(carbon)plan

27 SEPT 2022

Professor Ian Chubb AC FAA FTSE, Chair
Independent Review Panel, Emissions Reduction Fund

RE: Concerns with the climate integrity of ACCUs

Dear Professor Chubb and members of the Independent Review Panel,

Thank you for the opportunity to comment on the Independent Review of Australian Carbon Credit Units (ACCUs).[1] For context, CarbonPlan is a nonprofit climate research organization focused on the scientific integrity and transparency of climate solutions. I lead our policy work and manage a team that has extensive experience analyzing carbon markets around the world. I previously taught climate policy at the University of California, Berkeley and Stanford Law School, and have published an academic book on the global experience with carbon markets.[2]

I write today to share my perspective on the concerns Australian researchers have expressed about the integrity of ACCUs, as well as the reaction these researchers have received from policymakers in response. I have reviewed the studies released by Australian National University Professor Andrew Macintosh and his colleagues, who argue that as many as 80% of the credits issued to projects under Australia's most popular methodologies lack integrity.[3] In my opinion, these studies credibly document significant issues that deserve to be taken seriously, not brushed under the rug. They also share significant parallels with design flaws and governance failures in the multi-billion-dollar carbon credit market in California, where I serve as Vice Chair of the state's Independent Emissions Market Advisory Committee (IEMAC).[4]

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1 Australian Government, Department of Industry, Science and Resources, Independent Review of Australian Carbon Credit Units: Call for submissions (2022).

2 Danny Cullenward and David G. Victor, Making Climate Policy Work (Polity Press, 2020).

3 Andrew Macintosh (16 Mar. 2022), The Emissions Reduction Fund's Landfill Gas Method: An Assessment of Its Integrity, The Australian National University; Andrew Macintosh et al. (14 Mar. 2022), Measurement Error in the Emissions Reduction Fund's Human-Induced Regeneration (HIR) Method, The Australian National University.

4 Please note that this letter reflects my individual views, not the official views of the IEMAC. For the IEMAC's discussion of offsets, see pages 27-35 in the 2021 IEMAC Annual Report (4 Feb. 2022).

Although I am concerned that the Australian Government has thus far failed to take seriously the concerns of Professor Macintosh and his colleagues, I should note that CarbonPlan has previously spoken highly of other Australian climate policy efforts. CarbonPlan's independent review of soil carbon credit methodologies in 2021 ranked one of Australia's approaches as the most rigorous offering in the global market.[5] My colleagues and I were pleased to see this particular effort push farther than competing standards in the public and private sectors, and were happy to highlight its strengths accordingly — just as I believe the shortcomings identified by Professor Macintosh and his colleagues substantiate the need for significant reforms.

As the Independent Review Panel conducts its work, I respectfully suggest it would be helpful to consider the issues raised by Professor Macintosh and his colleagues in light of the challenging experience in California's forest carbon offset program, which has issued over 196 million credits that are worth more than 3 billion USD at recent market prices.[6] Many of the problems demonstrated in the California forest offset protocol appear to have direct analogies to the deficiencies alleged in the Australian program. I will briefly highlight a few connections between the Australian and Californian programs here, and attach as an appendix a recent comment letter that provides a comprehensive review of issues with California's approach.

One of the most striking parallels across the two jurisdictions is that major participants in both markets have confirmed independent academics' criticisms. I understand that prominent companies active under the landfill gas methodology have spoken publicly about shortcomings in the current approach.[7] Similarly, a major market participant in California has acknowledged that several of its own projects complied with all rules but are, in fact, non-additional — with the most egregious example involving credits earned for not cutting down trees the company was legally prohibited from harvesting.[8] Nevertheless, governments in both jurisdictions have categorically rejected independent academic criticism and committed to no reforms.

When it comes to methodologies that seek to manage land-sector carbon, establishing an ecologically meaningful baseline is an extremely difficult task. In collaboration with ecologists at the Universities of California and Utah, CarbonPlan researchers documented substantial evidence that forest project developers in California's program have taken advantage of

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5 CarbonPlan, Soil carbon protocols (showing the highest overall ranking for Australia's "measurement" protocol); Freya Chay and Danny Cullenward, Additions to our analysis of soil carbon protocols, CarbonPlan (13 Oct. 2021) (describing the evaluation of Australia's "measurement" protocol).

6 California Air Resources Board, Offset Credit Issuance Table (14 Sept. 2022) (issuance); California Air Resources Board, Summary of Market Transfers Report — Q2 2022 (1 Aug. 2022) (prices).

7 *See*, *e.g.*, Michael Slezak, Industry bosses making money from carbon credits say system needs to change, ABC News (5 Sept. 2022).

