

**Statement of Sami Yassa, Senior Scientist, Natural Resources Defense Council  
to the  
EPA Scientific Advisory Board  
March 31, 2016**

Thank you for the opportunity to comment on behalf of the Natural Resources Defense Council. We appreciate the efforts of the members of the Biogenic Carbon Emissions Panel, and especially the leadership of Dr. Khanna, and we appreciate the Chartered SAB's role in reviewing the Panel's draft report.

My comments today focus on the report's recommendation regarding timeframes for assessing the BAF, which currently reads as:

*"The appropriate time scale for considering climate impacts from biogenic feedstocks is the time period over which all terrestrial effects on the stock of carbon on the land occur in response to a policy induced shock..." (SAB, February 8, 2016, pg. 16, emphasis added)*

We are concerned that this recommendation is based on two arbitrary premises:

- 1) the premise that damage from CO<sub>2</sub> is a function *only* of cumulative emissions over long time frames; and
- 2) the premise that the timescale for assessing the BAF must be chosen to capture *all* positive and negative terrestrial effects - only.

Regarding the first premise:

The Panel's report presents a singular focus on long-term emissions horizons by arguing that that global temperature response is a function only of cumulative emissions at roughly 100 years, and therefore is not influenced by short-term emissions.

These considerations ignore another body of scientific literature showing that short-term CO<sub>2</sub> emissions (measured in decades) can cause irreversible damage within the first 100 years, and showing that short-term emissions can pose warming risks as well.

The concerns over short-term emissions are well established in the scientific community – as evidenced by comments from external scientists to this Board – but they are not reflected in a balanced way in the current report, notwithstanding the Panel's response to earlier comments.

In sum, the report's timeframe recommendation is based on a limited reading of the underlying climate science.

The second premise is that the timescale for assessing the BAF must be chosen to capture *all* positive and negative terrestrial effects - only.

1. As you know, the BAF<sup>1</sup> is a fundamentally time-dependent quantity whose value can be determined at any chosen point in time.
2. It can be thought of as a time-dependent measure of the degree to which “terrestrial effects occur in response to a policy induced shock.”
3. The Panel’s current recommendation limits the BAF to only one single “equilibrium” value associated with the “emissions horizon” – the point at which *all* terrestrial effects occur.
4. And while we agree that the “emissions horizon” is the time period that “captures all terrestrial effects on carbon stocks,” we do not agree that it is singularly the only time at which a BAF value can be assessed; indeed its value can and should be assessed as a measure of the degree of terrestrial effects at any chosen time.
5. Therefore, an alternate formulation to the panel’s current timeframe recommendation might read: *Insofar as different climate policies have different time requirements for reductions, the degree of the terrestrial effects on carbon stocks at a particular time is measured by the BAF at that time.*

In closing, we believe the report’s timeframe discussion and recommendation should be revised in two respects:

First, reflect the findings in the peer-reviewed literature relating to threats from short-term emissions; and

Second, abandon the reliance on one singular timeframe for assessing climate impacts and instead acknowledge and reflect the time-dependence of the BAF.

Thank you for your consideration.

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<sup>1</sup> While we recognize the integral and differential variants and formulations of the BAF in the report, in this letter we use the term BAF to mean the total cumulative BAF $\Delta t$  unless specified otherwise.