



February 16, 2024

Christopher Kirkpatrick (Secretary of the Commission)
Commodity Futures Trading Commission
Three Lafayette Centre,
1155 21st Street NW,
Washington, DC 20581

Re: Center for International Environmental Law's Response to Commission Request for
Comment—Commission Guidance Regarding the Listing of Voluntary Carbon Credit Derivative
Contracts (RIN 3038–AF40; 88 Fed. Reg. 89410 (Dec. 27, 2023))

Dear Chairman Behnam, Commissioners, and Secretary Kirkpatrick:

Thank you for the Commodity Futures Trading Commission's (CFTC) proposed guidance concerning the listing of Voluntary Carbon Credit (VCC) Derivative Contracts.

The Center for International Environmental Law (CIEL) is a non-profit organization that uses the power of law to protect the environment, promote human rights, and ensure a just and sustainable society. A longstanding focus of that mission has included engagement in climate policy and governance, as a registered observer with the UN Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC). CIEL has sought to ensure respect for and protection of human rights in all climate action, including in carbon credit mechanisms developed under the Kyoto Protocol and Paris Agreement. We bring additional perspective from our work with communities that have been impacted by projects generating carbon credits.

The Commission's attention to the risks posed by an unchecked VCC market is warranted, and we welcome the Commission's commitment to working towards integrity in the VCC market. A robust regulatory framework and vigilant enforcement are essential, and we applaud the Commission's progress on both fronts, as reflected in the creation of the Environmental Fraud Task Force and the Proposed Guidance at issue. We appreciate the opportunity to assist the Commission as it continues to develop and refine its approach in this space.

In addition to the obvious implications for integrity and fairness in commodity markets, the Commission's regulatory and enforcement approach to the VCC market has important consequences for global efforts to address the climate crisis.

The United Nations Intergovernmental Panel on Climate Change (IPCC) has demonstrated the need
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for steep reductions of emissions, which requires specific and urgent attention to ending fossil fuel dependence. The science underscores the need not only to immediately halt fossil fuel expansion, but to rapidly phase out fossil fuel production and use. Failure to do so would exhaust any remaining carbon budget and guarantee increasingly serious consequences for current and future generations.

Against this urgent backdrop, the VCC market has not only failed to produce even modest emission reductions, but has in fact exacerbated the very harms it purports to address. Recent investigations have uncovered widespread examples of over-crediting, an overwhelming number of forest-based projects that offer no emissions reductions, and instances of carbon offset projects contributing to forced evictions and human rights abuses.¹ In sum, it appears that the VCC market is contributing little in the way of emissions reductions, but rather is presenting the facade of climate action to the public while providing high-emitting companies with an avenue to maintain a business-as-usual approach and still promote themselves as responsible corporate citizens. If so, the VCC market is making a dangerous contribution to the delay of a fossil fuel phase-out which is required if we are to avoid a future that is increasingly incompatible with human life.

In the Proposed Guidance, the Commission has diagnosed some key gaps that have enabled the VCC market to fall into its current state. Namely, the market lacks sufficient (1) external checks to ensure the quality of underlying credit-generating projects, (2) accurate accounting of realized emission reductions which is (3) traceable, transparent to the public, and subject to independent verification and oversight by disinterested third-parties. Without these checks, issuers have been incentivized to maximize the generation of credits, often at the expense of accurate accounting for emissions, which in turn, impacts the “quality” of credits; that is, “whether [credits] accurately reflect the nature and level of GHG emission reductions or removals that they are intended to represent.”²

In response to the Commission’s requests for comment, our submission seeks to achieve three objectives.

First, we provide a critique of the carbon market’s role in delaying maximum emissions reductions in the near-term and an urgently needed fossil fuel phase out, and we identify faulty assumptions and structural flaws underlying the VCC market which are in conflict with its stated purpose of facilitating emissions reductions.

Second, we provide additional considerations regarding minimum necessary conditions for any “quality” standards related to voluntary carbon credits. More specifically, we argue that the accuracy

¹ Berkeley Study Finds Widespread Over-crediting and Weak Safeguards in Avoid Deforestation Carbon Crediting Programs (Sep. 15, 2023); Patrick Greenfield, Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows, The Guardian (Jan. 18, 2023); Claire Marshall, Kenya’s Ogiek people being evicted for carbon credits - lawyers, BBC (Nov. 9, 2023).

² Commodity Futures Trading Commission (CFTC), *Commission Guidance Regarding the Listing of Voluntary Carbon Credit Derivative Contracts* 88 Fed. Reg. 89410, 89413 (Dec. 27, 2023) [hereinafter “Proposed Guidance”].

and “quality” of any carbon credit issued for a claimed emission reduction cannot be assured without incorporating and accounting for the life-cycle emissions of the mitigation project from which it is purportedly generated. We provide further examples of the types of project-specific variables that must be considered.

Finally, we address why consideration of the human rights, environmental, and social impacts of “mitigation projects” underlying VCCs should be part of any regulatory, oversight, or compliance regime, as a necessary equity safeguard when gauging VCC contracts.

We appreciate the Commission’s consideration of the comments included below and welcome further questions or conversation.

Sincerely,

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I. Carbon offsets are structurally incompatible with their stated purpose of reducing emissions.

Despite urgent and consistent warnings from climate scientists, emissions continue to rise year after year.³ Deep and rapid emissions reductions **across all sectors and systems are necessary** if we are to have a chance at securing a liveable and sustainable future for all.⁴ Without immediate and drastic cuts to emissions and actions to preserve existing natural carbon sinks, the world will face “severe adverse consequences for current and future generations.”^{5,6}

Addressing fossil fuel emissions is unavoidable. The cumulative lifetime emissions of *existing* fossil fuel infrastructure alone are equal to the emissions that would result in a 2°C temperature rise,⁷ and thus “[l]imiting global warming to 2°C or below will leave a substantial amount of fossil fuels unburned.”⁸ It is clear that any proposed climate interventions, other than those to rapidly phase-out the production and use of fossil fuels, “should only be used to complement rapid phase-out of GHG emissions and not to compensate for them, or to allow business-as-usual approaches to energy production” and other high-emission industries to continue.⁹

It is in this context that we must consider whether carbon credits can have a meaningful role in addressing these challenges. In short, the answer is no. Even at their hypothetical best, carbon credits do not result in net emissions reductions. By design, the function of tradable carbon credits is to allow a claimed reduction of greenhouse gas emissions by one actor to substitute for an ostensibly equivalent reduction by another actor. Thus, unless carbon credits are retired, their contribution to the net reduction of global emissions is precisely zero.¹⁰

³ IPCC, *Synthesis Report of the IPCC Sixth Assessment Report (AR6)*, 8 (Mar 20, 2023) (stating that global emissions grew by 1.3% per year in the decade between 2010-2019), https://report.ipcc.ch/ar6syr/pdf/IPCC_AR6_SYR_LongerReport.pdf

⁴ IPCC AR6 SYR, 4.5 at 68 (emphasis added).

⁵ IPCC AR6 SYR, 4.1 at 56.

⁶ It is worth noting distinctions in the meaning of the word “mitigation” as it is used in various contexts. The Commission’s proposed guidance refers to all credit generating projects as “mitigation projects.” The IPCC’s uses, and the meaning we adopt in this comment, refers to the process of causing an actual reduction in net GHG emissions. *See* IPCC, AR6 *Frequently Asked Questions* (“Climate change mitigation refers to actions or activities that limit emissions of greenhouse gas[s]es (GHGs) from entering the atmosphere and/or reduce their levels in the atmosphere.”), https://www.ipcc.ch/report/ar6/wg3/downloads/faqs/IPCC_AR6_WGIII_FAQ_Chapter_01.pdf.

