(carbon)plan

JULY 15 2022

Joshua Grice
Washington Department of Ecology
Air Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

RE: The proposed adoption of California's forest carbon offset protocols

Dear Mr. Grice,

Thank you for the opportunity to comment on the Department of Ecology's proposed Chapter 173-446 WAC Climate Commitment Act Program Rule.[1] Our comments today focus on the proposed adoption of California's forest carbon offset protocols for eligibility in Washington's cap-and-trade program,[2] which we respectfully believe is inconsistent with Washington law.

For context, CarbonPlan is a non-profit research organization with expertise in climate science, forest ecology, and carbon offsets. Over the past two years, we have conducted research and published peer-reviewed studies in leading academic journals that document statistical and ecological shortcomings in the design of California's forest carbon offsets protocols. We write today to summarize key findings from our work, which demonstrates that California's forest offsets protocols do not meet the relevant statutory standards: just as in California, Washington law requires that all carbon offset credits "[r]esult in greenhouse gas reductions or removals that: (i) Are real, permanent, quantifiable, verifiable, and enforceable; and (ii) Are in addition to greenhouse gas emission reductions or removals otherwise required by law and other greenhouse gas emission reductions or removals that would otherwise occur[.]"[3]

Our peer-reviewed research demonstrates that California's forest offsets protocols fail to meet statutory requirements that offsets be real, permanent, and additional. In addition to describing these findings, we also review extensive reporting from journalists at *ProPublica*, *MIT*

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1 Washington Department of Ecology, Chapter 173-446 WAC Climate Commitment Act Program Rule, Rule Proposal Phase (CR-102) (May 16, 2022) (hereinafter "Proposed Rule").

2 Proposed Rule at § 173-446-505(3)(b).

3 RCW § 70A.65.170(2)(b). California's climate law includes almost identical provisions. *See* Cal. Health & Safety Code §§ 38562(d)(1)-(2).

Technology Review, *The Los Angeles Times*, *Grist*, *Bloomberg*, and *National Geographic*, all of whom have described shortcomings in the California forest carbon offsets program.

The scope and severity of the problems we have documented cannot be easily fixed through a handful of tweaks or changes. And although evidence of the California program's shortcomings is comprehensive and growing, the California Air Resources Board (CARB) has broadly disputed criticism without addressing substantive concerns or providing a technical response. The only official position we are aware of is a short FAQ document.[4] CARB has not conducted a rulemaking process to review the forest carbon offset program since the adoption of the most recent protocol in 2015, despite issuing over 195 million forest offset credits worth over $3 billion at recent market prices.[5]

Rather than perpetuating a flawed carbon offset framework that the California Air Resources Board has shown no interest in fixing, Washington should instead pursue a strategy of directly funding good forest management practices under the cap-and-invest strategy of the Climate Commitment Act — an option already anticipated by the Act's natural climate solutions account.[6] This approach would allow Washington to support climate-smart forest management and achieve meaningful climate action without engaging in questionable greenhouse gas accounting that falls short of the clear statutory requirements in place in both Washington and California.

The rest of our letter details concerns with respect to carbon offset baselines, permanence, and additionality. We address each topic in turn.

Baselines

California's forest carbon offset protocols generate over 80% of all credits issued to date, with the bulk of credits awarded to improved forest management (IFM) projects that purport to change forest management practices.[7] The logic of IFM credits is straightforward and begins with the construction of a baseline scenario. IFM forest offset projects submit paperwork outlining how they *might* manage their lands over the course of the next 100 years. This

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4 CARB, California's Compliance Offset Program (Oct. 27, 2021).

5 CARB, Offset Credit Issuance Table (July 13, 2022) (reporting 195.3 million forest offset credits issued); CARB, Summary of Transfers Registered in CITSS By California and Québec Entities During the First Quarter of 2022 (May 2, 2022) (reporting a weighted average credit price of $16.05).

6 RCW § 70A.65.270. To the extent Washington policymakers intend to rely on carbon offsets as cost containment, we respectfully suggest that cost concerns are better addressed in the design of the state's emissions containment reserve, allowance price containment, and price ceiling features. RCW §§ 70A.65.140, 70A.65.150, and 70A.65.160.

7 Independent Emissions Market Advisory Committee, California Environmental Protection Agency, 2021 Annual Report of the IEMAC (Feb. 4, 2022) at 29 (see Table 2).

constitutes the project's baseline scenario — a counterfactual description of what *could* happen to a forest in the future.