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

ecologically unsound assumptions in the protocol rules to claim credit for business-as-usual outcomes.[9] It is extremely difficult to mitigate the risk of over-crediting because any attempt to create standardized market rules runs into the problems of information asymmetry, where project developers are likely to know more than program regulators, and adverse selection, where projects that preferentially benefit from imperfections in program rules have an incentive to opt in to program participation. These problems are understood to be a core theoretical concern with carbon offsets,[10] are well-established in the environmental economics literature,[11] and are now very obviously on display in multiple carbon offset systems outside of Australia.[12]

Put simply, if there is a weakness in the assumptions or modeling work used in a carbon offset system, investors are likely to find it. Developers working in California's market appear to have been pursuing many such practices with eyes wide open, and with the tacit approval of accommodating program regulators.[13] Nevertheless, the state climate regulator has outsourced its public response to criticism to financially interested market participants[14] and responded with ad hominem critiques that included falsely accusing one of my academic co-authors of having previously brought a lawsuit against the state.[15]

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[9] Grayson Badgley et al. (2022), Systematic over-crediting in California's forest carbon offsets program, *Global Change Biology* 28: 1433-45; Shane Coffield et al. (in press), Using remote sensing to quantify the additional climate benefits of California forest carbon offset projects, *Global Change Biology*.

[10] Carolyn Fischer (2005), Project-based mechanisms for emissions reductions: balancing trade-offs with baselines, *Energy Policy* 33: 1807-23; James Bushnell (2012), The Economics of Carbon Offsets, in The Design and Implementation of U.S. Climate Policy, NBER (Fullerton and Wolfram, eds.); Antonio Bento et al. (2016), On the importance of baseline setting in carbon offsets markets, *Climate Policy* 137: 625-37; Barbara Haya et al. (2020), Managing uncertainty in carbon offsets: insights from California's standardized approach, *Climate Policy* 20(9): 1112-26.

[11] *See*, *e.g.*, Juan-Pablo Montero (1999), Voluntary Compliance with Market-Based Environmental Policy: Evidence from the U. S. Acid Rain Program, *Journal of Political Economy* 107: 988-1033.

[12] *See*, *e.g.*, Raphael Calel et al. (2021), Do Carbon Offsets Offset Carbon?, CESifo working paper 9368 (documenting extensive non-additional outcomes among Indian CDM wind energy offsets).

[13] Lisa Song and James Temple, The Climate Solution Actually Adding Millions of Tons of CO_2 Into the Atmosphere, *ProPublica* and *MIT Technology Review* (29 Apr. 2021) (documenting strategic developer behaviors and regulatory knowledge thereof); Evan Halper, Burned trees and billions in cash: How a California climate program lets companies keep polluting, *The Los Angeles Times* (8 Sept. 2021).

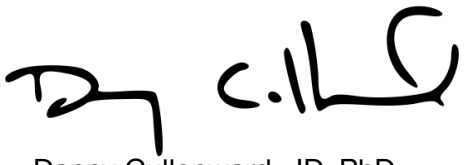
[14] California Air Resources Board, California's Compliance Offset Program — Forest FAQ (27 Oct. 2021) (publishing a response from the Pacific Forest Trust, which operates projects in California's program, in lieu of an independent response from the state government).

[15] California Air Resources Board, CARB responses to questions from ProPublica on California's Forest Offset Protocol (29 Apr. 2021) at 7 (making a false accusation against Dr. Barbara Haya); Lisa Song and James Temple, The California Air Resources Board Challenges Our Carbon Credits Investigation. We Respond., *ProPublica* (12 May 2021) (documenting the false nature of these allegations and the regulator's repeated invocation of the same disproven statements over the course of multiple years).

Finally, it bears mentioning that efforts to credit carbon that is temporarily stored in the land sector are fundamentally incompatible with the effects of ongoing fossil CO_2 emissions, as are efforts to credit avoided emissions from short-lived pollutants like methane.[16] To justify such a comparison, California law requires that its carbon offsets be "permanent" — but program regulations only require 100 years of storage. Unfortunately, the state's insurance system to protect against the risk of wildfires and other losses is structurally insolvent.[17] While I am not qualified to speak to the risks facing Australian forests, many of the same physical climate stressors that are exacerbating carbon loss in western U.S. forests are likely to affect Australia, too. However well managed, the benefits of carbon temporarily stored in Australia's land sector or short-lived methane pollution avoided in the landfill sector do not outweigh the long-term climate harms of ongoing fossil CO_2 emissions.[18] And yet, permission to pollute is granted in both jurisdictions on the basis of temporary climate benefits.

I hope this letter provides some helpful context for why criticisms of the Australian Carbon Credit Units are not unique, and indeed are extremely well-founded in other countries and contexts. For a more in-depth treatment of the issues in California — including many examples and case studies, many of which have been carefully documented by investigative journalists outside the academic literature — please see the attachment.

Respectfully submitted,



Danny Cullenward, JD, PhD
Policy Director, CarbonPlan
danny@carbonplan.org

Attachment:

- CarbonPlan comment letter to the Washington Department of Ecology (15 July 2022)

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[16] The physical inconsistencies with both examples are discussed in Myles Allen et al. (in press), Net Zero: Science, Origins, and Implications, *Annual Review of Environment and Resources*.

[17] Grayson Badgley et al. (2022), California's forest carbon offsets buffer pool is severely undercapitalized, *Frontiers in Forests and Global Change* 5: 930426.

[18] Zeke Hausfather, Let's Not Pretend Planting Trees is a Permanent Climate Solution, *The New York Times* (4 June 2022) (forest carbon); Raymond T. Pierrehumbert (2014), Short-Lived Climate Pollution, *Annual Review of Environment and Resources* 42: 341-79 (methane).