⁷ IPCC AR6 SYR, 2.3.1 at 24 (83% confidence).

⁸ IPCC AR6 SYR, 4.2 at 60; Stranded assets in the oil, gas and coal sectors are an inevitability and a requirement for a livable future; “[a]bout 80% of coal, 50% of gas, and 30% of oil reserves cannot be burned and emitted if warming is limited to 2°C. Significantly more reserves are expected to remain unburned if warming is limited to 1.5°C. (high confidence).” IPCC AR6 SYR, 2.3.1 at 24

⁹K. Dooley et al., *The Land Gap Report: 2022*, 15 (2022), https://landgap.org/downloads/2022/Land-Gap-Report_FINAL.pdf.

¹⁰ While there may be a semantic distinction between the terms “carbon credit” and “carbon offset,” it is a distinction without a difference in how they operate in practice. Carbon credits are bought nearly exclusively by industry to claim offsets against their emissions. This comment uses the terms interchangeably.

Moreover, the proponents of carbon credits incorrectly presuppose that emissions and reductions of GHGs of the same volume are equivalent and that a “unit” of carbon added to the atmosphere is fungible with a “unit” of carbon reduced or removed from it. This is incorrect. Our climatic systems are complex and interconnected, and differences in how emissions and removals are ‘metabolized,’ for lack of a better term, have significant impacts on their effects.

Even taking these structural limitations into account, the real life application of carbon credits does not resemble anything remotely close to their ‘hypothetical best.’ In practice, the vast majority of carbon credits are contributing to harms without any countervailing benefits, and even if market-wide improvements to the “quality” of available credits were possible, it’s doubtful these harms would be eliminated.

a. **False equivalencies underlie the carbon credit market and distort the net effects of emissions and removals.**

The notion of tradable “carbon credits” is premised on a false equivalency of fossil carbon and terrestrial (ecosystem) carbon. The two are not fungible, meaning that one type of carbon emission cannot be readily “offset” with another type of carbon removal or sink.¹¹ Rather, the source of a carbon stock impacts its stability, longevity, and resilience.¹² Despite these differences, carbon market offset schemes treat all emissions and removals as interchangeable, often allowing land-based offset credits to be used against fossil fuel-based emissions even where their net effects are unequal.¹³

Moreover, the climate effect of CO₂ removal at scale remains unknown and is not equivalent to the climate effect of avoiding the same quantity of CO₂ emissions in the first place, as the IPCC addressed in its most recent assessment report.¹⁴ Global carbon sinks (and sources) react differently to carbon dioxide added to the atmosphere from carbon dioxide removed from it, and this “[a]symmetry in the carbon cycle response . . . implies that a larger amount of CO₂ would need to be removed to compensate for an emission of a given magnitude to attain the same change in atmospheric CO₂.”¹⁵ This asymmetry in net carbon may be quite significant, with the difference

¹¹ K. Dooley et al., *The Land Gap Report: 2022*, 32 (2022), available at https://landgap.org/downloads/2022/Land-Gap-Report_FINAL.pdf; see also Wim Carton, Jens Fris Lund, Kat Dooley, *Undoing Equivalence: Rethinking Carbon Accounting for Just Carbon Removal*, *Front. Clim.* 3 (2021); 41 Scientists, *10 myths about net zero targets and carbon offsetting, busted*, *Climate Home News* (Dec. 11, 2020), <https://www.climatechangenews.com/2020/12/11/10-myths-net-zero-targets-carbon-offsetting-busted/>.

¹² K. Dooley et al., *The Land Gap Report: 2022*, 32 (2022); see also, *id.* at 10 (“[C]arbon lost from primary forests is not offset by planting trees,” since lower ecosystem integrity and vulnerability to extreme weather increases the risk of carbon loss, and the time horizon for re-growth results in a “decades-long carbon debt”).

¹³ K. Dooley et al., *The Land Gap Report: 2022*, 10 (2022).

¹⁴ Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2021: The Physical Science Basis - Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (2021) [IPCC AR6 WGI], Technical Summary, 3.3.2 at p. 99 (2021) (“Asymmetry in the carbon cycle response to simultaneous CO₂ emissions and removals implies that a larger amount of CO₂ would need to be removed to compensate for an emission of a given magnitude to attain the same change in atmospheric CO₂”); see also *id.* (“The century-scale climate-carbon cycle response to a CO₂ removal from the atmosphere is not always equal and opposite to the response to a CO₂ emission.”).

¹⁵ IPCC, *Climate Change 2021, The Physical Science Basis, WGI Contribution to the Sixth Assessment Report, TS-99, Sec. TS3.2.2* (2021), https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf

estimated to be on the order of 18% with the potential to be significantly higher.¹⁶

One key factor is that global sinks become less able to absorb emissions as human activity adds carbon dioxide to the atmosphere and increases both GHG concentrations and global temperatures. These effects are already being seen in the Amazon and the Congo Basin, and increased temperatures could halve the strength of land-based carbon sinks as early as 2040.¹⁷

Conversely, as carbon dioxide is released from existing sinks—through fires or deforestation in the case of forests, for example—any initial removals are undercut as the previously sequestered carbon is reintroduced into the atmosphere. And climate change is increasing the frequency of, and susceptibility of carbon sinks to, fire and other forms of degradation.

All of these aspects of the carbon cycle – the asymmetry between emissions and removals, the diminution of the capacity of existing carbon sinks, and the risks to said sinks from climate change or other sources – undermine the basic assumptions justifying carbon removal credits, and should raise additional concerns about legitimizing their exchange.

b. In practice, carbon credits have not only been ineffective at reducing emissions, but have affirmatively contributed to harms.

As discussed above, carbon credits have severe and inherent limitations, even at their best. In their worst iterations, not only do they fail to provide emissions reductions, but they are responsible for a variety of harms that are in direct conflict with their stated purpose. Recent research has shown that the market is awash in ‘bad’ credits, which have contributed to net increases of emissions, the entrenchment of fossil fuel-based projects, and environmental and human rights harms at the project level.

At a base level, carbon credits do not deliver the emission reductions they claim. Offsets have systematically failed to deliver promised climate benefits¹⁸—with some schemes in fact increasing emissions¹⁹—either because they represented mitigation activity that would have occurred otherwise (i.e. they were not “additional”) or because any real impacts were not permanent.²⁰ Many

¹⁶ *Id.* (“For CO₂ emissions of 100 PgC released from a state in equilibrium with pre-industrial atmospheric CO₂ levels, CMIP6 models simulate that 27 ± 6% (mean ± 1 standard deviation) of emissions remain in the atmosphere 80–100 years after the emissions, whereas for removals of 100 PgC only 23 ± 6% of removals remain out of the atmosphere.”)

¹⁷ K. Dooley et al., *The Land Gap Report: 2022*, 16 (2022).

¹⁸ See, e.g., Dr. Martin Cames et al, *How additional is the Clean Development Mechanism? Analysis of the application of current tools and proposed alternatives*, Directorate-General for Climate Action, CLIMA.B.3/SER12013/0026, at 11 (March 2016) (“Overall, our results suggest that 85% of the projects covered in this analysis and 73% of the potential 2013–2020 Certified Emissions Reduction (CER) supply have a low likelihood that emissions reductions are additional and are not over-estimated.”); see also Carbon Market Watch, *Carbon Markets 101: The Ultimate Guide to Global Offsetting Mechanisms*, 4 (2020); Micah Macfarlane, *Assessing the State of the Voluntary Carbon Market in 2022*, Carbon Direct, Blog (May 6, 2022); Heidi Blake, *The Great Cash-for-Carbon Hustle*, *The New Yorker* (Oct. 16, 2023), <https://www.newyorker.com/magazine/2023/10/23/the-great-cash-for-carbon-hustle>.

