



January 31, 2022

Dallas Burtraw
Chair
Independent Emissions Market Advisory Committee
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Re: CFCC Comments on the 2021 Annual Report of IEMAC dated January 20th, 2022

Chair Burtraw,

The California Forest Carbon Coalition (CFCC) appreciates the opportunity to comment on IEMAC's 2021 Annual report dated January 20th, 2022 ("2021 Report" hereafter). The CFCC represents a diverse array of California based stakeholders—including conservation groups, Native American Tribes and industrial timberland managers—that own and manage millions of acres of California's forestland, and who have come together to support a continued role for sustainable forest management and forest-based offsets in achieving the ambitious climate goals set forth by the State of California.

The CFCC has three comments on the 2021 Report related to carbon offsets. First, the 2021 Report would benefit from a more comprehensive review of the literature on the economic and environmental performance of the California offset system and on natural and working land climate mitigation, inclusive of co-benefits. Second, the CFCC has concerns regarding the accuracy of the criticisms expressed by the Committee over CARB's forest offset protocol. Finally, while the CFCC disagrees with the Committee's specific criticisms of CARB's forest offset protocol, the CFCC supports the Committee's recommendation that California consider Washington's proposed policy model for offsets, with the short-term emissions budget through 2030 to be determined as "the sum of allowances and carbon offsets, rather than by reference to the number of allowances only."

Comment 1: Natural and working lands are important for climate mitigation. The Report should consider a broader range of literature regarding the economic and environmental performance of CARB's Forest Protocol inclusive of co-benefits.

The Legislature's has tasked the IEMAC to "report . . . on the environmental and economic performance of a specified market-based compliance mechanism and other relevant climate policies."¹ The 2021 Report notes that while "offsets can also provide benefits to local environmental quality and regional economic development, we do not address those topics here."² These benefits are likely to be relevant to an assessment of the environmental and economic performance of CARB's policies. The CFCC therefore encourages the Committee to include a broader range of the academic literature on the economic and environmental performance of the California offset system and on natural and working land climate mitigation more generally, referencing literature both supportive and critical of these policies. If the Committee disagrees with studies contrary to its views, the 2021 Report's readers would benefit from a more in depth explanation on why.

¹ https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB398.

² IEMAC 2021 Annual Report at 27.

Avoiding emissions and enhancing sequestration in natural and working ecosystems is an important component of required climate change mitigation. In fact, most climate pathways that keep global warming below 1.5°C by 2050, which is the objective of the Paris Agreement on climate change, include both significant reductions in land-use emissions and enhanced carbon removal from ecosystems,³ which could provide more than a third of affordable climate mitigation necessary globally by 2030.⁴

Reforestation, avoided forest conversion, and improved forest management together provide the greatest potential for NCS mitigation in the United States⁵ and globally.⁶ Temperate forestlands such as those in the United States, especially those greater than 20 years old, account for nearly half of the global net forest carbon sink,⁷ and are especially important to climate change mitigation. A significant portion of temperate forest carbon (including forest carbon in California) is irrecoverable on timescales commensurate with the commitments of the Paris Agreement if these forests are harvested at a rate that decreases net carbon stocks.^{8,9}

CARB's forest offset program is one of the largest sources of finance for protecting irrecoverable carbon in U.S. temperate forests, increasing carbon storage in those forests and incentivizing reforestation, along with significant co-benefits including biodiversity, wildlife habitat, and improved water quality. California's forest offset program has already protected and increased carbon stored on millions of acres of forest throughout the United States for 100 years, including over 800,000 acres in California.

Academic studies not cited by the Committee have noted that "California's forest offset program, comprising a small part of the state's mitigation portfolio, does not inhibit overall emissions reductions . . . [and] mitigation through forest offsets can yield a suite of important co-benefits"¹⁰ and have documented important co-benefits (such as supporting the recovery by Native American governments of significant ancestral territory).¹¹ The Committee should provide a comprehensive review of the relevant literature, inclusive of protocol co-benefits, while also noting areas where further research is needed.

³ Roe, S., et al. (2019). Contribution of the land sector to a 1.5 °C world. *Nature Climate Change*, 9(11), 817–828. <https://doi.org/10.1038/s41558-019-0591-9>

⁴ Griscom, B. W., et al. (2017). Natural climate solutions. *Proceedings of the National Academy of Sciences of the United States of America*, 114(44), 11645–11650. <https://doi.org/10.1073/pnas.1710465114>

⁵ Fargione, J. E. et al., (2018). Natural climate solutions for the United States. *Science Advances*, 4(11), 1–15. <https://doi.org/10.1126/sciadv.aat1869>

⁶ Griscom et al., 2017

⁷ Harris, N. L., et al. (2021). Global maps of twenty-first century forest carbon fluxes. *Nature Climate Change*. <https://doi.org/10.1038/s41558-020-00976-6>

⁸ See <https://irrecoverable.resilienceatlas.org/> for a web map developed by Conservation International of irrecoverable forest carbon in California and globally.

