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Voluntary Carbon Credit Markets and the Commodity Futures Trading Commission

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Voluntary Carbon Markets and the Commodity Futures Trading Commission

A carbon market generally refers to an economic framework that supports the buying and selling of carbon “credits” or “offsets” representing a measurable reduction, avoidance, or sequestration of greenhouse gas (GHG) emission. Carbon credits have monetary value, are tradeable, and are—in important economic and legal senses—commodities. Governments and private entities typically create carbon markets to support climate change mitigation objectives. *Voluntary carbon markets* (VCMs) involve voluntary buying and selling of carbon credits outside of a regulatory framework. By contrast, *compliance carbon markets* involve a regulatory authority that requires GHG emission reductions from particular emission sources. Since 2004, renewable energy and forestry and land use projects have accounted for over 70% of total carbon credits generated.

The veracity of the offsets as accurate representations of GHG reduction in the VCM varies because there is no recognized central authority and no universally accepted standards for generating offsets. Nevertheless, the size of the global VCM has grown, albeit unevenly, in recent years. The volume of transactions in the VCM increased from 208 metric tons of CO₂-equivalent (MTCO₂e) in 2020 to 516 million MTCO₂e in 2021, then decreased by about 50% in 2022 (to 254 million MTCO₂e). In recent months, some have observed increased skepticism toward the VCM from investors and the media. The International Organization of Securities Commissions (IOSCO) has noted that “the projects underlying carbon credits appear to exhibit a wide variance in quality related to whether the project has actually avoided or removed the GHG emissions as claimed.”

In December 2023, the Commodity Futures Trading Commission (CFTC) issued a proposed guidance on Voluntary Carbon Credit (VCC) derivative contracts (hereinafter, “CFTC proposed guidance”). The guidance has marked the most comprehensive attempt at a regulatory framework for the VCMs, even though it most directly addresses the market for derivatives related to VCMs. The CFTC lacks authority under the Commodity Exchange Act (CEA; P.L. 74-675) to more generally govern or regulate spot commodity markets, as opposed to derivatives markets. (Spot markets refer to outright exchanges of a commodity for payment, by contrast to a derivative trade, such as a future, option, or swap, related to the underlying commodity price.) The CFTC proposed guidance essentially would put certain requirements on CFTC-regulated derivatives exchanges that list VCM derivatives, requiring those exchanges to conduct certain due diligence to ensure the underlying quality of the VCCs upon which the derivatives are based.

While the CFTC’s December 2023 proposed guidance notes that standardization and accountability mechanisms for VCCs are “still developing,” it identifies three characteristics that designated contract markets (DCMs)—better known as futures exchanges—should address in the terms and conditions of a VCC derivative contract. These are (1) quality standards, (2) delivery points and facilities, and (3) inspection provisions. The CFTC guidance further identifies four commodity characteristics that DCMs should consider in addressing quality standards regarding VCC derivatives. These include (1) transparency—that VCC derivative contracts should include information that “readily specifies” the crediting program(s) and types of projects from which eligible VCCs may be issued; (2) additionality—that DCMs should consider whether the VCCs underlying a derivative contract represent GHG emission reductions or removals that are “additional,” or credited only for projects that result in emission removals that would not have occurred in the absence of the VCC; (3) permanence and risk of reversal—whether the crediting program for VCCs underlying a derivative contract has measures to address the risk that VCCs may have to be recalled or cancelled because the carbon removed is released back into the atmosphere; and (4) robust quantification—whether the methodology used by a crediting program to calculate GHG emission reductions or removals are robust, conservative, and transparent.

Various other governmental authorities and trade groups have proposed or adopted other rules and reduction programs that broadly align to the principles and characteristics of the CFTC proposed guidance. The CFTC proposed guidance largely tracks the IOSCO’s December 2023 Voluntary Carbon Markets Consultation Report, which made a number of similar recommendations to improve and standardize the quality of VCCs. These included reducing double counting and promoting additionality, among other measures. Another trade group, the Integrity Council for the Voluntary Carbon Market, published 10 broad principles in July 2023 that are similar to the CFTC proposed guidance and IOSCO report.

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The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), developed by the United Nations' International Civil Aviation Organization, seeks to lower GHG emissions from international aviation, and CORSIA has published similar VCC principles. Participation in CORSIA is voluntary through 2026, after which it is slated to become mandatory for members, and the U.S. aviation industry agreed to participate. It is unclear whether the CORSIA market for carbon credits will more closely resemble the VCM or a compliance market, once participation becomes mandatory in 2026. After 2026, mandatory CORSIA participation could further impact demand for VCCs. The CFTC proposed guidance regarding the underlying quality and integrity of VCCs appears to broadly align with CORSIA principles.

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Background on Carbon Markets

A carbon market generally refers to an economic framework that supports the buying and selling of environmental commodities that signify greenhouse gas (GHG) emission reductions or sequestration.¹ Governments and private entities typically create carbon markets to support climate change mitigation objectives. These objectives often include the reduction, avoidance, or sequestration of GHG emissions, such as carbon dioxide (CO₂), methane, and nitrous oxide. Carbon markets can include both carbon-based GHG emissions, such as CO₂ and methane, and noncarbon-based emissions, such as nitrous oxide or certain fluorinated gases. Carbon markets can also support other objectives, such as conservation of forests or soils or biodiversity.

A carbon market can take several different forms depending on its specific structure and context. For example, a carbon market may support a compliance regime, such as a GHG cap-and-trade program, or voluntary activities (discussed below).

The operations of a carbon market may involve a number of entities. Some key terms include the following:

- **Carbon credits or carbon offsets** represent a measurable reduction, avoidance, or sequestration of GHG emissions.² Carbon credits have monetary value and may be tradeable in both compliance and voluntary carbon markets. As such projects can involve different GHGs, they are typically quantified in terms of metric tons of CO₂-equivalent (MTCO₂e).³
- **Compliance carbon markets** involve a regulatory authority that requires GHG emission reductions from particular emission sources—for example, a GHG emission cap-and-trade system, which caps GHG emissions for covered entities while providing flexibility in how these entities comply. In a cap-and-trade program, an emissions cap is partitioned into emission allowances (or permits). Typically, an emission allowance represents the authority to emit one MTCO₂e—the same measure used for carbon credits.
- **Voluntary carbon markets** involve voluntary buying and selling of carbon credits outside of a regulatory framework. Multiple voluntary carbon markets exist in the United States and in other countries. Carbon credit transactions can occur directly between participants and buyers, or they can be mediated by other parties or programs.