¹⁹ Arthur Nelson, *Kyoto protocol's carbon credit scheme 'increased emissions by 600m tonnes'*, *The Guardian* (Aug. 24, 2015), <https://t.ly/od9dz>. See also Barbara K. Haya et al, *Berkeley Carbon Trading Project, Quality assessment of REDD+ carbon credit projects*, 3–4 (Sept. 15, 2023).

²⁰ Lisa Song, *An Even More Inconvenient Truth: Why Carbon Credits For Forest Preservation May Be Worse than Nothing*, *ProPublica* (May 22, 2019), <https://features.propublica.org/brazil-carbon-offsets/inconvenient-truth-carbon-credits-dont-work-deforestation-redd-acre-cambodia/>; Jutta Kill et al, FERN, *Trading carbon: How it works and why it is controversial*, 59 (Aug. 2010); M. Cames et al., ‘How additional is the Clean Development Mechanism?: Analysis of the application of current tools and proposed alternatives’ (March 2016); M. Castagné et al., Carbon Market Watch, Secours Catholique, CCFD-Terre Solidaire & IATP, *Carbon Markets and Agriculture: Why offsetting is putting us on the wrong track*, 6 (2020); Winston

such schemes have been exposed as “largely worthless,” as a recent investigation concluded that more than 90% of the credits from the world’s leading certifier of rainforest offsets are likely to be “phantom credits” that do not represent genuine emission reductions.²¹ Another study estimates that only 12% of the total volume of existing carbon offset credits constitutes genuine emissions reductions.²² The issue of illusory credits is widespread and is not limited to specific project types or crediting programs.²³ As Commissioner Johnson so succinctly put it, “evidence suggests” that carbon markets “are rife with fraud.”²⁴

These are not benign failures. Rather, the carbon credit market has facilitated a business-as-usual approach by many high-emitting industries in need of rapid transition or transformation. Even the world’s top fossil-fuel producers – whose product is, fundamentally, carbon – and other business enterprises have used tens of millions of carbon credits to claim they have “canceled out” significant percentages of their emissions in recent years.²⁵ By falsely claiming that offsets are making progress on emissions reductions, the market as a whole has contributed to the damaging phenomenon of mitigation deterrence.²⁶ While it may be difficult to quantify the impact the VCC market has had on lulling the public into inaction or sustaining climate procrastination, the opportunity costs of even marginal delays are consequential.

ChoiSchagrin, *Wildfires are ravaging forests set aside to soak up greenhouse gas[s]es*, N.Y. Times (Aug 23, 2021), <https://www.nytimes.com/2021/08/23/us/wildfires-carbon-offsets.html>.

²¹ Patrick Greenfield, *Revealed: More Than 90% of Rainforest Carbon Offsets by Biggest Certifier Are Worthless, Analysis Shows*, The Guardian (Jan. 18, 2023) (finding that a forest-based offset portfolio of the world’s largest crediting program—which is associated with three-quarters of all voluntary offsets—overstated baseline threats by 400 percent and that 21 of 29 projects reviewed offered “no climate benefit.”), <https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe>; see also, e.g., Nina Lakhani, *Revealed: top carbon offset projects may not cut planet-heating emissions*, The Guardian (Sept. 19, 2023), https://www.theguardian.com/environment/2023/sep/19/do-carbon-credit-reduce-emissions-greenhouse-gases?CMP=Share_AndroidApp_Other; Lisa Song and James Temple, *The Climate Solution Actually Adding Millions of Tons of CO2 Into the Atmosphere*, ProPublica (Apr. 29, 2021) (nearly “one in three credits issued through California’s primary forest offset program,” totaling between 20-39 million credits, “don’t achieve real climate benefits.”), <https://www.propublica.org/article/the-climate-solution-actually-adding-millions-of-tons-of-co2-into-the-atmospher>.

²² Benedict Probst et al, ETH Zurich, *Systematic review of the actual emissions reductions of carbon offset projects across all major sectors* [Working Paper], at 12 (2023), available at https://www.research-collection.ethz.ch/bitstream/handle/20.500.11850/620307/230706_WP_full_vf.pdf?sequence=9&isAllowed=y. See also Josh Gabbatis et al, *In-depth Q&A: Can ‘carbon offsets’ help to tackle climate change?*, Carbon Brief (Sept. 24, 2023), <https://interactive.carbonbrief.org/carbon-offsets-2023>.

²³ See, e.g., Benedict Probst, et. al, *Systematic review of the actual emissions reductions of carbon offset projects across all major sectors*, 2 (July 27, 2023) (upon review of over 2,000 offset projects involving renewable energy, cookstove, forestry, and chemical processes interventions, only 12% of total credits constituted real emissions reductions), <https://assets.researchsquare.com/files/rs-3149652/v1/27c5b6ec-75a0-4a5a-84c6-e3e5e30e1cb8.pdf?c=1690482609>; Wiehl, Kammen & Haya, *Pervasive over-crediting from cookstove offset methodologies*, Nature Sustainability (Jan. 23, 2024) (review of cookstove offset projects across five different crediting methodologies found that projects, on average, overissued credits by a factor of 9), <https://www.nature.com/articles/s41893-023-01259-6>.

²⁴ Proposed Guidance, Appendix 3, Statement of Commissioner Kristin Johnson, 88 Fed. Reg. 89423 (Dec. 7, 2023).

²⁵ Josh Gabbatis and Tom Pearson, *Analysis: How some of the world’s largest companies rely on carbon offsets to ‘reach net-zero’*, Carbon Brief (Sept. 28, 2023), <https://interactive.carbonbrief.org/carbon-offsets-2023/companies.html>. See also Daisy Dunne and Yanine Quiroz, *Mapped: The impacts of carbon-offset projects around the world*, Carbon Brief (Nov. 8, 2023), <https://interactive.carbonbrief.org/carbon-offsets-2023/mapped.html>.

²⁶ McLaren, et. al., *Attractions of delay: Using deliberative engagement to investigate the political and strategic impacts of greenhouse gas removal technologies* (Dec. 13, 2021), <https://journals.sagepub.com/doi/full/10.1177/25148486211066238>.

Additionally, the activities underlying these offset schemes have in many instances had serious, negative impacts on communities. Projects have led to the eviction of Indigenous Peoples and local communities, violation of their right to Free, Prior and Informed Consent, and threats to their rights to food, water, cultural heritage, and life²⁷.

These problems of verification, permanence, leakage, and collateral harms, are not unique to land-based carbon credits, but, as discussed below, beset technological emissions reductions and removals too.

c. Markets are unlikely to incentivize “high-quality” credits and accurate accounting of emissions.

Proponents of carbon offsets argue that the types of failures described above can be remedied, and VCC markets can contribute to emission reductions, if the underlying credit-producing projects are of a sufficiently high *quality*.²⁸ While robust and enforceable standards may discourage the worst projects, market forces will continue to be in tension with emission reduction goals.