⁹ Goldstein, A., et al., (2020). *Protecting irrecoverable carbon in Earth's ecosystems*. *Nature Climate Change*, 10(4), 287–295. <https://doi.org/10.1038/s41558-020-0738-8>; Moon, M. et al (2021) *Mapping the irrecoverable carbon in Earth's ecosystems*.

¹⁰ Anderson, C., Field, C., Mach, K. (2017). *Forest offsets partner climate change mitigation with conservation*. *Front Ecol Environ* 2017; doi:10.1002/fee.1515. In assessing additionality this study also noted that most of the carbon projects studied in California had active logging at or prior to project inception.

¹¹ Manning, B., and Reed, K. *Returning the Yurok Forest to the Yurok Tribe: California's First Tribal Carbon Credit Project*, 39 *Stan. Evtl. L. J.* 71 (2019).

Comment 2: The CFCC has concerns with the accuracy of the Committee’s criticisms of the forest offset protocol

On baselines, the Committee references Badgley et al. (2022) to suggest that up to 30% of forest offsets should not have been issued. As CARB has stated, “the paper’s findings are based on an alternate method to calculate alternative common practice values . . . this is not an evaluation of the Compliance Offset Program, but rather a comparison against an alternative method.”¹² CARB has also stated that “ecosections were combined to improve reliability of common practice estimates,” that “ecosections were not combined ... if the aggregation changed average carbon stocks in any assessment area by more than 10 percent”,¹³ and that “the uncertainty in the estimates of these [Badgley et al.] alternative common practice values, which may be high due to the small sample size, is unknown.”¹⁴ A conservation NGO has shared this concern over the uncertainty bounds in the Badgley et al. alternative common practice figures.¹⁵

As Anderson-Teixera and Belair (2022) note in a response to the Badgley et al paper, the issue discussed by Badgley et al. “has little effect on overall emissions reductions”.¹⁶ Anderson-Teixera also emphasizes that “policies that direct funds towards forest conservation still provide many valuable benefits to society” and that Badgley et al (2022) “must not be interpreted as the broad failure of California’s forest C offset program or similar programs.”¹⁷

The Report should also consider and report on the relative magnitude of the Committee’s concerns about credit issuance against the magnitude of sources of conservatism in CARB’s protocol, including how the performance standard baseline limits credit issuance relative to comparable voluntary protocols, and the exclusion of multiple carbon reservoirs including the soil carbon pool from credit calculations.

While the CFCC disagrees with the Committee’s specific criticisms of CARB’s forest offset protocol baseline system, the CFCC agrees that the most recent Forests Inventory Analysis (FIA) data should be used to update common practice values. Furthermore, an increase in the density of FIA plots and the timing of their remeasurement would help further refine and bolster the statistical rigor of CARB’s forest protocol. While the CARB forest offset protocol was developed and revised through 2015 with the best available science, the CFCC supports regular updates to the forest offset protocol as new data becomes available and robust scientific consensus evolves.

On permanence, the Report expresses concern “about whether the buffer pool is large enough to achieve CARB’s 100-year permanence standard.” The CARB forest offset protocol contributes a percentage of offsets issued (typically 15%-20% as noted by the Committee) to a “buffer pool” that insures against unintentional reversal due to wildfire or other natural disturbance. To assess the solvency of an insurance program, a review typically considers current assets, future forecast premiums, and future forecast liabilities. The 2021 Report only reviews the worst-case scenario of potential 2020 and 2021 wildfire emission losses on CARB

¹² CARB, [California’s Compliance Offset Program](#) (Oct 27, 2021) at 6.

¹³ CARB, [CARB responses to questions from ProPublica on California’s Forest Offset Protocol \(April 2021\)](#) at 6.

¹⁴ CARB (April 2021) at 7.

¹⁵ Pacific Forest Trust (2021). [‘Massive Over-Crediting of California’s forest offsets? 4 Alarm Fire or False Alarm’](#).

¹⁶ Anderson-Teixera, K. and Belair, E (2022). [Effective forest-based climate change mitigation requires our best science](#), at 1201.

¹⁷ Anderson-Teixera, K. and Belair, E. (2022) at 1202.



offset projects against the current stock of offsets in the buffer pool. A blog post by The Climate Trust (2021) is referenced in the Report, but the IEMAC Report does not reference that group's conclusion that "In this conservative scenario, up to 6.8 million tonnes could be depleted from the buffer. While this is a sizeable number, it is important to remember that the buffer pool grows larger each year . . . Additionally, only 1% of US forestlands experience a wildfire each year".¹⁸

The CFCC supports more detailed analyses of past wildfire losses, trends in potential future natural disturbance, current buffer pool assets, forecast future additions to those assets, and additional research as to the actual carbon losses that have occurred when wildfire-affected forests are salvage harvested and replanted (including accounting for durable wood product carbon storage). More holistic analyses will indicate whether an adjustment to the buffer pool is advisable, or not. At this point it is too early to reach a conclusion, and we suggest that the Committee identify this as an area that merits additional study.