Any excess carbon is deemed to provide additional climate benefits and receives carbon credits, so long as a project's baseline scenario meets three criteria:

- First, it must be legally possible to carry out the imagined baseline scenario.[8] Thus, if a government regulation prohibits a certain pattern of aggressive timber harvesting, a project cannot propose that it would conduct such harvesting in its baseline scenario.

- Second, the project must show that its baseline scenario is financially feasible.[9] Projects typically satisfy this requirement by showing that the modeled net present value of the harvest scenario is greater than zero. It is only required that the harvest scenario have a positive return; there is no requirement that the baseline scenario represents the highest financial return or even typical commercial timber management practices. This requirement helps establish that a baseline scenario is possible, but is by no means adequate to ensure that a scenario is reasonable or likely.

- Finally, in cases where a forest is well stocked, average carbon stocks in the baseline scenario cannot fall below regional average stocking levels known as "common practice."[10] In essence, the common practice requirement places an upper bound on creditting and prevents projects from claiming they would entirely liquidate standing carbon stocks. This requirement is intended to constrain unrealistic or ecologically problematic baseline scenarios, but depends on an accurate determination of common practice.

Our research revealed substantial statistical and ecological errors in how the California regulator calculated common practice.[11] Rather than considering the distinct environmental conditions and tree species in an individual project, the protocol calculates average carbon

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8 CARB, Compliance Offset Protocol U.S. Forest Projects (June 25, 2015) at § 3.4.1 (Legal Requirement Test); *id*. at § 5.2.1(e)(1) (specifying legal constraints on the baseline scenario). As discussed further below, however, California's forest offset protocols contain a loophole whereby the requirements of certain conservation easements can be ignored for the purposes of satisfying the Legal Requirement Test. *See* discussion at note 43, *infra*.

9 *Id*. at § 3.4.2 (Performance Standard Evaluation); *id*. at § 5.2.1(e)(2) (specifying financial constraints on the baseline scenario).

10 *Id*. at § 5.2.1(f)(1) (requiring that average carbon stocks do not fall below the minimum baseline or "MBL"); *id*. at § 5.2.1(d) (defining minimum baselines based on common practice values).

11 Grayson Badgley et al. (2022), Systematic over-crediting in California's forest carbon offsets trading program, *Global Change Biology* 28: 1433-45. The journal editors also commissioned an independent commentary from researchers who support the use of carbon offsets, but believe that carbon offset credits need to address the issues raised by this study. *See* Kristina J. Anderson-Teixeira and Ethan P. Belair (2022), Effective forest-based climate change mitigation requires our best science, *Global Change Biology* 28: 1200-03.

stocks by combining dissimilar species across large geographic areas. Because the mixture of tree species present within a project might not match the mixture of species used to construct the regional average, it is common for project carbon stocks to exceed protocol averages simply because of sampling bias, as opposed to the project having actually taken steps to improve management or actively promote carbon storage. These significant statistical flaws have been widely exploited by market actors and are best illustrated by example.

For instance, we identified a project in coastal Alaska where about 95% of the trees enrolled in the project are Sitka spruce, huge trees capable of storing vast quantities of carbon.[12] When calculating the regional average, however, the California regulator combined together large Sitka spruce with species that contain significantly less carbon, like paper birch and cottonwood. Thus, the project was allowed to construct a baseline scenario in which Sitka spruce were harvested far more aggressively than is typical because of the protocol's biased common practice calculation. Including less-carbon-dense species in the comparison lowered the regional average and allowed the project to claim hundreds of thousands of spurious offset credits. This sort of comparison makes about as much sense as trying to figure out whether your elephant is of an above-average size by comparing it to a pig.

Similar dynamics play out in projects scattered across Northern California, where the California protocols' common practice numbers average together large, carbon-dense trees like redwood and Douglas fir that occur near the coast with scrubby, inland species like Ponderosa pine. Projects have almost exclusively been developed along the western edge of this region, where milder temperatures and greater precipitation support naturally higher-carbon forests that are nevertheless compared against unrepresentative regional averages. These projects take advantage of the California protocol's ecologically flawed common practice calculations to generate millions of excess carbon credits.[13]

We even identified a case where the California regulator assumed forests in parts of New Mexico contained no carbon at all.[14] Despite this clear error, a project in the region was awarded over 4 million offset credits on the basis of an unreasonable baseline.[15]

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[12] ACR361, Forest Carbon Partners - Port Graham Corporation IFM Project.

[13] See Figure 6 in Badgley et al. (2022), *supra* note 11; ACR189, Miller Forest.