The Proposed Guidance outlines some of these market forces as they have played out in the absence of standardization. In essence, project operators have a financial incentive to issue as many credits as possible and may seek out crediting regimes that facilitate that goal.²⁹ This dynamic causes downward pressure on the “quality” of credits—meaning, the degree to which credits “accurately reflect the nature and level of GHG emission reductions or removals that they are intended to represent.”³⁰ Opacity in quality frustrates the ability of pricing to reflect differences in quality across credits, and businesses, being primarily motivated by price, may knowingly or unknowingly provide demand for lower quality credits.³¹

The Commission’s guidance seeks to remove barriers to accurate pricing as a way to improve market integrity.³² However, unique characteristics of the VCC market may frustrate the typical correlations between the quality and value of an underlying commodity.

For starters, a buyer of a voluntary carbon credit does not face a monetary loss when the actual emissions reductions the credit claims to represent are not achieved. Where a credit claims 1 ton CO₂(e) emission reductions and the buyer releases or has released an equivalent amount, the

²⁷ Dunne and Quiroz, *Mapped*, Carbon Brief (Nov. 8, 2023); Daniel Grossman, *Dam Lies: Despite Promises, an Indigenous Community’s Land Is Flooded*, Pulitzer Center (Mar. 6, 2018), [https://pulitzercenter.org/stories/dam-lies-despite-promises-indigenous-communitys-land-flooded#:~:text=The%20Ng%C3%A4be%2DBugl%C3%A9%20people%20in,banks%20of%20the%20Tabasar%C3%A1%20River](https://pulitzercenter.org/stories/dam-lies-despite-promises-indigenous-communitys-land-flooded#:~:text=The%20Ng%C3%A4be%2DBugl%C3%A9%20people%20in,banks%20of%20the%20Tabasar%C3%A1%20River;);

Interim Report of the Special Rapporteur on the Right to Food, U.N. Doc. A/70/287, para. 68-69 (2015); J.P. Sarmiento Barlett and A. Larson, CIFOR, *Rights Abuse Allegations in the Context of REDD+ Readiness and Implementation: A Preliminary Review and Proposal for Moving Forward* (2017).

²⁸ See Proposed Guidance at 89412-14

²⁹ Proposed Guidance at 89413.

³⁰ *Id.*

³¹ *Id.*

³² *Id.* 89413-14

transaction is complete—the benefit to the buyer is the public or consumer perception that the buyer is reducing its emissions or mitigating climate impacts, even if its own GHG emissions continue unchanged or mount. That perception effectively allows the buyer to produce GHG emissions without consequences to its social license. To some buyers, then, from a business perspective, the actual emission reductions are immaterial.³³ Thus, the “quality” premium of carbon credits functions differently than other commodities contracts. The buyer’s normal self-interest in ensuring the delivery of quality goods is less direct. In this context, it is not the buyer, but society at large that should bear the consequences of each marginal increase in emissions and measures that delay or detract from steep emissions reductions. The public is bearing the risk if the VCC market fails to deliver the emission reductions it claims.

In a very concrete sense, the emissions that the purchaser of a carbon credit has released or plans to release are known or relatively certain. When those emissions are released, they contribute to climate change by increasing the concentration of GHGs in the atmosphere for the duration of their lifecycle. This is a constant in the emissions equation underlying the offsets market. In contrast, it is accepted that any actual emission reductions by mitigation projects are both speculative and variable. Despite the fact that each credit, by definition, claims to represent a reduction of 1 ton CO₂(e),³⁴ the acknowledged variations in “quality” presuppose that *actual* reductions may fall short of that. Quality, then, functions as a vague measure of proximity between claimed and actual reductions, with lower quality credits assumed to provide fewer actual emission reductions.

In sum, the VCC market poses unique risks to the public, especially considering where the incentives for market participants lie. Moreover, when financial transactions are allowed to proliferate as derivatives of an underlying commodity sale that is itself of uncertain quality, questionable veracity, and potentially detrimental impact, the risks are amplified and extended outward to the financial system as a whole.

In this landscape, the CFTC’s active oversight will be the most reliable backstop for ensuring quality and fair dealing. Given the systemic risk this market presents to the public and climate mitigation efforts as a whole, the CFTC should approach the VCC market with skepticism and caution, and should set and actively enforce demanding quality standards.

II. Robust quantification of emission reductions and removals requires project-specific considerations.

As the Commission notes, the core element of VCCs’ “quality” is the surety with which they “accurately reflect the nature and level GHG emissions reduction or removal levels associated with that project or activity.”³⁵ The Commission has identified a series of universal quality standards that should be applied when considering VCCs for listing on exchanges: transparency, additionality,

³³ See *Supra*. nn. 18-23. The fact that so many credits have been shown to offer no emissions reductions is itself suggestive that buyers are not particularly concerned with their underlying quality.

³⁴ Proposed Guidance at 89412 (“The general industry standard is for a VCC to represent a GHG emissions reduction to, or removal from, the atmosphere equivalent to one metric ton of carbon dioxide.”).

³⁵ Proposed guidance at 89413.

permanence, and robust quantification.³⁶ (We understand the Proposed Guidance’s reference to “leakage” to imply that it should be considered within the umbrella of the “robust quantification” requirement.³⁷)

While the quality standards identified by the Commission have historically been applied to land based projects, they are equally applicable in the context of technologically-based interventions that involve carbon capture, which are increasingly being considered as credit producing projects.

Carbon Capture and Storage (CCS), sometimes referred to as Carbon Capture Utilization and Storage (CCUS), refers to processes that collect or “capture” carbon dioxide generated by high-emitting activities — such as coal- and gas-fired power production or plastics manufacturing — and then transport those captured emissions to sites where they are either used for industrial processes or stored underground.³⁸

Bioenergy with Carbon Capture and Storage (BECCS) projects involve the combustion of biological material—such as biomass or biofuel—to produce energy, and then purportedly capturing and storing the resulting CO₂. While a subset of CCS projects generally, BECCS is often categorized as a form of carbon dioxide removal, rather than emissions reduction.

Direct Air Capture (DAC) refers to a range of new technologies, largely untested at scale, which purport to ‘vacuum’ CO₂ directly from the ambient air. Most of these new schemes involve using massive fans to blow air over a mix of caustic chemicals that trap the carbon molecules. These machines then use an enormous amount of energy and heat to separate the CO₂, which needs to be transported and stored.³⁹

While touted as climate solutions by some, the real-world example CCS and DAC projects in particular have been plagued by serious deficiencies that limit their ability to produce meaningful emissions reductions. BECCS projects, of the kind and scale touted by proponents, are virtually nonexistent.⁴⁰

Given the variety of project-types, and the myriad variables that can affect a respective project’s overall contribution to emissions reductions or removals, it is essential that quantification protocols incorporate an analysis that is sufficiently project-specific. Since “[t]he process by which VCCs are issued . . . informs VCC quality and, by extension, the overall integrity and effective functioning of voluntary carbon markets,”⁴¹ the following considerations, as applied on an individual basis, are essential to market integrity as a whole.

³⁶ *Id.* at 89415-19.

³⁷ Proposed guidance 89412 & n.36 (noting “leakage” as a variable to be included when accounting emission reductions) (citing The Integrity Council for the Voluntary Carbon Market Carbon Core Principles, Section 5 Definitions); *see also*, ICVCM, Core Carbon Principles, *Assessment Framework and Assessment Procedure*, Ver. 2, 10.5 at 89 (Jan. 2024) (including “all relevant potential sources of leakage” within the “Robust Quantification” criterion) available at, <https://icvcm.org/wp-content/uploads/2024/02/CCP-Book-V2-FINAL-6Feb24.pdf>.

³⁸ Carbon Capture, Utilization & Storage, U.S. Department of Energy (last visited Feb. 13, 2024), <https://www.energy.gov/carbon-capture-utilization-storage>.