¹ GHGs in the atmosphere trap radiant energy, warming the earth's surface and oceans. The primary GHGs emitted by humans include carbon dioxide (CO₂), methane, nitrous oxide, sulfur hexafluoride, chlorofluorocarbons, hydrofluorocarbons, and perfluorocarbons. CO₂ emissions account for 80% of total GHG emissions in the United States. See U.S. Environmental Protection Agency (EPA), *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022*, February 2024, <https://www.epa.gov/ghgemissions/draft-inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022>.

² The terms *carbon credit* and *carbon offset* are generally interchangeable. This report generally uses the term carbon credit, because this is the term used in the CFTC's proposed guidance.

³ CO₂ equivalents are used because GHGs vary by global warming potential (GWP). GWP is an index developed by the Intergovernmental Panel on Climate Change (IPCC) that allows comparisons of the heat-trapping ability of different gases over a period of time, typically 100 years. Consistent with international GHG reporting requirements, the Environmental Protection Agency's (EPA) most recent GHG inventory (with data from 2022) uses the GWP values presented in the IPCC's 2013 Fifth Assessment Report. For example, based on these GWP values, a ton of methane is 28 times more potent than a ton of CO₂ when averaged over a 100-year time frame. See EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022*, Draft, March 2024, <https://www.epa.gov/ghgemissions/draft-inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022>.

- **Carbon registries** track the ownership of carbon credit projects and issue credits for emission reductions or removal. Carbon registries may establish general rules and requirements for certifying projects, accredit third-party verifiers of carbon credit projects, and develop and approve specific carbon credit project protocols.
- **Carbon credit protocols** are specific to individual project types (e.g., afforestation or soil conservation) and they standardize the measuring, reporting, and verification (MRV) requirements for generating carbon credits.
- **Third-party verifiers** confirm that participants correctly implement carbon credit protocols.

Carbon Credits

A carbon credit is a measurable reduction, avoidance, or sequestration of GHG emissions used to compensate for emissions elsewhere. Carbon credit projects can involve a range of activities, from land-based projects to energy deployment. For example, forest landowners can generate credits through afforestation (i.e., establishing tree cover on previously unforested lands) and reforestation projects (i.e., restoring tree cover to previously forested land), among others. Examples of other carbon credit projects may include support for renewable energy, destruction of ozone depleting substances, or reduction of methane emissions in coal mines.

Carbon credits are key instruments in both compliance and voluntary carbon markets. Many compliance market frameworks, such as cap-and-trade programs, allow covered entities to use a limited number of carbon offsets to help achieve compliance. In voluntary markets, companies and other entities may purchase unlimited credits to pursue voluntary GHG emissions reduction goals.

Carbon credits obtained in both compliance and voluntary markets can serve as the underlying assets for derivatives contracts, such as futures, options, and swaps.⁴ The Commodity Exchange Act (CEA) gives the Commodity Futures Trading Commission (CFTC) broad regulatory authority over derivatives trading platforms, such as designated contract markets (DCMs) – more commonly known as futures exchanges.⁵ The CFTC also has authority to enforce prohibitions of fraud and manipulation in commodity spot markets, though not to otherwise broadly regulate commodity spot markets.⁶

Compliance Markets

Compliance carbon markets typically require GHG emission reductions.⁷ An example is a GHG emission cap-and-trade system, which caps GHG emissions for covered entities (e.g., fossil-fueled power plants or industrial facilities) while providing flexibility—such as on-site reduction or emissions allowance trading—when complying with the emissions cap. Several compliance

⁴ See, e.g., International Swaps and Derivatives Association, *Role of Derivatives in Carbon Markets*, 2021, <https://www.isda.org/a/soigE/Role-of-Derivatives-in-Carbon-Markets.pdf>.

⁵ 7 U.S.C. § 7.

⁶ *Id.* § 9(1); 17 C.F.R. § 180.1 (2024). The CFTC Glossary defines a spot market as a market of immediate delivery of and payment for a commodity or product. See <https://www.cftc.gov/LearnAndProtect/AdvisoriesAndArticles/CFTCGlossary/index.htm#S>.

⁷ Compliance carbon markets may also be described as regulatory or mandatory carbon markets.

markets are in the United States,⁸ including California’s cap-and-trade program and the Regional Greenhouse Gas Initiative (RGGI) that operates in a number of states.⁹

In a cap-and-trade program, an emissions cap is partitioned into emission allowances (or permits). Typically, an *emission allowance* represents the authority to emit one MTCO₂e—the same measure used for carbon credits. At the end of each established compliance period (typically a calendar year or multiple years), covered entities submit emission allowances to an implementing agency to cover the number of tons of GHGs emitted during the period. Generally, if an entity did not provide enough allowances to cover its emissions, it would be subject to penalties.¹⁰ Depending on the program design, an entity may acquire sufficient allowances by buying them from the implementing agency, from another covered entity that may have excess, or in a commodities market.

Under an emissions cap, covered entities generally have a financial incentive to reduce emissions as much as possible. A cap-and-trade system creates a new commodities market, allowing entities to buy and sell emission allowances. This is why cap-and-trade is often called a “market-based mechanism.”

If allowed as a compliance option, carbon credits may provide additional emission reduction or sequestration opportunities beyond those available at covered entities. Instead of making direct, onsite reductions—such as installing new equipment or improving operational efficiency—covered entities could purchase carbon credits from non-covered sources, such as agriculture and forestry operations. Generally, the carbon credits would present a lower-cost alternative to onsite emission reductions.