[14] This is physically impossible because trees are made up of roughly 50 percent carbon by mass. Nevertheless, California's 2011 and 2014 forest offset protocols assumed that forests in New Mexico contain no carbon on average. *See*, *e.g.*, CARB, Compliance Offset Protocol U.S. Forest Projects (Nov. 14, 2014) - Assessment Area Data File (indicating a common practice of zero carbon per acre of Central New Mexico Pinyon / Juniper Woodland in cell G125). Under protocol rules, a property in New Mexico with even just a handful of trees would have been eligible to receive carbon credits.

[15] CAR1183, Forest Carbon Partners - Mescalero Apache Tribe IFM Project.

Reporting by *ProPublica* and *MIT Technology Review* revealed that knowledge of these errors is an "open secret" within the forest offsets project developer community.[16] The journalists quote one market participant as describing how their project would have received substantially fewer credits "if you cross the street" — meaning if it had been located just a mile or two away. And this reporting revealed that the questionable New Mexico project mentioned above was initiated a full year after CARB staff publicly acknowledged the protocol error, and just two weeks before the protocol rules were changed to close the loophole from which it benefitted.

Our peer-reviewed research demonstrates that a substantial number of forest offset credits issued under California's protocols are based on statistical flaws that project developers understand and exploit, rather than new climate benefits caused by changes in land management decisions. Our findings indicate that between 20 and 38 percent of total credits are the product of statistical flaws in the way California's protocols determine common practice, and as such, do not represent real or additional climate benefits.

Nonetheless, these faulty credits are still being used to justify real emissions throughout the state of California and, if adopted as part of the Climate Commitment Act, those same credits will be used to justify ongoing carbon pollution in Washington state.

Permanence

As in California, Washington's Climate Commitment Act requires carbon offsets to be "permanent," but does not define this critical term.[17] CARB interpreted "permanent" to require only a minimum duration of carbon storage of 100 years.[18] While the Proposed Rule does not appear to define this term, it explicitly designates California's forest offset protocols as satisfactory.[19] Thus, the Proposed Rule appears to be implicitly adopting California's 100-year definition of permanence — despite also making explicit reference to a separate regulatory definition of permanence based on a 1000-year time horizon.[20]

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16 Lisa Song and James Temple, The Climate Solution Actually Adding Millions of Tons of CO_2 Into the Atmosphere, *ProPublica* and *MIT Technology Review* (Apr. 29, 2021).

17 RCW § 70A.65.170(2)(b)(i); Cal. Health & Safety Code § 38561(d)(1).

18 Cal. Code Regs., title 17, § 95802 (see definition of "Permanent").

19 Proposed Rule at § 173-446-505(3)(b).

20 The Proposed Rule appropriately excludes from the definition of "covered emissions" any carbon emissions that are permanently sequestered. *Id*. at § 173-446-040 (citing WAC § 173-407-110). The definition of "permanent" sequestration in question is achieving "a high degree of confidence that substantially ninety-nine percent of the greenhouse gases will remain contained for at least one thousand years." WAC § 173-407-110. We respectfully suggest that the Department of Ecology should adopt a similar interpretation of the word "permanent" in its Proposed Rule.

We believe a 100-year time horizon directly contradicts the plain meaning of the word "permanent," which is used elsewhere in the Proposed Rule to mean "forever" rather than "temporary."[21] It also bears no relationship to the timeframe over which ongoing CO_2 pollution authorized by the use of carbon offsets will affect the global atmosphere, biosphere, and oceans — effects that last for thousands of years and beyond.[22] But even if it is appropriate to ignore the ongoing harm of climate pollution after an artificial cut-off of 100 years, California's forest offset protocols fall to satisfy this minimum standard and should be rejected.

The general requirement for permanence originates from the physical reality that a substantial fraction of the CO_2 released by the combustion of fossil fuels remains in the atmosphere for millenia.[23] Burning fossil fuels effectively creates a permanent change in atmospheric CO_2 concentrations that results in a near-linear increase in global temperatures.[24]

The lifetime of the CO_2 stored by trees and used as carbon offsets is decidedly shorter than millenia. Trees take up CO_2 via photosynthesis and incorporate a fraction of that carbon into long lasting tissues, like wood. However, the carbon stored in trees is subject to episodic and catastrophic re-release into the atmosphere through natural disturbances like wildfire and drought. If we want to use forest carbon to counteract the climate harms of fossil fuel emissions, we need some assurance that the carbon temporarily stored in trees generates climate benefits that are roughly equivalent to the climate harms of emissions.