³⁹ Barnaby Pace & Lindsay Fendt, *Direct Air Capture: Big Oil’s Latest Smokescreen*, CIEL, at 4 (Nov. 2023), https://www.ciel.org/wp-content/uploads/2023/11/Direct-Air-Capture_Big-Oils-Latest-Smokescreen_November-2023.pdf.

⁴⁰ *See Bioenergy with Carbon Capture and Storage*, IEA, <https://www.iea.org/energy-system/carbon-capture-utilisation-and-storage/bioenergy-with-carbon-capture-and-storage> (last visited Feb. 20, 2024).

⁴¹ Proposed guidance at 89413

a. **Projects should not be able to generate credits without accounting for the life-cycle emissions from project development and operation.**

To accurately calculate a given project’s “actual” contribution to emission reductions or removals, it is essential to account for the life-cycle emissions *of the project itself*. Until a project can demonstrate that it has produced verifiable reductions/removals sufficient to account for its own ‘carbon debt,’ there can be no colorable claim that it has produced any actual or realized reductions or removals. To prematurely attribute credits to such a project would not only be baseless, but would have the effect of introducing credits that represent net-positive emissions into the market.

Therefore, it is essential that any quantification methodology meeting the Commission’s “robust and conservative”⁴² requirements include a reliable and individualized process for determining a project’s lifecycle emissions, and a method for incorporating those emissions across all credits associated with that project. To be sufficiently “transparent,” an accrediting body must make its methodology, and how it has been applied to individual projects, available to public scrutiny. Failure to incorporate these protections would not only obscure the accuracy (“quality”) of VCCs, but to the extent pricing is sensitive to quality differences, it would make it impossible for pricing to accurately reflect the relative carbon intensity of different projects, which could undermine trust in the market at large.

For example, each new DAC and CCS project requires an enormous buildout of new infrastructure. To date, twenty-seven DAC plants have been commissioned worldwide and plans for at least 130 DAC facilities are now at various stages of development.⁴³ In the U.S., it is estimated that to capture a quarter of current emissions by 2050 through CCS would require nearly two-and-a-half times more carbon dioxide than the total volume of current U.S. oil production, and the construction of over 60,000 miles of pipelines.⁴⁴ The emissions associated with this new infrastructure are not insignificant, and must be incorporated into a robust quantification protocol.

b. **Promised or Future Emissions Reductions and Removals Must Not Be Tradable**

For the same reasons, conservative quantitative protocols must protect against the issuance of credits that are premised on a project’s projected, future reductions and removals that are yet to be realized.

Even if it is common for investors to enter into contracts for the future delivery of credits at the early stages of a project,⁴⁵ there must be adequate safe-guards to prevent the delivery of credits for claimed reductions that remain purely speculative. This is especially important, given the frequency with which projects overestimate their projected reductions. Moreover, projects based on unproven technology may prove unfeasible or commercially unviable, and risk being abandoned

⁴²*Id.* at 89418

⁴³*Direct Air Capture*, International Energy Agency (IEA), <https://www.iea.org/energy-system/carbon-capture-utilisation-and-storage/direct-air-capture> (last visited Feb. 16, 2024).

⁴⁴ CIEL, *Carbon Capture and Storage (CCS): Frequently Asked Questions*, <https://www.ciel.org/carbon-capture-and-storage-ccs-frequently-asked-questions/#What%20is%20an%20'energy%20penalty?>

⁴⁵ See Proposed Guidance, at 89413 n.40

before any claimed reductions are realized. Without mechanisms to verify actual reductions over time, as compared to projections, the risk of manipulation is untenable. Real-life examples of CCS and DAC projects that have either underperformed or been abandoned provide useful illustrations of this point.

In 2022, Occidental Petroleum sold its Century gas processing plant, the world's largest CCS project, for a fraction of what it cost to build after it failed to reach its projected CO₂ capture rate.⁴⁶ Similar problems have extended to other CCS projects. Last year, the International Energy Agency (IEA) acknowledged the failure of CCS technologies to live up to their promises, saying that the history of CCS "has largely been one of unmet expectations,"⁴⁷ and a review of thirteen of the world's flagship CCS projects by the Institute for Energy Economics and Financial Analysis (IEEFA) found a trail of failed and underperforming projects, cost overruns, and capture rate targets repeatedly missed.⁴⁸

Despite the demonstrated track record of projects falling short of expected capture rates and uncertainty about project viability over the long term, some projects have nevertheless made a practice of selling VCCs based on expected emission reductions before operations have begun. For example, in 2022, Occidental Petroleum started selling purchase rights to its first 'Net Zero' oil to a Singapore-based commodities trader, based on direct air capture capacity yet to be installed; in 2023, it began pre-selling carbon credits based on its eventual 'low carbon' jet fuel to Airbus.⁴⁹

These are potent examples of why VCC markets must have quantification and tracking procedures that work in tandem to prevent the listing of contracts that represent promised or expected future reductions that have not yet been verified.

III. Applying quality standards to various land and technology based project-types

Given the wide variety of land and technology based projects, it is important that crediting programs consider each quality standard with attention to the risks presented to different project types. More granular consideration is required on a project-to-project basis to account for differences in the design, operation, and local contexts.

Moreover, given the demonstrated history of crediting programs approving projects with no true emission reductions and the systemic risks that illusory credits pose to the function of the entire

⁴⁶ Natasha White, Akshat Rathi and Kevin Crowley, "An Oil Giant Quietly Ditched the World's Biggest Carbon Capture Plant," Bloomberg News (Oct. 23, 2023), <https://www.bnnbloomberg.ca/an-oil-giant-quietly-ditched-the-world-s-biggest-carbon-capture-plant-1.1988209>.

⁴⁷ *Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach*, IEA, at 132 (Sep. 26, 2023), <https://www.iea.org/news/the-path-to-limiting-global-warming-to-1-5-c-has-narrowed-but-clean-energy-growth-is-keeping-itopen>

⁴⁸ IEEFA, *Carbon capture: a decarbonisation pipe dream* (Sep. 1, 2022) ("History shows CCS projects have major financial and technological risks. Close to 90% of proposed CCS capacity in the power sector has failed at implementation stage or was suspended early. . . [and] most projects have failed to operate at their theoretically designed capturing rates."), <https://ieefa.org/articles/carbon-capture-decarbonisation-pipe-dream>.

⁴⁹ Michael Buchsbaum and Edward Donnelly, *Fossil Fuel Companies Made Bold Promises to Capture Carbon. Here's What Actually Happened*, DeSmog (Sep. 25, 2023), <https://www.desmog.com/2023/09/25/fossil-fuel-companies-made-bold-promises-to-capture-carbon-heres-what-actually-happened/>

VCC market and its perceived legitimacy, the Commission should require exchanges to conduct “additional due diligence” to ensure quality standards are being applied adequately to “specific . . . projects.”⁵⁰

Below are examples of project-specific analyses that DCMs should require of certifying entities, and which DCMs should be required to backstop and certify themselves.

a. **Robust Quantification Carbon Capture and Storage (CCS) and Direct Air Capture (DAC)**

1. *The “Energy Penalty” of emissions associated with operations*

Once operational, both DAC and CCS projects require copious amounts of energy to run the capture process. The emissions from this energy use, referred to as a project’s “energy penalty,” substantially reduce the total net reductions a project might otherwise claim.⁵¹ Moreover, as this additional energy is primarily drawn from fossil fuels, CCS and DAC projects increase upstream emissions from fossil fuel production.