The ability to generate and sell such credits could provide a financial incentive for non-covered sources to reduce, avoid, or sequester emissions. Non-covered sources in compliance frameworks often include agricultural operations and forestry activities. Sequestration from land use activities, particularly in the forestry sector, offers the potential for further reductions in net GHG emissions.

Voluntary Carbon Markets

In the United States and around the world, a number of organizations (e.g., private companies), and individuals are voluntarily purchasing carbon credits in voluntary carbon markets (VCMs). The motivating factors for these purchases may vary. For example, some businesses and individuals may value their contribution to mitigating climate change or be seeking to enhance their public image by claiming, for example, that all or part of their GHG-emitting activities (e.g.,

⁸ In addition, the European Union has had a cap-and-trade system in place for almost 20 years. For more information, see CRS Report R47167, *Border Carbon Adjustments: Background and Developments in the European Union*, by Jonathan L. Ramseur, Brandon J. Murrill, and Christopher A. Casey.

⁹ For more information on California’s cap-and-trade program, see California Air Resources Board (CARB), “FAQ Cap-and-Trade Program,” <https://ww2.arb.ca.gov/resources/documents/faq-cap-and-trade-program>. The Regional Greenhouse Gas Initiative (RGGI) lists participating states as Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. See RGGI, “Elements of RGGI,” <https://www.rggi.org/program-overview-and-design/elements>. Pennsylvania’s state regulators are not currently enforcing RGGI participation because of a court injunction. More information on Pennsylvania’s RGGI participation is available at <https://www.dep.pa.gov/Business/Air/BAQ/Pages/RGGI-Allowance-Information.aspx>. For more background information on RGGI, see CRS Report R41836, *The Regional Greenhouse Gas Initiative: Background, Impacts, and Selected Issues*, by Jonathan L. Ramseur.

¹⁰ For additional details, see CRS Report R45625, *Attaching a Price to Greenhouse Gas Emissions with a Carbon Tax or Emissions Fee: Considerations and Potential Impacts*, by Jonathan L. Ramseur and Jane A. Leggett.

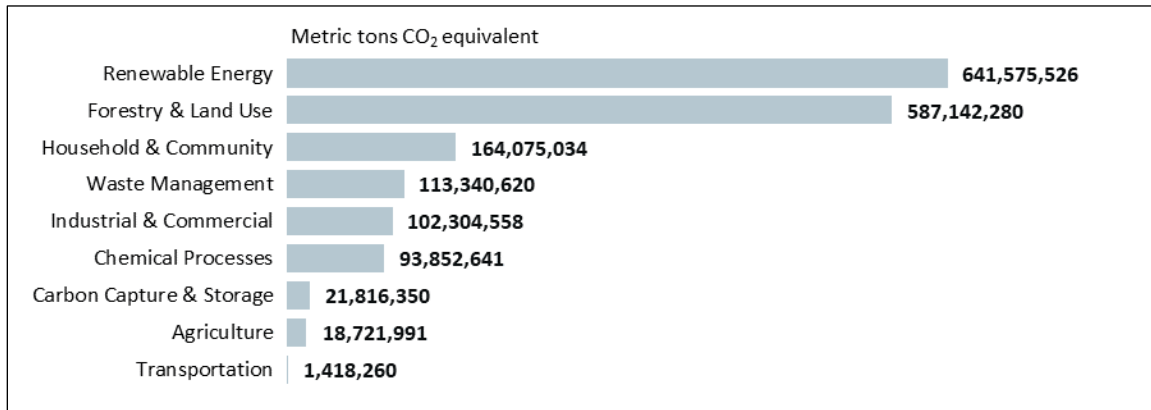
travel or specific events) are “carbon neutral.” Others may see experience in a carbon market as an advantage in any potential future compliance market.

A range of different entities buy and sell carbon offsets in VCMs. The credibility of GHG reduction claims associated with these offsets may vary, as the voluntary markets do not have a recognized central authority or universally accepted standards or guidelines for generating credits. Some sellers offer offsets that comply with relatively rigorous, independently verified standards. Other sellers offer offsets that meet the seller’s self-established guidelines.

Figure 1 provides a breakdown by type of activity for global carbon credits that were issued between 2004 and 2023 from four major voluntary offset project registries: American Carbon Registry, Climate Action Reserve, Gold Standard, and Verra. The figure indicates that credits derived from renewable energy and forestry and land use projects have accounted for over 70% of the total carbon credits.

Figure 1. Global Voluntary Carbon Credits Issued by Type of Activity

Based on Data from 2004 to 2023

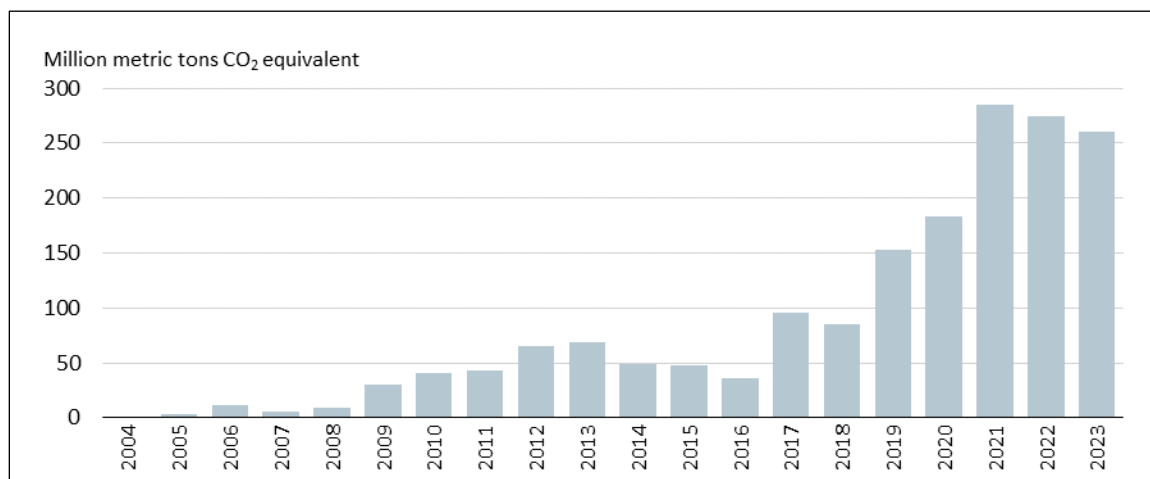


Source: Prepared by CRS; data from Barbara K. Haya et al., Voluntary Registry Offsets Database v10, Berkeley Carbon Trading Project, University of California, Berkeley, December 2023, <https://gspp.berkeley.edu/research-and-impact/centers/cepp/projects/berkeley-carbon-trading-project/offsets-database>.

