved forest management project the project receives credits associated with the total on-site carbon storage above the baseline, but an average amount of leakage, which could be as low as 1/100th of the leakage associated with the avoided harvesting in the first year, is deducted. Any reduction in the global production of timber caused by the offset protocol has already been accounted for in the choice of a leakage rate below 100%. Spreading the leakage accounting over decades is not justified.

Spreading the deduction of leakage associated with the first year's reduced harvesting over 100 years has resulted in the generation of more credits than reductions achieved compared to the baseline scenario. This accounting discrepancy can be remedied by deducting the leakage associated with the change in forest management practice at the same time that the change is credited. The remainder of the calculated leakage over 100 years can then be deducted as an average over the remaining 99 years.

Thank you for considering these comments as you consider amending the methods used to account for leakage under the protocol.

Sincerely,

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