There are two minor corrections that should be considered in this draft. First, the Committee states in its introduction and summary that "Offsets constitute a significant source of supply in the market, with forest offsets producing about 80% of supply to date."¹⁹ This sentence may mislead the reader to think that forest offsets have contributed 80% of compliance instrument supply to date. It would be clearer for the Report to reference its own analysis stating that offsets have constituted approximately 6.3% of compliance instruments submitted through 2020. In expressing concern that approximately 30% fewer forest offsets might have been issued under an alternative baseline system proposed in an academic study, the Committee should make clear that these concerns are focused on approximately 1.5% of total compliance instruments submitted through 2020.

Second, the Committee states that "CARB's forest protocol . . . imposes three requirements on IFM projects' baseline scenarios, which must . . . result in average carbon stocks that do not exceed regional averages known as "common practice". This is incorrect: for projects with initial carbon stocks above common practice, the project's baseline cannot be lower than common practice calculated by CARB, but it can exceed common practice (and the baselines of multiple IFM projects do so).²⁰

Finally, the 2021 Report should clarify its position on the extent to which offset use substituted for allowance use and increased allowance banking in the context of allowance oversupply, or increased historical emissions by covered entities relative to a policy scenario without offsets, or neither, and cite the analysis relied upon to reach that conclusion. The CFCC supports the Committee's decision to clearly state that "most offsets do not affect the emission reductions that are required by the state's economy-wide greenhouse gas limits because they are not included in the official greenhouse gas inventory."²¹

¹⁸ The Climate Trust (2021), [California ARB buffer mitigates current wildfire risk to forest carbon projects](#).

¹⁹ IEMAC (2021) at 5.

²⁰ As CARB noted in October 2021, "The 100-year average baseline carbon stocks cannot fall below the minimum baseline level, which serves as a backstop to how low the baseline average can be." CARB, California's Compliance Offset Program (Oct 27, 2021).

²¹ IEMAC 2022 at 28. As CARB has noted in publications, emissions reductions achieved through offsets "are not subtracted out of inventory", and CARB's statewide GHG inventory "represents the actual GHG emissions produced and emitted into the atmosphere with no adjustments for any type of offset, or other, credits."



Comment 3: The report’s recommendation that allowance supply through 2030 be reduced for offset use has merit and is worth further analysis, considering as well the post-2030 role of offsets in the transition to a net-zero economy

Measuring carbon stocks and flows in a forest is a science; these facts can be quantified with a very high degree of certainty. A decision on how many offsets to issue to incentivize emissions reductions and increased carbon storage in a particular forest with a particular carbon stock, however, is fundamentally a policy decision. Any such policy decision will always be subject to disagreement disproportionate to the limited role of forest offsets in CARB’s cap and trade mechanism. For this reason, the CFCC feels the Committee’s recommendation that the emissions budget through 2030 be determined as “the sum of allowances and carbon offsets, rather than by reference to the number of allowances only” has merit and is worth further analysis, alongside other options related to appropriately calibrating allowance supply to meet the State’s policy goals. As the Committee notes, this approach has been planned in the new Washington State cap and invest system, which is also planning to adopt the California forest offset protocol. At the same time, it is important to recognize that offsets are not identical to allowances: offsets represent actions taken in uncapped sectors to reduce emissions or increase carbon sequestration, whereas allowances are permits to pollute. Post-2030 as the economy adapts to a steep allowance reduction path, it will also be important to consider how industries that cannot feasibly reach zero fossil fuel use will need high-quality offsets to manage residual emissions.

We do not support the Committee’s other “options for reform” as we do not believe these other options would sustain adequate support for natural and working land emissions reductions and carbon sequestration, which, as noted above, are an important element of pathways to achieve the Paris climate targets.

Climate policy should rapidly reduce greenhouse gas emissions in covered sectors, rapidly reduce co-pollutant burdens in frontline communities, support mitigation and adaptation efforts throughout California, and incentivize necessary emissions reductions and carbon sequestration in our natural and working lands. We should not pit these objectives against each other, but support climate policy that can achieve all of these objectives.

Thank you for your efforts in supporting the IEMAC. We hope CFCC comments can be considered in the 2021 Final IEMAC Report.

Sincerely,

A handwritten signature in cursive script that reads 'Tony Brunello'.

Anthony J. Brunello
Director
California Forest Carbon Coalition