Notes: The carbon credits in this figure include projects from American Carbon Registry, Climate Action Reserve, Gold Standard, and Verra. According to background information from the Berkeley Carbon Trading Project database, these four registries “generate almost all of the world’s voluntary market offsets.”

The number of credits issued in VCMs has generally increased over the last two decades, although year-to-year growth has been uneven. **Figure 2** illustrates the number of voluntary credits issued from the four voluntary registries (listed above) between 2004 and 2023. As **Figure 2** indicates, the number of issued credits increased from 49 million MTCO₂e in 2014 to 260 million MTCO₂e in 2023.

Figure 2. Voluntary Carbon Credits Issued by Year
2004-2023



Source: Prepared by CRS; data from Barbara K. Haya et al., Voluntary Registry Offsets Database v10, Berkeley Carbon Trading Project, University of California, Berkeley, December 2023, <https://gspp.berkeley.edu/research-and-impact/centers/cepp/projects/berkeley-carbon-trading-project/offsets-database>.

Notes: The carbon credits in this figure include projects from American Carbon Registry, Climate Action Reserve, Gold Standard, and Verra. According to background information from the Berkeley Carbon Trading Project database, these four registries “generate almost all of the world’s voluntary market offsets.” Carbon credits in the figure include renewable energy; forestry and land use; waste management; household and community projects; industrial and commercial projects; chemical processes; carbon capture and storage; agriculture; and transportation.

Carbon Credit Concerns

A primary concern with carbon credits, particularly in voluntary markets, is their quality and credibility. The availability of credits that do not reduce GHG concentrations in the atmosphere could undermine climate change policy goals. Problems with quality and credibility can raise questions about the effectiveness of both compliance and voluntary markets.

In recent months, some commenters have observed increased skepticism toward the VCM from some investors and the media.¹¹ The International Organization of Securities Commissions (IOSCO)¹² has noted that “the projects underlying carbon credits appear to exhibit a wide variance in quality related to whether the project has actually avoided or removed the GHG emissions as claimed.”¹³ IOSCO has also observed significant differences in quantifying the emissions that a given project has reduced or avoided.¹⁴ Though many of these methodologies are publicly available, non-experts often have difficulty understanding them.¹⁵

¹¹ “Long-Term Carbon Offsets Outlook 2023,” *Bloomberg*, July 18, 2023, at <https://www.bloomberg.com/professional/blog/long-term-carbon-offsets-outlook-2023/>.

¹² IOSCO is an international body of securities regulators from most of the world’s countries and a global standard setter for the securities sector. The chairs of the U.S. Securities and Exchange Commission and CFTC are on IOSCO’s Board. See IOSCO, “Ordinary Members of IOSCO,” at <https://www.iosco.org/about/?subsection=membership&memid=1>.

¹³ The Board of The International Organization of Securities Commissions (IOSCO), *Voluntary Carbon Markets Consultation Report* (Dec. 2023), p. 33, at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD749.pdf>.

¹⁴ *Id.*

¹⁵ *Id.*

IOSCO also flagged concerns in secondary markets for trading carbon credits, including conflicts of interest when traders have a proprietary interest in carbon credits or generate carbon credits by sponsoring carbon-offset projects. IOSCO cautioned that such conflicts of interest “could incentivize traders to manipulate carbon credits prices by, for example, issuing buy/sell recommendations to their customers, while doing the opposite with their own carbon credits.”¹⁶

In addition, the use of carbon credits may raise concerns at facilities, such as fossil-fuel-fired electric power plants or petroleum refineries, that produce both GHG emissions and traditional air pollutants. The more traditional air pollutants (e.g., lead, particulate matter, and sulfur dioxide) may present risks to human health on a local or regional scale, while GHG emissions present risks on a global scale. The ability of industrial facilities to use carbon credits in lieu of directly reducing their onsite GHG emissions has sometimes raised concerns¹⁷ that some stakeholders categorize as an “environmental justice” issue.¹⁸ This issue is beyond the scope of this report.

CFTC and Federal Actions on VCMs

As noted above, the CEA gives the CFTC broad regulatory authority over derivatives trading platforms, such as DCMs.¹⁹ The CFTC also has authority to enforce prohibitions of fraud and manipulation in commodity spot markets.²⁰ Spot markets refer to outright exchanges of a commodity for payment, by contrast to a derivative trade, such as a future, option or swap, related to the underlying commodity price.²¹ However, the CFTC lacks authority under the CEA to more generally govern or regulate spot commodity markets, as opposed to derivatives markets.

CFTC Guidance and Biden Administration VCM Principles

In December 2023, the CFTC issued its proposed guidance, “Commission Guidance Regarding the Listing of Voluntary Carbon Credit Derivative Contracts” (hereafter, “CFTC proposed guidance”). The CFTC proposed guidance would put certain requirements on CFTC-regulated derivatives exchanges that list such VCM derivatives, requiring these exchanges to conduct certain due diligence aimed at ensuring the underlying quality of the voluntary carbon credits upon which the derivatives are based. The CFTC proposed guidance represents the most

¹⁶ *Id.* at 38.

¹⁷ For example, environmental justice concerns regarding offsets have generated considerable interest in the context of California’s cap-and-trade program, which allows offsets as a compliance alternative. For more information, see CARB, “Cap-and-Trade FAQ,” <https://ww2.arb.ca.gov/resources/documents/faq-cap-and-trade-program>. See, for example, Danae Hernandez-Cortes and Kyle C. Meng, *Do Environmental Markets Cause Environmental Injustice? Evidence from California’s Carbon Market*, National Bureau of Economic Research, 2020; and Lara J. Cushing et al., *A Preliminary Environmental Equity Assessment of California’s Cap-and-Trade Program*, University of Southern California Dornsife Equity Research Institute, 2016.