After the CO₂ is captured, it must be transported (typically via pipeline) to its ultimate destination. At different points during transport, the CO₂ must be cooled and subsequently put into a supercritical state—this involves another energy-intensive process whereby the CO₂ is put under enormous pressure and kept at high temperatures.⁵² The cumulative emissions generated capturing and transporting CO₂ is substantial.

For example, Oxy’s Stratos DAC plant, the first of its scale, will emit 610 kilograms (kg) of CO₂ emissions for every 1,000 kg of CO₂ it traps; once lifecycle emissions are taken into account, the potential net removal is just 39 percent of the project’s publicized 500,000-tonne capture capacity, or 195,000 tonnes.⁵³

With the wide variety of forms and scales that these projects may take, variables in the design and operation of individual CCS and DAC projects must be considered by quantification protocols. These differences require a granular, project-by-project approach when attempting to verify net emission reductions, and thus the quality of associated credits.⁵⁴

Such a project-by-project approach is necessary even if all energy provided for the DAC or CCS operation is drawn from renewables or the electricity grid. In the case of direct supply by

⁵⁰ In her remarks coinciding with the release of the proposed guidance, Commissioner Romero questioned whether “market integrity can be improved by exchanges relying on a crediting program’s processes and diligence, as assumed in the proposed guidance, or if there is a benefit to exchanges conducting additional due diligence into specific categories, protocols, or projects.” See *Statement of Commissioner Christy Goldsmith Romero on Exchange Listing Standards for Voluntary Carbon Credit Derivative Contracts* (Dec. 4, 2023), available at https://www.cftc.gov/PressRoom/SpeechesTestimony/romerostatement120423#_ftnref7

⁵¹ *Carbon Capture and Storage (CCS): Frequently Asked Questions*, CIEL, <https://www.ciel.org/carbon-capture-and-storage-ccs-frequently-asked-questions/#What%20is%20an%20energy%20penalty?>

⁵² Haixia Wang et al., *A Review of Pipeline Transportation Technology of Carbon Dioxide*, IOP Conference Series: Earth and Environmental Science, at 3 (2019), <https://iopscience.iop.org/article/10.1088/1755-1315/310/3/032033/pdf>.

⁵³ Pace & Fendt, *Direct Air Capture: Big Oil’s Latest Smokescreen*, 4.

⁵⁴ IPCC WGIII Sixth Assessment Report, at 6-36 – 6-39, https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter_06.pdf

renewables, an additionality analysis would be required for that aspect of the project – because additional renewables would otherwise displace fossil fuels, project proponents would need to demonstrate that such renewables would not have been built but for the project. For projects drawing energy directly from the electricity grid, in the absence of commensurate, additional renewable resources, the added load would lead to greater fossil fuel emissions grid-wide. In either case, a project-specific analysis is necessary.

2. *Permanence and risk of reversal*

Just as land-based projects are susceptible to reversal from natural events, such as fires or floods, so too are CCS and DAC projects. While CCS/DAC combined with sequestration are often referred to as providing “permanent” carbon removals, permanence cannot be guaranteed on geologically relevant time scales (equivalent to the period when emissions will exist in the atmosphere).

In its Special Report on Carbon Dioxide Capture and Storage, the IPCC raised concerns about the dangers of storing CO₂, a challenge for both DAC and CCS: “CO₂ storage is not necessarily permanent. Physical leakage from storage reservoirs is possible via (1) gradual and long-term release or (2) sudden release of CO₂ caused by disruption of the reservoir.”⁵⁵ Failures at the well head or from seismic activity—which injection wells exacerbate—are also possible.

b. Bioenergy with Carbon Capture and Storage (BECCS)

BECCS projects involve the combustion of biological material—such as biomass or biofuel—to produce energy, and then purportedly capturing and storing the resulting CO₂. Traditional biomass includes wood, discarded food and oils, or other plant material. Biofuels are processed fuels produced from organic feedstocks, as opposed to fossil fuels. Though their origins are organic in nature, biofuels are often processed with fossil fuels and result in fossil fuel-based greenhouse gas emissions.⁵⁶

BECCS projects require evaluation of all of the same elements as fossil CCS projects, as well as some specific to BECCS. In addition to the emissions from biofuel processing, factors that must be considered when judging the lifecycle emissions of bioenergy projects include those associated with (1) land cover change, (2) loss of forests and native grasslands, (3) soil disturbance, and (4) increased use of fertilizer (which is itself an energy- and emissions-intensive product in its own right).⁵⁷ For example, where forested areas are converted to agricultural land for the purpose of growing bioenergy crops, projects will result in a net increase of GHG emissions.⁵⁸ And, as is the case in other contexts leveraging CCS, any purported carbon emissions reduction or removal can only occur once the carbon debt from the build out of the requisite CCS infrastructure as well as the energy requirements of compressing, transporting, and injecting the captured emissions have been accounted for.

⁵⁵ IPCC, *IPCC Special Report on Carbon Dioxide Capture and Storage*, at 373 (Sep. 2005), https://www.ipcc.ch/site/assets/uploads/2018/03/srccs_wholereport-1.pdf.

⁵⁶ *Biofuels & Greenhouse Gas Emissions: Myths versus Facts*, U.S. Dep’t of Energy, <https://www.energy.gov/articles/biofuels-greenhouse-gas-emissions-myths-versus-facts-0>

⁵⁷ CSLF, *Technical Summary*, at 13-14.

⁵⁸ CSLF, *Technical Summary*, at 13.

c. Land-Based Projects

Land-based mitigation projects are especially common in the VCC market. They also have a history of being particularly susceptible to manipulation and present unique risks to human rights and the rights of Indigenous Peoples that must be guarded against.

For starters, land-based removals often fail to achieve measurable reductions. A common type of land-based project purports to reduce emissions by preventing deforestation. In essence, a crediting program will establish a baseline threat to an existing forest—this might include a demonstrable rate of deforestation, or plans to harvest timber on a particular property. Since forests act as natural carbon sinks, deforestation produces an increase in GHGs. A crediting program will quantify the expected emissions impact from the expected baseline threat and then claim emission reductions to be sold as offsets for preventing some or all of those harms.

As demonstrated by recent and well publicized controversies, the potential for gamesmanship and manipulation for this category of projects is particularly high. Many have been shown to overstate actual baseline threats, find threats where none exist, or claim credit for mitigating threats to lands that have already been protected—the end result is that an extremely large proportion of forest-loss-prevention projects produce no emissions benefits whatsoever.⁵⁹ (At least one crediting body that has been implicated in these stories—Verra and its Verified Carbon Standard—has VCC futures contracts currently listed on Commission regulated exchanges).⁶⁰

In other instances, a forest-based project may provide genuine protections in a specific location, but simply displace and/or increase deforestation in adjacent areas, producing no net emission reductions when considered as a whole.⁶¹ This phenomenon, known as “leakage,” is not specific to forest-based projects, but is especially acute in this context.⁶²

There is no question that reduced deforestation and the restoration of degraded wetlands and forests can support and enhance the terrestrial carbon cycle and are critical to combating climate change. The protection of forests is critical from both climate and biodiversity perspectives, however, any claimed emissions reductions from the avoidance of deforestation are inappropriate for inclusion in the offsets market. The benefits that forests provide are already accounted for in atmospheric GHG concentrations, and they are not sufficient to keep pace with anthropogenic

⁵⁹ See *Supra* nn.1, 21, Greenfield, *Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows*, *The Guardian* (Jan. 18, 2023).