California's forest offsets protocol attempts to manage this mismatch in timescales using a type of insurance mechanism called a buffer pool. Each time a forest project receives offset credits, the project contributes some portion of those credits to the buffer pool. This pool of credits represents a bank of unclaimed climate benefits that are used to compensate for carbon losses from natural (or "unintentional") disturbances across the entire portfolio of forest projects. The loss of forest carbon due to a fire, for example, acts to eliminate climate benefits. Retiring an equal number of buffer pool credits compensates for that loss, leaving intact the environmental claims of the program as a whole.

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[21] *See*, *e.g.*, Proposed Rule at § 173-446-600 (indicating that the Department of Ecology will "permanently retire" compliance instruments used for compliance purposes). It would be illogical for this provision to be interpreted as the Department of Ecology's intention to temporarily remove compliance instruments for entity accounts for a period of at least 100 years, and yet that is what consistency with the adoption of California's definition of permanence implies.

[22] Zeke Hausfather, Let's Not Pretend Planting Trees Is a Permanent Climate Solution, *The New York Times* (June 4, 2022).

[23] David Archer et al. (2009), Atmospheric Lifetime of Fossil Fuel Carbon Dioxide, *Annual Review of Earth and Planetary Sciences* 37: 117-34; Raymond T. Pierrehumbert (2014), Short-Lived Climate Pollution, *Annual Review of Earth and Planetary Sciences* 42: 341-79.

[24] Myles Allen et al. (2009), Warming caused by cumulative carbon emissions towards the trillionth tonne, *Nature* 458: 1163-66; H. Damon Matthews et al. (2009), The proportionality of global warming to cumulative carbon emissions, *Nature* 459: 829-33.

In theory, a buffer pool is a perfectly valid mechanism to maintain the environmental integrity of temporary carbon storage. In practice, implementation is extremely difficult. Designing a sound buffer pool requires precisely estimating the disturbance risks faced by every forest type across the continental United States over the course of the next century, in the face of unprecedented ecological and climatological change.

Three lines of evidence indicate that California's forest carbon offsets protocols have failed to address the risk of forest carbon reversal, even over an inadequate timeframe of 100 years.

First, the protocols' reversal risk factors are not based on any explicit scientific analysis or evidence. In describing the risk factors and the associated credit contributions required to be made to a common buffer pool, California's forest offset protocols make no reference to a formal analysis nor do they discuss any scientific literature. Reporting from *Grist* suggests that the buffer pool risk factors were based largely on expert intuition, as opposed to explicit analysis that accounted for the distinct risk facing different tree species and locations.[25] From an ecological perspective, ignoring species-specific risks is the equivalent of a life insurance company writing policies without considering an applicant's age or medical history.

Second, the California buffer pool risk factors are static across space and through time. That means that forests in the arid foothills of the eastern Cascades are assigned the same fire risk as forests in the rainy upper peninsula of Michigan. The average 100-year integrated wildfire risk across the continental United States has more than doubled in recent decades — from 3.9 to 8.1 percent — when comparing observed fire events from a baseline period of 1984-2000 to a more recent period spanning 2001-2017.[26] Historical fire risks in arid western forests are already substantially higher, with some areas exceeding 30 and even approaching 50 percent. We know that in general fires will grow larger, more frequent, and more severe as the Earth continues to warm.[27] Yet the California forest carbon offset protocols require that projects contribute only 2 to 4 percent of their credits to the buffer pool to account for wildfire.[28]

Third, we recently completed a formal analysis of the California buffer pool that evaluated the risk exposure of the projects credited under California's forest offset protocols.[29] We looked at

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25 Emily Pontecorvo and Shannon Osaka, California is banking on forests to reduce emissions. What happens when they go up in smoke?, *Grist* (Oct. 27, 2021).

26 William R.L. Anderegg et al. (2020), Climate-driven risks to the climate mitigation potential of forests, *Science* 368: eaaz7005 (see Figure 4).

27 William R.L. Anderegg, Orianna S. Chegwidden, et al. (2022), Future climate risks from stress, insects and fire across US forests, *Ecology Letters* 25: 1510-20; John T. Abatzoglou et al. (2021), Projected increases in western US forest fire despite growing fuel constraints, *Communications Earth & Environment* 2: 27.

28 *See*, *e.g.*, CARB, *supra* note 8 at 135 (Table D.7).

29 Grayson Badglet et al. (in press), California's forest carbon offsets buffer pool is severely undercapitalized, *Frontiers in Forests and Global Change*. As of this writing, our article has

each risk factor included in the buffer pool — wildfire, disease and insects, other natural disturbances, and financial and management risks — and concluded that the buffer pool is severely undercapitalized.