¹⁸ There is no definition of *environmental justice* in federal law. Some have interpreted the terms “environmental justice (or injustice)” and “environmental equity (or inequity)” broadly to describe the perceived disproportionate impacts of pollution across populations that possess different demographic characteristics (e.g., age, gender, race, national origin, occupation, income, or language). See CRS Report R47920, *U.S. Environmental Protection Agency (EPA) Environmental Justice Activities and Programs*, by Angela C. Jones.

¹⁹ 7 U.S.C. § 7. Designated contract markets are more colloquially known as futures exchanges.

²⁰ *Id.* § 9(1); 17 C.F.R. § 180.1 (2024). The CFTC Glossary defines a spot market as a market of immediate delivery of and payment for a commodity or product. See <https://www.cftc.gov/LearnAndProtect/AdvisoriesAndArticles/CFTCGlossary/index.htm#S>.

²¹ For further background on derivatives, see CRS In Focus IF10117, *Introduction to Financial Services: Derivatives*, by Rena S. Miller.

comprehensive attempt to date at a federal regulatory framework for the VCM's, even though it most directly addresses the market for derivatives related to VCMs.

Other federal initiatives could also directly affect the underlying VCM market. On May 28, 2024, the Biden Administration released a set of voluntary principles for the VCMs.²² These seven broad principles are in line with those set out in the CFTC proposed guidance. They include the following:

- Carbon credits should be unique and additional, and represent real, quantifiable decarbonization that would not otherwise have occurred;
- Activities that generate carbon credits should avoid inadvertent negative impacts on local communities or the environment;
- Corporate buyers of carbon credits should first prioritize reducing emissions within their own corporate supply chains;
- Detailed public disclosure by credit users of the nature of purchased and retired credits should be made at least annually;
- Public claims by credit users should accurately reflect the climate impact of retired credits and only rely on credits meeting high integrity standards; and
- Market participants should use their best efforts to improve market integrity and market participation, and to lower transaction costs.²³

Media reports in April 2024 had anticipated that the release of these Biden Administration voluntary best practices would be aimed at bolstering confidence in that system.²⁴ Indeed, the White House VCM joint policy statement asserted that VCMs “can and should play a meaningful role in facilitating global greenhouse gas emissions reductions and removals.”²⁵ But it also noted that concerns had been raised about the genuineness of decarbonization claims, and that, “Put simply, stakeholders must be certain that one credit truly represents one tonne of carbon dioxide (or its equivalent) reduced or removed from the atmosphere, beyond what would have otherwise occurred.”²⁶ Promulgation of the principles for VCM best practices was intended to foster market integrity and confidence in these carbon credits, the White House noted.²⁷ Critics cited by the press, however, observed that the principles were broad and voluntary, still leaving lower-quality credits available in the market for purchase, possibly cheaper, which could limit the effectiveness of the principles.²⁸

In terms of other federal actions impacting VCMs, observers noted that the Securities and Exchange Commission's (SEC's) final rule on climate disclosures, which would require publicly listed companies to report carbon emissions deemed material to investors, and any significant use

²² White House, Department of the Treasury, Department of Energy, and Department of Agriculture, *Voluntary Carbon Markets Joint Statement and Principles*, May 2024, at <https://www.whitehouse.gov/wp-content/uploads/2024/05/VCM-Joint-Policy-Statement-and-Principles.pdf>.

²³ White House et al, *Voluntary Carbon Markets Joint Statement and Principles*, May 2024, at pp. 6-11.

²⁴ Zack Coleman, “Biden Administration to Issue Carbon Market ‘Guardrails,’” *POLITICOPRO*, April 19, 2024.

²⁵ White House et al, *Voluntary Carbon Markets Joint Statement and Principles*, May 2024, p. 1.

²⁶ White House et al, *Voluntary Carbon Markets Joint Statement and Principles*, May 2024, p. 2.

²⁷ White House et al, *Voluntary Carbon Markets Joint Statement and Principles*, May 2024, p. 4.

²⁸ See, e.g., Brad Plumer, “Carbon Offsets, a Much-Criticized Climate Tool, Get Federal Guidelines,” *New York Times*, May 28, 2024 at <https://www.nytimes.com/2024/05/28/climate/yellen-carbon-offset-market.html>.

of carbon offsets to attain pledged climate goals, could, once implemented, create further standardization and enhance regulatory requirements.²⁹

Prior CFTC Actions

Prior to issuing its December 2023 proposed guidance on voluntary carbon credit (VCC) derivative contracts, the CFTC had taken several actions, discussed below, related to VCMs.

In June 2022, the CFTC held “the first-ever Voluntary Carbon Markets Convening.”³⁰ At this meeting, participants discussed issues related to the supply and demand for high-quality carbon offsets, including product standardization and the integrity of emissions avoidance and reduction claims.³¹ Panelists also addressed the market structure for trading carbon offsets and related derivatives.³²

In June 2023, the CFTC’s Whistleblower Office issued an alert with information about how to identify and report possible violations of the CEA involving fraud or manipulation in carbon markets.³³ The alert indicated that the public should be “on the lookout for” manipulative trading and “wash” trading in carbon-market futures contracts;³⁴ fraud in underlying spot markets, including illusory “ghost” credits listed on carbon market registries; double counting or other fraud related to carbon credits; and fraudulent statements related to the material terms of carbon credits.³⁵

Also in June 2023, the CFTC’s Division of Enforcement unveiled an Environmental Fraud Task Force to address fraud and other misconduct in derivatives and spot markets related to “purported efforts to address climate change and other environmental risks.”³⁶ Among other things, the task force is to examine fraud involving “the purported environmental benefits of purchased carbon credits.”³⁷

In July 2023, the CFTC held its second Voluntary Carbon Markets Convening.³⁸ Participants discussed recent private sector initiatives for high-quality carbon credits; trends and

²⁹ See, e.g., Luis Garcia, “Carbon Credits Draw Fresh Attention Under SEC’s New Climate Rules; Developers of Credit-Generating Projects Increasingly Attract Private-Equity Backers Who See Unmet Demand,” *WSJ Private Equity*, March 27, 2024. The SEC’s final rule, however, has been challenged in court; and uncertainties exist regarding its final outcome and scope.