⁶⁰ Proposed Guidance at 89414 & nn.51, 52 (“The CME Group CBL contracts permit VCCs to be delivered from the Verified Carbon Standard (“VCS”) Verra Registry, the American Carbon Registry (“ACR”), and the Climate Action Reserve (“CAR”). The Nodal contracts permit VCCs to be delivered from VCS’s Verra Registry and from the Gold Standard Impact Registry, as well as from the American Carbon Registry for certain contracts.”).

⁶¹ Joseph Romm, *Are carbon offsets unscalable, unjust, and unfixable—and a threat to the Paris Climate Agreement?*, Penn Center for Science, Sustainability, and the Media, at 11 (June 2023), <https://bpb-us-w2.wpmucdn.com/web.sas.upenn.edu/dist/0/896/files/2023/06/OffsetPaper7.0-6-27-23-FINAL2.pdf>.

⁶² Daisy Dunne and Josh Gabbatiss, *Glossary: Carbon Brief’s guide to the terminology of carbon offsets*, CarbonBrief (Sep. 24, 2023) (“Leakage[.] A term used for concerns that introducing a carbon-offset project in one region could lead to new emissions happening elsewhere. For example, if a forest protection scheme opens in one patch of the Amazon, deforesters may simply respond by logging another area”), <https://interactive.carbonbrief.org/carbon-offsets-2023/glossary.html#carbon-colonialism>.

emissions. While there is a moral imperative to protect existing forests, doing so cannot provide the justification to increase emissions elsewhere. Turning such land-based removals into credits that can be used in lieu of emissions reductions undermines their climate benefits.

The limited ecosystem capacity to capture carbon over the course of the century makes clear that removals from natural, land-based processes cannot substitute for steep emissions cuts. Recent estimates suggest that natural ecosystems have the capacity to remove less than 400 Gt CO₂ from the atmosphere in total over the next 75 years — a level that may not only be infeasible in practice, but also nowhere near enough to counteract global emissions.⁶³ Moreover, land-based removals cannot be used to compensate for fossil emissions or substitute for urgently needed emissions reductions.⁶⁴

D. Applying Additionality Standards to Technological Removal Projects

The well-known issues of additionality for land-based offsets are similarly important when evaluating technological carbon management projects, though they take different forms. Primarily, carbon capture or carbon dioxide removal projects are not likely to be operating in an economic vacuum. Such projects are typically subject to a series of financial incentives, may participate in other crediting or regulatory schemes, and often sell the carbon dioxide for use in enhanced oil recovery, rather than simply contract for geologic storage. Because the regulatory and financial systems that affect technological capture and removal projects are complicated, dynamic, and overlapping, the CFTC should approach claims that such projects are also additional with extreme skepticism.

Projects may be motivated by a variety of means, from direct financial incentives, to regulatory arbitrage, to regulatory compliance. For example, in the United States, the Section 45Q tax credit provides financial compensation for the ostensibly permanent storage of carbon dioxide via CCS or DAC.⁶⁵ DAC projects separately qualify for \$180 USD per ton of carbon dioxide when sequestered, and \$130 USD per ton when utilized for enhanced oil recovery (EOR). The Inflation Reduction Act (IRA), passed in August 2022, significantly enhanced the value of the 45Q credits, and captured carbon dioxide from CCS projects now garners \$85 USD per ton sequestered, and \$60 USD per ton when utilized for EOR. The Infrastructure Investment and Jobs Act of 2021 (IIJA) included funding for DAC projects and funding for carbon dioxide pipelines.⁶⁶

Moreover, the overwhelming majority of captured carbon has been used – sold, generating

⁶³ See Dooley et al., *The Land Gap Report: 2022*, at 15; Kate Dooley et al., *Carbon removals from nature restoration are no substitute for steep emission reductions*, *One Earth* 5, pp. 812-24 (2022).

⁶⁴ Dooley et al., *The Land Gap Report: 2022*, at 15-16; see also Lawson & Greenfield, *Shell to Spend \$450m on carbon offsetting as fears grow that credits may be worthless*, *The Guardian* (Jan. 19, 2023), <https://www.theguardian.com/environment/2023/jan/19/shell-to-spend-450m-on-carbon-offsetting-fears-grow-credits-worthless-aoe>

⁶⁵ See 26 U.S.C. § 45Q.

⁶⁶ See, e.g., *The Infrastructure Investment and Jobs Act: Opportunities to Accelerate Deployment in Fossil Energy and Carbon Management*, U.S. Dep't of Energy, https://www.energy.gov/sites/default/files/2022-09/FECM%20IIJA%20BIL%20Factsheet_revised%20September%202022.pdf

additional revenue – for enhanced oil recovery (EOR).⁶⁷ In these cases, projects have and continue to be funded by a combination of expected tax credit income and EOR revenues. EOR is a technique for extracting new oil from a depleted well. By injecting highly-pressurized CO₂ and water into a depleted well, oil companies can force remaining oil to the surface and extract it for sale and use. More than 70 percent of existing carbon capture facilities are used for EOR,⁶⁸ and the resulting revenue is a substantial, and sometimes determinative, factor in the financial viability of a project.⁶⁹

Access to other credit markets may also spur the construction of CCS and DAC projects. For example, fuels produced with CCS may take advantage of California’s Low Carbon Fuel Standard (LCFS).⁷⁰ Projects developed with the intention of tapping California’s LCFS, or any other such compliance market for that matter, should not be counted as additional. The issue here is not only one of double-counting – although double-counting risks are significant, especially where capture projects, transportation and storage companies, and the underlying emitting entity are all different – but rather one of pure additionality. Projects premised and pursued on access to compliance markets should not be granted access to voluntary markets if they suddenly become more lucrative.

Finally, there is the question of regulatory compliance. The U.S. Environmental Protection Agency, for example, has proposed rules to require carbon capture equipment on some electricity-generating units.⁷¹ Any capture project constructed in furtherance of such legal requirements would clearly not satisfy the requirement of additionality.

The evaluation of whether or not a project is additional, or of whether a marginal ton of removed carbon dioxide is additional, will rarely be straightforward. Incentives and regulatory requirements are constantly shifting, and the financial profile of a project will likely shift throughout the duration of its operation. And as projects in one state often sell products (and credits) into others the incentives affecting a particular project are not limited to those of the jurisdiction within which it is operating. As such, the CFTC should be extremely skeptical of claims to additionality for

⁶⁷ See Global CCS Institute, *Global Status of CCS 2023: Scaling Up Through 2030*, 77 (2024), <https://www.globalccsinstitute.com/wp-content/uploads/2024/01/Global-Status-of-CCS-Report-1.pdf> (“2023 Facilities List”); see also Institute for Energy Economics and Financial Analysis, *The Carbon Capture Crucx: Lessons Learned* (2022), <https://ieefa.org/resources/carbon-capture-crux-lessons-learned>.

⁶⁸ Pace and Fendt, *Direct Air Capture, Big Oil’s Latest Smokescreen*, at 9 n.57

⁶⁹ The Petra Nova CCS project in Thompsons, Texas involved a \$1 BIL retrofit of a coal power plant. The projected revenue from selling CO₂ for EOR was an animating driver of the project. After three years of operation, the project shuttered its doors. Over that period of operation, the project’s capture rate underperformed projections by 17% resulting in losses estimated at \$23 MIL. Robertson & Mousavian, *The Carbon Capture Crucx*, IEEFA, 39-40 (Sep. 2022), <https://ieefa.org/sites/default/files/2022-09/The%20Carbon%20Capture%20Crux.pdf>.