For the wildfire component, we quantified carbon losses from fires that have already burned through California forest offset projects. Six such events have occurred to date. Two of those fires, which occurred in 2015 and 2018, have already resulted in the retirement of over 1.1 million credits from the buffer pool. The regulator has yet to verify the number of credits lost from four additional fires that occurred during the 2020 and 2021 fire seasons.[30] For those projects, we calculated likely carbon losses using satellite-derived estimates of tree mortality produced by the U.S. Forest Service. Based on the expected carbon losses from these projects, we calculated that at least 95 percent of the buffer pool credits allocated to insure against wildfire for the next 100 years will be depleted. In other words, an insurance mechanism that was meant to last 100 years didn't last a decade.

The disease and insect component of the buffer pool looks no better. We focused our analysis on tanoak, a tree species endemic to coastal Oregon and California. Despite their limited geographic range, tanoak are heavily represented in California's forest offset program. At least 20 projects contain a significant amount of tanoak, with 14 million tons of CO_2 credited to this species. Unfortunately, tanoak are incredibly susceptible to a disease called sudden oak death, which kills tanoak with devastating efficiency.[31] We developed three plausible scenarios for future tanoak mortality, taking into account the unique epidemiology of sudden oak death. Even under our most conservative estimates, we found that the effects of this one disease on tanoak alone could encumber 82 percent of the buffer credits set aside for disease and insects. Under our high mortality scenario, which more closely corresponds with expert predictions for the future of tanoak, as much as 159 percent of the disease and insect buffer pool credits could be consumed by dying tanoak, leaving the buffer pool perilously undercapitalized to handle losses from other forest diseases. Thus, the entire disease and insect component of the buffer pool appears to be fully subscribed by a single pathogen's anticipated effect.

In addition to our quantitative analysis of the wildfire and disease and insect components of the buffer pool, we briefly reviewed the program's preparedness for other natural risks, like drought. Drought as a major cause of tree mortality was only starting to be understood by

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completed peer review and been accepted for publication. A preprint that incorporates all feedback received from peer reviewers is available on bioRxiv.

30 Projects have 23 months after reporting wildfires to submit verified carbon losses, which are still outstanding but not yet late as of this writing. Cal. Code Regs., title 17, § 95983(b).

31 Richard C. Cobb et al. (2020), The Magnitude of Regional-Scale Tree Mortality Caused by the Invasive Pathogen *Phytophthora ramorum*, *Earth's Future* 8: e2020EF001500.

scientists when California designed its forest offsets protocol.[32] In the subsequent decade, forest ecologists have come to realize that forests across the globe are no longer in equilibrium with prevailing climatic conditions due to the effects of climate change. As the world continues to warm and rainfall patterns shift, we should expect large-scale forest mortality events that will ultimately cause the rearrangement of forest ecosystems as they adjust to novel climate conditions. Given the recent nature of these findings, it's all but impossible that the buffer pool has adequately priced the risk of drought. One of our academic collaborators, University of California, Santa Barbara ecologist Dr. Anna Trugman, studies drought and the future of forests. She put the challenge of addressing forest risks succinctly:

> "I'm a forest ecologist and thinking right now on a 100-year time scale of what forests will look like—it's really hard. 'Best science' can't tell you what this buffer pool should be. You'd need some infinite fudge factor."[33]

California's forest offset protocols lack any formal analysis supporting the design of the buffer pool and, by extension, the program's claimed ability to protect forest carbon for at least 100 years. The meager risk factors that exist don't include geographic variation in wildfire or drought risks, despite the obvious differences across American forests. And there is no consideration of how these risk factors are expected to worsen in the face of a changing climate. All available evidence indicates that the buffer pool is severely undercapitalized, and thus incapable of meeting its promised 100-year protections.

Meanwhile, carbon offset credits issued under these standards justifies more fossil CO_2 pollution — with impacts that are truly permanent.

Additionality

The Climate Commitment Act requires that offset credits be additional.[34] The Proposed Rule defines additionality in the context of carbon offsets as:

> "[G]reenhouse gas emission reductions or removals that exceed any greenhouse gas reduction or removals otherwise required by law, regulation or legally binding mandate, and that exceed any greenhouse gas reductions or removals that would otherwise occur in a business-as-usual scenario."[35]

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[32] Henrik Hartmann et al. (2022), Climate Change Risks to Global Forest Health: Emergence of Unexpected Events of Elevated Tree Mortality Worldwide, *Annual Review of Plant Biology* 73: 673-702.