³⁰ CFTC Announces Voluntary Carbon Markets Convening, *COMMODITY FUTURES TRADING COMM’N* (June 2, 2022), <https://www.cftc.gov/PressRoom/Events/opaeventcftccarbonmarketconvene060222>.

³¹ *Id.*

³² *Id.*

³³ CFTC Whistleblower Office Issues Alert Seeking Tips Relating to Carbon Markets Misconduct, *COMMODITY FUTURES TRADING COMM’N* (June 20, 2023), <https://www.cftc.gov/PressRoom/PressReleases/8723-23>.

³⁴ The term “wash trading” refers to entering into, or purporting to enter into, transactions to give the appearance that purchases and sales have been made, without incurring market risk or changing the trader’s market position. Wash trading is prohibited under the CEA. See CFTC Glossary, at <https://www.cftc.gov/LearnAndProtect/AdvisoriesAndArticles/CFTCGlossary/index.htm#W>.

³⁵ CFTC Whistleblower Alert: Blow the Whistle on Fraud or Market Manipulation in the Carbon Markets, *COMMODITY FUTURES TRADING COMM’N* (June 20, 2023).

³⁶ CFTC Division of Enforcement Creates Two New Task Forces, *COMMODITY FUTURES TRADING COMM’N* (June 20, 2023), <https://www.cftc.gov/PressRoom/PressReleases/8736-23>.

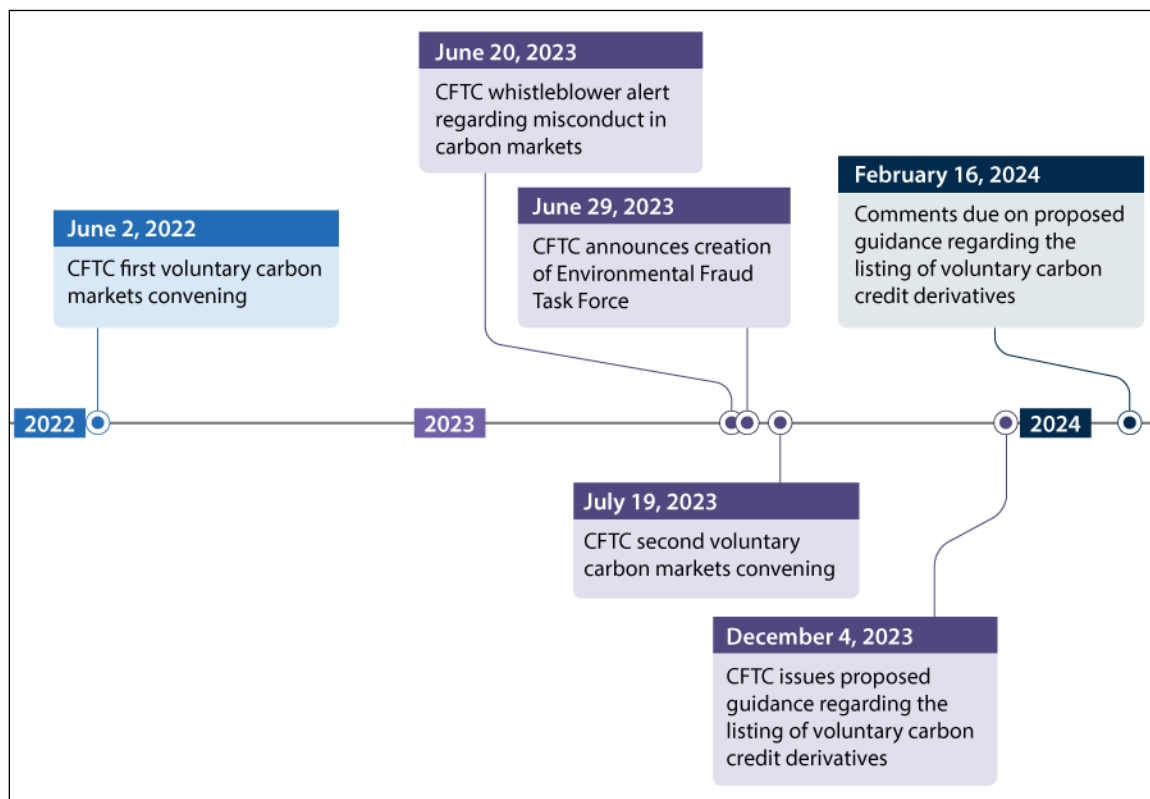
³⁷ *Id.*

³⁸ CFTC Announces Second Voluntary Carbon Markets Convening, *COMMODITY FUTURES TRADING COMM’N* (June 20, 2023).

developments in the cash and derivatives markets for carbon credits; and how the CFTC can promote integrity for high-quality carbon credit derivatives.³⁹

Figure 3 below provides a timeline of these actions.

Figure 3. History of Select CFTC Actions Regarding Voluntary Carbon Credits



Source: CRS based on CFTC data.

The CFTC’s December 2023 Proposed Guidance Regarding VCC Derivative Contracts

In December 2023, the CFTC issued proposed guidance outlining factors that DCMs should consider when addressing certain provisions of the CEA that are relevant to the listing and trading of VCC derivative contracts.⁴⁰ The proposed guidance focuses on two of the CEA’s “Core Principles” applicable to DCMs:

1. DCM Core Principle 3, which requires that contracts listed on DCMs not be readily susceptible to manipulation;⁴¹ and
2. DCM Core Principle 4, which requires DCMs to prevent manipulation, price distortion, and disruptions of the physical delivery or cash settlement process

³⁹ *Id.*

⁴⁰ Commission Guidance Regarding the Listing of Voluntary Carbon Credit Derivative Contracts, Request for Comment, 88 Fed. Reg. 89,410 (Dec. 27, 2023) [hereinafter “CFTC Proposed VCC Guidance”].