⁷⁰ *Carbon Capture and Sequestration Protocol under the Low Carbon Fuel Standard*, California Air Resources Board (Aug. 13, 2018), https://ww2.arb.ca.gov/sites/default/files/2020-03/CCS_Protocol_Under_LCFS_8-13-18_ada.pdf; see also, *The California Low Carbon Fuel Standard: Incentivizing Greenhouse Gas Mitigation in the Ethanol Industry*, U.S. Dep’t of Agriculture, at 10 (Nov. 2020), <https://www.usda.gov/sites/default/files/documents/CA-LCFS-Incentivizing-Ethanol-Industry-GHG-Mitigation.pdf>

⁷¹ See U.S. Enviro. Prot. Agency, Proposed Rule, New Source Performance Standards for Greenhouse Gas Emissions . . . , 88 Fed. Reg. 33240 (May 23, 2023), <https://www.federalregister.gov/documents/2023/05/23/2023-10141/new-source-performance-standards-for-greenhouse-gas-emissions-from-new-modified-and-reconstructed>

all technological carbon capture or removal projects subject to the complex, interlocking financial and regulatory schema currently in place and which can only be expected to grow.

III. The inclusion of Protections for Human Rights, the Environment, and Social Equity are essential and economically material aspects of a VCC and should be duly considered by DCMs.

Carbon market projects have a history of human rights abuses, violations of Indigenous Peoples' rights, and land rights infringements in addition to the questionable reductions. They can and do negatively impact people and the environment including, among others, risks to biodiversity, ecosystem integrity, food sovereignty, water security, and livelihoods. Activities that violate human rights including the rights of Indigenous Peoples and negatively impact the environment and ecosystem integrity are not, and should not be considered, quality carbon credits. Thus it is essential for DCMs to consider whether the carbon credits have stemmed from a project that has negatively impacted the environment or perpetrated human rights and Indigenous Peoples' rights violations.

Climate action, which theoretically carbon credit generating activities are, "that prioritise[s] equity, social justice, climate justice, rights-based approaches, and inclusivity, lead[s] to more sustainable outcomes, reduce trade-offs, support transformative change and advance climate resilient development."⁷² DCMs should assess whether the carbon credit generating activity is consistent with a rights-compatible approach. Important elements of this include whether the activity is in compliance with human rights law and standards, including the right to a clean, healthy and sustainable environment, core labor standards, the rights of Indigenous Peoples, including the right to Free, Prior and Informed Consent, and the rights to information, public participation, and remedy, among others.⁷³ DCMs should also consider whether crediting programs have adequate measures to exclude projects associated with specific high-risk rights violations, such as involuntary resettlement, infringements on critical habitat, contributing to the concentration of environmental harms suffered by fenceline communities, etc.

In assessing carbon credits, DCMs should take a precautionary approach. The precautionary principle is generally interpreted as pressing for precautionary regulation or action when there is no conclusive evidence of a particular risk scenario, when the risk is uncertain, or until the risk is disproved. The precautionary approach cautions against promoting new technologies that pose real environmental risks.

As referenced above, there are numerous activities that are not fit for the VCC market due to their ineffectiveness in combating climate change or the fact that they largely perpetuate the climate crisis. Many of these activities also bring the potential for severe human rights abuses. In the last year, human rights bodies and experts have issued reports relevant to carbon removal technologies.⁷⁴ Of note, the Advisory Committee to the Human Rights Council conducted an

⁷² IPCC, AR6 Synthesis Report, Summary for Policymakers, para. C.5.2.

⁷³ See generally, *Rights, Carbon, Caution: Upholding Human Rights under Article 6 of the Paris Agreement*, CIEL (Feb. 2021), <https://www.ciel.org/reports/rights-carbon-caution/>.

⁷⁴ Advisory Committee to the Human Rights Council, *Impact of new technologies intended for climate protection on the enjoyment of human rights*, U.N. Doc. A/HRC/54/47 (July 12, 2023) (advanced unedited version),

assessment and issued a report on the “Impact of new technologies intended for climate protection (NTCP) on the enjoyment of human rights.” It warned about the “massive and disproportionate impact on Indigenous Peoples” and the disproportionate impact on peasants, fisherfolks and other rural people that may come with deployment of NTCPs⁷⁵ and noted that “[a]t this stage of their development, given the lack of sufficient knowledge as to their risks and adverse impacts, a presumption may apply that all NTCPs are generally harmful to human rights and their deployment would be contrary to existing States obligations.”⁷⁶ It also emphasized that “[t]he precautionary principle has been and should be applied to geoengineering” and that prevention of harm prior to it occurring should be the main approach given that reversing environmental damage is often impossible.⁷⁷ This report underscores the potential harms of the activities that may be producing credits. It can hardly be considered that a quality credit could be one that creates such human rights abuses.

IV. Conclusion

The use of carbon credits and offsets has been promoted as a way to leverage the unique power of market forces to incentivize climate mitigation efforts. But, that vision has not been realized. Like the Clean Development Mechanism (CDM), Redd+ and California’s forest offset program, new iterations of offsets in the VCC are demonstrating a similar gap between what they promise and what they deliver.

That is because carbon offsets do not reduce emissions—full stop. Even the highest quality credits cannot ‘undo’ or ‘cancel out’ the damage caused by an additional ton of fossil carbon entering the atmosphere. But high quality credits are the exception, not the rule. The vast majority of carbon credits simply are not what they say they are—that is, a reduction or removal of 1 ton CO₂(e).

Stemming the proliferation of “low quality” credits is rightfully at the heart of the Commission’s guidance. While we have concerns about the Commission lending its imprimatur to a market this flawed, and have doubts that buyers will value and incentivize high-quality credits with

<https://www.ohchr.org/sites/default/files/documents/hrbodies/hrcouncil/advisorycommittee/A-HRC-54-47-AUV.docx>; Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes (Marcos Orellana), The toxic impacts of some proposed climate change solutions, UN Doc. A/HRC/54/25 (July 13, 2023), <https://www.ohchr.org/en/documents/thematic-reports/ahrc5425-toxic-impacts-some-proposed-climate-change-solutions-report>; Committee on the Rights of the Child, General Comment No. 26 (2023) on children’s rights and the environment, with a special focus on climate change, U.N. Doc CRC/C/GC/26, para. 98(e) (Aug. 22, 2023), <https://www.ohchr.org/en/documents/general-comments-and-recommendations/general-comment-no-26-2023-childrens-rights-and>.

⁷⁵ Advisory Committee to the Human Rights Council, Impact of new technologies intended for climate protection on the enjoyment of human rights, U.N. Doc. A/HRC/54/47, paras. 55-56

⁷⁶ Advisory Committee to the Human Rights Council, Impact of new technologies intended for climate protection on the enjoyment of human rights, U.N. Doc. A/HRC/54/47, para. 66.

⁷⁷ Advisory Committee to the Human Rights Council, Impact of new technologies intended for climate protection on the enjoyment of human rights, U.N. Doc. A/HRC/54/47, para. 36, see also para. 33.; see also Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes (Marcos Orellana), The toxic impacts of some proposed climate change solutions, UN Doc. A/HRC/54/25 para. 71.

access to improved information, we recognize and encourage the Commission for using the tools available to reign in the worst aspects of the market. Given the systemic risks posed by climate change, and the potential for carbon markets to delay and divert urgently needed emission reductions, there is value in harm reduction.

In closing, we encourage the Commission to remain vigilant and skeptical. Phantom credits should have no place on regulated exchanges, nor should credits the generation of which has caused or contributed to infringements of human rights. If an issuer or crediting regime claims that a credit is equivalent to one ton of CO₂(e) emissions reductions, they should be held to a rigorous standard of proof.