[33] Craig Welch, Polluters are using forests as 'carbon offsets.' Climate change has other plans., *National Geographic* (May 4, 2022).

[34] RCW § 70A.65.170(2)(b)(ii); *see also* Cal. Health & Safety Code § 38562(d)(2).

[35] Proposed Rule at § 173-446-020; *see also* Cal. Code Regs., title 17, § 95802.

Because carbon offsets are used to justify additional fossil CO_2 emissions and climate harms, it is essential that offsets lead to novel climate benefits to fully counteract those harms. Unfortunately, the California forest offset protocols fail to achieve this requirement in practice.[36]

Journalists have documented several examples of non-additional forest carbon offset projects operating under California's rules. In an article written jointly for *ProPublica* and *MIT Technology Review*, Lisa Song and James Temple documented how Massachusetts Audubon received over 600,000 credits for preserving trees that it had long since "designated as high conservation value forest."[37] Despite the land's promised conservation status, project documentation imagined a heavy logging scenario that would have removed hundreds of thousands of trees. Similar reporting by Evan Halper for *The Los Angeles Times* found evidence of non-additionality in the Upper St. John Forest project, which is located in Maine and was developed by The Nature Conservancy.[38] Although The Nature Conservancy purchased the property in 1998 in a much-celebrated transaction, it filed paperwork in 2020 indicating it would need to harvest 50 percent of the project's standing timber volume if it didn't receive carbon offset income — despite earning more than $1.2 billion in revenue the same year.[39] This claim generated over 1.2 million offset credits in the project's first reporting period alone.[40]

Even more striking evidence of non-additionality comes by way of admissions from market participants. Most notably, Jim Hourdequin, the CEO of a large timber investment company called Lyme that has developed several projects under California's forest offset protocols,[41] has publicly explained how his company's offset projects have required little change in forest management practice. In an interview published by *Bloomberg*, Mr. Hourdequin explained how one of Lyme's projects received credits despite a restrictive easement that prohibited all timber harvests.[42] Although one might think that a restrictive easement would prohibit a project from producing a baseline scenario that contradicts its terms, California's forest offset protocols

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36 We note that California's erroneous common practice calculations cause spurious carbon offset credits to be issued to non-additional activities, as discussed in Badgley et al. (2022), *supra* note 11. The rest of this section addresses separate non-additionality concerns.

37 Lisa Song and James Temple, A Nonprofit Promised to Preserve Wildlife. Then It Made Millions Claiming It Could Cut Down Trees., *ProPublica* and *MIT Technology Review* (May 10, 2021); ACR274, Finite Carbon - Massachusetts Audubon Society IFM.

38 Evan Halper, Burned trees and billions in cash: How a California climate program lets companies keep polluting, *The Los Angeles Times* (Sept. 8, 2021); ACR427, The Nature Conservancy – Upper St. John Forest IFM Project.

39 The Nature Conservancy, Saving the St. John (Nov. 22, 2019); The Nature Conservancy, 2020 Annual Report at 15.

40 ACR427, Offset Verification Statement, Reporting Period 1 (Aug. 27, 2020).

41 Lyme Timber, 2020 Impact Report for Investment Funds Sponsored by The Lyme Timber Company LP (Apr. 2021) at 9.

42 Ben Elgin, This Timber Company Sold Millions of Dollars of Useless Carbon Offsets, *Bloomberg* (Mar. 17, 2022).

contain a loophole that allows for exactly that[43] — and as a result, we suggest that these protocols facially violate the additionality requirement found in Washington and California law.

Mr. Hourdequin described another offset project that would have been cost-prohibitive to harvest, given its location in a rugged, mountainous stretch of West Virginia where logging would have been feasible only by helicopter. Those lands were also enrolled in an offsets project, with Mr. Hourdequin readily admitting that "[s]ociety probably didn't need to pay us for that."[44] At an industry conference held in 2021, Mr. Hourdequin gave a presentation that detailed how the baseline harvest scenarios imagined in Lyme's offset project documentation would be "materially difficult" to execute in practice, going on to explain how the protocols' rules typically translated into no or minimal changes in actual timber management.[45]

Yet more evidence of non-additionality is provided by examining the documentation submitted to the regulator as part of the project development process. The permissiveness of the additionality criteria enshrined in California's forest offsets protocol is on full display when closely examining ACR255, a project located on the Colville reservation in eastern Washington that is the second-largest project by credit issuance in California's program.[46]