⁴¹ 7 U.S.C. § 7(d)(3).

through market surveillance, compliance, and enforcement practices and procedures.⁴²

The proposed guidance also discusses the product submission requirements under Part 40 of the CFTC's regulations⁴³ and Section 5c(c) of the CEA⁴⁴ and their application to new VCC derivative contracts.

The CFTC's proposed guidance is principally focused on DCMs, consistent with the agency's primary role as a derivatives regulator.⁴⁵ As discussed, however, the CFTC also has authority to enforce prohibitions of fraud and manipulation in commodity spot markets.⁴⁶ Because derivatives regulation can indirectly influence behavior in spot markets, the proposed guidance and any associated CFTC efforts to regulate VCC derivatives may affect spot VCC markets.⁴⁷

The subsections below review the three substantive sections of the proposed guidance.

A DCM Shall Only List Derivative Contracts That Are Not Readily Susceptible to Manipulation

Appendix C to Part 38 of the CFTC's regulations outlines certain considerations that are relevant to DCM Core Principle 3's requirement that listed contracts not be readily susceptible to manipulation.⁴⁸ Among other things, Appendix C provides that the terms and conditions of a physically settled derivative contract "should describe or define all of the economically significant characteristics or attributes of the commodity underlying the contract."⁴⁹

While the CFTC's December 2023 proposed guidance notes that standardization and accountability mechanisms for VCCs are "still developing," it identifies three characteristics that DCMs should address in the terms and conditions of a VCC derivative contract: (1) quality standards, (2) delivery points and facilities, and (3) inspection provisions.⁵⁰

Quality Standards

The CFTC's proposed guidance identifies four commodity characteristics that DCMs should consider in addressing quality standards regarding VCC derivatives:

⁴² *Id.* § 7(d)(4).

⁴³ 17 C.F.R. pt. 40.

⁴⁴ 7 U.S.C. § 7a-2(c).

⁴⁵ While the proposed guidance focuses on DCMs, it indicates that swap execution facilities seeking to permit trading in VCC swap contracts should also consider the guidance before approving such contracts. CFTC Proposed VCC Guidance, *supra* note 40, at 89,416.

⁴⁶ 7 U.S.C. § 9(1); 17 C.F.R. § 180.1.

⁴⁷ See *CFTC Issues Proposed Guidance Regarding the Listing of Voluntary Carbon Credit Derivative Contracts*, GIBSON, DUNN & CRUTCHER LLP (Dec. 21, 2023), <https://www.gibsondunn.com/cftc-issues-proposed-guidance-regarding-the-listing-of-voluntary-carbon-credit-derivative-contracts/>.

⁴⁸ 17 C.F.R. pt. 38 app. C.

⁴⁹ *Id.* pt. 38 app. C(b)(2)(i)(A). The CFTC's proposed guidance primarily addresses physically settled contracts because all of the VCC derivatives currently listed on DCMs are physically settled. CFTC Proposed VCC Guidance, *supra* note 40, at 89,415. The proposed guidance indicates, however, that cash-settled VCC derivatives should also include rules that fully describe the essential economic characteristics of the underlying commodity, consistent with the existing Appendix C guidance regarding cash-settled derivatives. *Id.* at 89,416.

⁵⁰ CFTC Proposed VCC Guidance, *supra* note 40, at 89,416.

1. **Transparency.** The proposed guidance explains that VCC derivative contracts should include information that “readily specifies” the crediting program(s) and types of projects or activities from which eligible VCCs may be issued.⁵¹
2. **Additionality.** The proposed guidance indicates that DCMs should consider whether the VCCs underlying a derivative contract represent GHG emission reductions or removals that are “additional,” meaning the VCCs are credited only for projects that result in emission reductions or removals that would not have occurred in the absence of the monetary incentive created by the sale of the VCC.⁵² Because additionality is considered a key element of high-quality VCCs, information regarding a crediting program’s procedures for assessing additionality may constitute an “economically significant attribute” of a VCC that should be described in its derivative contract.⁵³
3. **Permanence and Risk of Reversal.** The proposed guidance explains that DCMs should consider whether the crediting program for VCCs underlying a derivative contract has measures to address the risk of reversal—that is, the risk that VCCs may have to be recalled or cancelled because the carbon removed by a project is released back into the atmosphere.⁵⁴ In evaluating the risk of reversal, DCMs should consider whether a crediting program has a “buffer” reserve of VCCs that can compensate for reversals.⁵⁵
4. **Robust Quantification.** The proposed guidance indicates that DCMs should consider the methodology used by a crediting program to calculate GHG emission reductions or removals.⁵⁶ In particular, DCMs should consider whether the relevant methodologies are robust, conservative, and transparent.⁵⁷ In the CFTC’s view, methodologies that satisfy these standards allow DCMs to more accurately assess the quantity of a VCC’s deliverable supplies.⁵⁸

Delivery Points and Facilities

Appendix C to Part 38 of the CFTC’s regulations indicates that the delivery procedures for physically settled derivatives should minimize or eliminate impediments to making or taking delivery of an underlying commodity, so as to ensure the convergence of cash and derivative prices at the expiration of a contract.⁵⁹ In addressing this issue, the CFTC’s proposed guidance identifies three matters that DCMs should consider in listing VCC derivative contracts:

1. **Governance.** The proposed guidance explains that DCMs should consider whether the crediting program for underlying VCCs has a governance framework that effectively supports the program’s independence, transparency, and accountability.⁶⁰ In particular, DCMs should assess a crediting program’s decision-

⁵¹ *Id.* at 89,417.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.* at 89,418.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ 17 C.F.R. pt. 38 app. C(b)(2)(i)(B).

