

(carbon)plan

MAY 02 2022

Directorate-General for Climate Action
European Commission

Re: Certification of carbon removal – EU rules

Dear DG CLIMA leadership and staff,

Thank you for the opportunity to provide input on the Commission's proposed carbon removal certification regulations. For context, CarbonPlan is a nonprofit climate science research organization focused on the transparency and scientific integrity of climate solutions. We have extensive experience evaluating carbon markets and carbon removal, and appreciate the Commission's interest in expanding its own successful carbon market operations to address the growing need for carbon removal as a complement to ambitious emission reductions.

We write today to share a number of public resources that might help you navigate the challenges of certifying appropriately rigorous carbon removals. We also wish to make two strategic recommendations that were included in my presentation to the Commission's Sustainable Carbon Cycles conference on 31 January 2022:

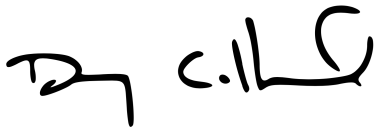
- 1. Do not award EUAs for carbon removals.** We respectfully suggest that the European Commission consider directly financing and procuring carbon removal, rather than awarding EU ETS Allowances (EUAs), for two reasons. First, crediting carbon removal with EUAs would unnecessarily put the climate goals of emission reductions and carbon removal in direct competition. Second, most land-sector strategies for carbon removal involve significant challenges with additionality and permanence. It is difficult to precisely manage these risks, yet unless perfection is achieved any efforts to credit carbon removals with EUAs could increase net emissions in the EU ETS.

A direct procurement alternative would avoid both of these problems by making removals supplementary to reductions achieved by the EU ETS, and by ensuring that any inaccuracies in credited carbon don't lead to increased emissions in the EU ETS. This approach could be funded by setting aside a portion of revenues raised from the auction of

EUAs in the EU ETS, similar to the Commission's existing Innovation Fund.

- 2. Do not rely on existing market standards to guarantee quality.** As detailed further in the resources listed below, independent reviews of carbon offset protocols in the voluntary markets indicate that market standards are generally quite low. We respectfully urge caution with, and the careful review of, any existing market standards to ensure that they do not undermine the Commission's climate goals. Given the state of the voluntary carbon markets, we believe that project-level diligence is required to obtain best outcomes in any public or private procurement process. Although potentially laborious, project-level diligence is superior to the automatic qualification of projects based on existing carbon offset registries or protocol methods, most of which allow for egregiously non-additional projects and other problematic outcomes.

A list of potentially useful public resources follows. Thank you again for the opportunity to provide input, and please feel free to reach out if we can be helpful to the Commission in its important work going forward.



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Forest carbon

- William R.L. Anderegg et al. (2020), [Climate-driven risks to the climate mitigation potential of forests](#), *Science* 368: eaaz7005. An academic review of climate risks that affect the permanence of carbon stored in forests.
- Grayson Badgley et al. (2022), [Systematic over-crediting in California's forest carbon offsets market](#), *Global Change Biology* 28(4): 1433-1445. This study shows that about 30% of the credits in California's forest carbon offsets program are the result of adverse selection that occurs as a result of unrepresentative regional program baselines. These non-additional credits do not reflect real climate benefits, and reflect general risks that arise whenever protocols make regional assumptions that apply to individual projects.
- Kristina J. Anderson-Teixeira and Ethan P. Belair (2022), [Effective forest-based climate change mitigation requires our best science](#), *Global Change Biology* 28(4): 1200-1203. This independent commentary emphasizes the need for policymakers to address the adverse selection and over-crediting findings in Badgley et al. (2022).
- Grayson Badgley et al. (in review), [California's forest carbon offsets buffer pool is severely undercapitalized](#), bioRxiv preprint. This study evaluates California's forest carbon buffer pool, which was designed to provide a 100-year permanence guarantee for credited carbon but appears to be unable to do so.

Soil carbon

- Jane Zelikova et al., [A buyer's guide to soil carbon offsets](#), *CarbonPlan* (15 July 2021). This study reviewed voluntary market standards for crediting soil carbon across 33 protocol attributes, finding high variation in sampling requirements and rigor as well as generally very low or missing standards for additionality.
- Eric Slessarev et al., [Depth matters for soil carbon accounting](#), *CarbonPlan* (17 June 2021). An article that reviews how soil sampling methods and particularly sampling depth can have significant impacts on measured carbon. Most soil carbon offset protocols do not require adequate sampling depth, and some fail to account for basic methodological considerations needed to estimate soil carbon at any depth.
- Emily E. Oldfield et al. (2022), [Crediting agricultural soil carbon sequestration](#), *Science* 375: 1222-1225. A summary of the Environmental Defense Fund's independent review of soil carbon offset protocols, finding similar results to those of Zelikova et al. (2021).

Valuing temporary storage

- Freya Chay et al., [Unpacking ton-year accounting](#), *CarbonPlan* (31 Jan. 2022). An interactive research article that explains ton-year accounting methods and how they are being used to make unreliable claims about the equivalence between temporary carbon storage and permanent impacts from CO₂ emissions.
- Freya Chay et al., [Comments to Verra on ton-year accounting and NCX's harvest deferral methodology](#), *CarbonPlan* (25 Apr. 2022). A blog post summarizing two recent comment letters that document problems with the use of ton-year accounting to claim equivalence between temporary carbon storage and permanent impacts from CO₂ emissions. Shows that temporary carbon storage that is used to offset CO₂ emissions causes higher long-term temperatures.
- Miko U.F. Kirschbaum (2006), [Temporary carbon sequestration cannot prevent climate change](#), *Mitigation and Adaptation Strategies for Global Climate Change* 11: 1151-1164. One of the earliest studies to document the inability of temporary carbon storage to offset the warming impacts of CO₂ emissions.
- Ben Groom and Frank Venmans, [The social value of offsets](#), Federal Reserve Bank of San Francisco Virtual Seminar on Climate Economics (16 Dec. 2021). A working paper that develops an economic framework for pricing the impermanence of temporary carbon storage.