As part of enrolling in California's forest offset program, ACR255 submitted paperwork in 2017 that outlined a baseline harvest schedule that might transpire in the absence of carbon payments. Around the same time, the Confederated Tribes of the Colville Reservation developed an Integrated Resource Management Plan (IRMP) that projects timber operations through 2029.[47]

Both of these documents contain forecasted timber harvest volumes for the period between 2016 and 2029, but they tell a very different story (Figure 1). According to the offset project paperwork, ACR255 imagined harvesting 200 million board feet (MMBF) in 2016.[48] In contrast,

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43 All three forest offset protocols allow for conservation easements recordation from December 31, 2006 through December 31, 2010, to be used to denote the commencement of "pre-existing" projects. CARB, *supra* note 8 at § 3.6(a)(2)(C); *id*. at § 3.4.1(b)(2); CARB, Compliance Offset Protocol U.S. Forest Projects (Nov. 14, 2014 at § 3.5); CARB, Compliance Offset Protocol U.S. Forest Projects (Oct. 20, 2011) at § 3.5. In effect, these provisions allow projects to claim offset credits for prior legal commitments recorded during certain time periods. While it might make sense to allow for a reasonable grace period to enable the simultaneous pursuit of *new* carbon offset projects that are backed by *new* conservation easements, allowing projects to claim credits on the basis of *old* conservation easements can and lead to non-additional projects, including Lyme Timber's project.

44 Elgin, *supra* note 42.

45 Jim Hourdequin, You Get What You Pay For: A TIMO Perspective, World Forestry Center WWOTF Conference (Oct. 20, 2021). Detailed remarks about the California program begin at about 05:28.

46 ACR255, Finite Carbon - Colville IFM Project.

47 Confederated Tribes of the Colville Reservation, Integrated Resource Management Plan (2015).

48 ACR255, Public Attachments — Appendix I, ACR255 Baseline and Project Harvest Volumes.

the publicly available IRMP reports expected harvest volumes of 70.6 MMBF for the same year, nearly two-thirds less than the volume projected in the offset project documentation.[49]

The IRMP provides additional details about historic timber harvest volumes, going as far back as 1919. Over this century-long record, timber harvest peaked around 1980 with a volume around 145 MMBF.[50] Harvesting 200 MMBF, as imagined in the offset project documentation, would eclipse this maximum historic harvest by over 27 percent. In fact, 38 of the 100 years reported in the project's counterfactual baseline scenario forecast harvest volumes that exceed the maximum historic harvest of 145 MMBF. In other words, the baseline scenario set forth in the offset project documentation represents a truly anomalous and historically unprecedented harvest scenario that directly contradicts the tribes' stated management plan.[51] This contradiction provides a specific, quantitative example of how non-additional management activities can receive offset credits under California's forest offsets program.

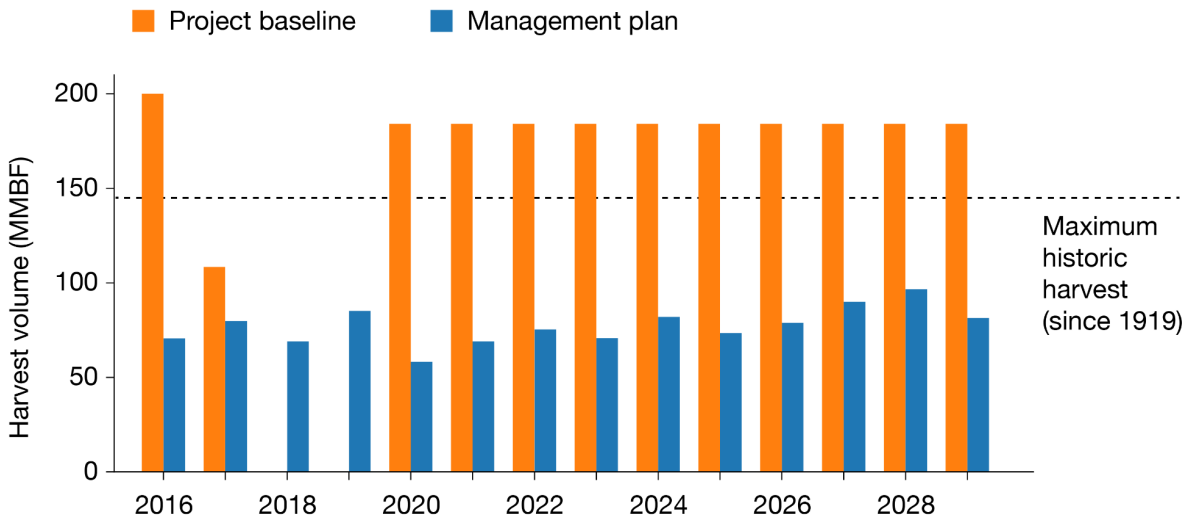

Figure 1. Comparison of baseline harvest volumes assumed in the carbon offset project paperwork (orange) and reported in the Confederated Tribes' 2015 Integrated Resource Management Plan (blue). The maximum historic harvest peaked in the early 1980s at only 145 MMBF, substantially less than anticipated in the offset project baseline.

In each one of these examples we have a baseline harvest scenario that technically *could* happen, meaning that the imagined harvest scenario meets the legal and financial

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49 Bureau of Indian Affairs, Confederated Tribes of the Colville Reservation, Integrated Resource Management Plan 2015, Final Programmatic EIS (Dec. 17, 2018) at 209.

50 *Id*. at 162.

51 *Id*. at 40 (describing a harvest scenario of 100 MMBF per year as "well above the sustainable harvest level identified in the forest inventory analysis, even with a greatly reduced rotation age.").

requirements of California's forest offset protocol. But in each example we also have evidence that suggests that the baseline scenario more than likely would not have actually occurred — and in the case of the Lyme Timber project with a restrictive easement, the baseline scenario would actually be illegal. When it comes to creditting purposes, however, California's forest offset protocol treats these scenarios as if they *would* have happened. Treating actions that *could* happen, even at very low probabilities, as if they *would* happen results in the crediting of business-as-usual behavior and higher atmospheric carbon concentrations.

These shortcomings are all the more unfortunate because many of the organizations involved in these non-additional projects are, in fact, promoting climate-smart forest management. The Nature Conservancy's preservation of forests in Maine has distinct climate benefits that should be lauded, for example. The extended 120-year-long harvest rotations of the Confederated Tribes of the Colville Reservation not only promote carbon sequestration, but also yield numerous co-benefits like improved wildlife habitat. This type of forward-looking stewardship deserves praise and financial support — especially when it comes to addressing the historical injustices experienced by the Confederated Tribes of the Colville Reservation, including the ecological degradation caused by settlers' historical land and fire management choices.

To state our position clearly: The fault here is not with the individual projects, but with the rules adopted by the California regulator and proposed for adoption under the Climate Commitment Act. The problem ultimately turns on efforts to credit land management as a means of justifying ongoing fossil CO_2 emissions. Exaggerated baselines and lax additionality standards translate directly into exaggerated climate benefits. When projects are rewarded via offset credits for existing land stewardship, those rewards come at the cost to the atmosphere and directly undermine the very purpose of taking action to address climate change in the first place.

Breaking that link is possible if the offset credits are replaced with direct public investment. Instead of relying on forest offsets, Washington should promote climate smart forestry and land management through its cap-and-invest strategy under the Climate Commitment Act. Doing away with the tenuous and fraught atmospheric accounting required for carbon offsetting dramatically simplifies the problem. Rather than appealing to counterfactuals and questionable baselines, the state could directly pay landowners for beneficial practices, such as extended harvest rotations. Under this approach policymakers could also decide to reward existing activities and land management practices in fire-prone areas without worrying about non-additional activities undermining climate progress.

To conclude, we have provided multiple lines of evidence — from peer-reviewed research, project documentation, investigative reporting, and even the candid admissions of program participants — that California's forest offsets protocols result in the large-scale crediting of business-as-usual activities. These flawed projects have generated tens of millions of non-real, non-additional offset credits. Furthermore, the buffer pool insurance program is wholly

insufficient as currently designed to guarantee that credited forest carbon will remain out of the atmosphere for 100 years, which is too short a duration to fully mitigate the consequences of ongoing CO_2 emissions in any case.

Because carbon offset credits are used in a compliance context and in lieu of making emission reductions, flaws in California's forest offset protocols translate into higher net emissions and contradict the policy goals of Washington's Climate Commitment Act. We respectfully urge the Department of Ecology to amend its Proposed Rule to eliminate these protocols from the list of eligible protocols, and replace them with an increased commitment to public investment in climate-smart forest management in the Act's natural climate solutions account.

Thank you for the opportunity to submit comments.

Grayson Badgley, PhD
Research Scientist
grayson@carbonplan.org

Danny Cullenward, JD, PhD[52]
Policy Director
danny@carbonplan.org

[52] I am signing this letter in my professional capacity with CarbonPlan, not on behalf of California's Independent Emissions Market Advisory Committee. The Committee has separately written about California's offsets program in its 2021 annual report, *supra* note 7 at 27-35.