⁶⁰ CFTC Proposed VCC Guidance, *supra* note 40, at 89,418.

making procedures; reporting and disclosure procedures; public and stakeholder engagement processes; and risk management policies, including financial reserves, cybersecurity policies, and anti-money laundering policies.⁶¹

2. **Tracking.** The proposed guidance indicates that DCMs should ensure that the crediting program for underlying VCCs has processes—such as the use of a registry—to clarify the issuance, transfer, and retirement of VCCs.⁶²
3. **No Double Counting.** The proposed guidance indicates that DCMs should consider effective measures to prevent the double counting of credited emission reductions or removals (i.e., to ensure that credited reductions and removals are issued to only one registry and cannot be used after retirement or cancellation).⁶³

Inspection Provisions

Appendix C to Part 38 of the CFTC’s regulations provides that any inspection or certification procedures for physically settled derivatives should be included in a contract’s terms and conditions.⁶⁴ The proposed guidance explains that such inspection or certification procedures should be consistent with the latest procedures in VCC markets.⁶⁵ DCMs should consider how the crediting program for underlying VCCs verifies that credited mitigation projects meet the program’s rules and standards.⁶⁶

A DCM Shall Monitor a Derivative Contract’s Terms and Conditions as They Relate to the Underlying Commodity Market

As discussed, DCM Core Principle 4 requires DCMs to prevent manipulation, price distortion, and disruptions of the physical delivery or cash settlement process through market surveillance, compliance, and enforcement practices and procedures.⁶⁷ The proposed guidance indicates that monitoring VCC derivative contracts includes ensuring that underlying VCCs reflect the latest applicable certification standards (e.g., by amending a contract’s terms to correspond to any updates to those standards).⁶⁸ The proposed guidance also notes that, under CFTC regulations implementing Core Principle 4, a DCM must require market participants to keep records of their trading in both derivatives and underlying commodities and make those records available to the DCM upon request.⁶⁹

A DCM Must Satisfy the Product Submission Requirements Under Part 40 of the CFTC’s Regulations and CEA Section 5c(c)

The proposed guidance highlights three requirements for VCC derivative contracts. First, a product submission must include an explanation and analysis of the derivative contract and its

⁶¹ *Id.* at 84,419.

⁶² *Id.*

⁶³ *Id.*

⁶⁴ 17 C.F.R. pt. 38 app. C(b)(2)(i)(G).

⁶⁵ CFTC Proposed VCC Guidance, *supra* note 40, at 89,419.

⁶⁶ *Id.*

⁶⁷ 7 U.S.C. § 7(d)(4).

⁶⁸ CFTC Proposed VCC Guidance, *supra* note 40, at 89,420.

⁶⁹ *Id.* (citing 17 C.F.R. § 38.254(a)).

compliance with the CEA and CFTC regulations.⁷⁰ Second, this explanation and analysis must be “accompanied by the documentation relied upon to establish the basis for compliance with applicable law, or incorporate information contained in such documentation, with appropriate citations to data sources.”⁷¹ Third, DCMs must demonstrate that a contract complies with CEA requirements, if CFTC staff request such materials.⁷²

Other Guidance Regarding VCCs and VCC Derivatives

Other groups have issued guidance to promote good governance in VCMs. The subsections below discuss several examples.

International Organization of Securities Commissions (IOSCO)

IOSCO is an international body of securities regulators from most of the world’s countries and a global standard setter for the securities sector.⁷³ In large part, IOSCO’s December 2023 Voluntary Carbon Markets Consultation Report closely tracks the CFTC’s December 2023 proposed guidance. For example, to address some of the concerns regarding quality standards, the IOSCO report recommends the following:

- VCC derivative contracts should detail how underlying carbon credits were certified.⁷⁴
- VCM participants, including exchanges, should have comprehensive governance frameworks with clear lines of accountability.⁷⁵
- Trading venues should consider appropriate ways to conduct market surveillance and trading to identify fraud, manipulation, price distortion, and other market disruptions.⁷⁶
- Carbon credit intermediaries and exchanges should have effective risk management frameworks to address operational or technological risks.⁷⁷
- Entities operating derivatives exchanges should provide pre- and post-trade disclosures similar to those in traditional financial markets.⁷⁸
- Trading venues and registries should provide public reports disclosing data on trading volume, bid-ask spreads, and delivery of carbon credits.⁷⁹

⁷⁰ *Id.* (citing 17 C.F.R. §§ 40.2(a)(3)(v), 40.3(a)(4)).

⁷¹ *Id.* (citing 17 C.F.R. §§ 40.2(a)(3)(v), 40.3(a)(4)).

⁷² *Id.* (citing 17 C.F.R. §§ 40.2(b), 40.3(a)(10)).

⁷³ The chairs of the U.S. Securities and Exchange Commission and CFTC are on IOSCO’s Board. See IOSCO, “Ordinary Members of IOSCO,” at <https://www.iosco.org/about/?subsection=membership&memid=1>.

⁷⁴ The Board of The International Organization of Securities Commissions (IOSCO), *Voluntary Carbon Markets Consultation Report* (Dec. 2023), p. 66.

⁷⁵ *Id.* at 67.

⁷⁶ *Id.* at 45.

⁷⁷ *Id.* at 68.

⁷⁸ *Id.* at 66.

⁷⁹ *Id.* at 65.

- Regulators should attempt to standardize a taxonomy of carbon credit attributes and strengthen verification processes to promote standardization.⁸⁰
- Regulators should ensure conflict-of-interest rules to address any conflicts raised by the issuance, verification, certification, transfer, and retirement of carbon credits.⁸¹

The IOSCO paper also highlighted the need to reduce double counting and promote additionality as additional concerns.⁸²

The Integrity Council for the Voluntary Carbon Market

The Integrity Council for the Voluntary Carbon Market (ICVCM) refers to itself as an independent governance body for the voluntary carbon market.⁸³ In July 2023, it published 10 broad principles, with more detailed proposed requirements related to each one.⁸⁴ The ICVCM principles are broadly similar to the proposed CFTC guidance:

1. **Effective governance:** The carbon-crediting program shall ensure transparency, accountability, continuous improvement, and the overall quality of carbon credits.⁸⁵
2. **Tracking:** The carbon-crediting program shall operate a registry to uniquely identify, record, and track mitigation activities and carbon credits issued, to ensure credits can be identified securely and unambiguously.⁸⁶
3. **Transparency:** The carbon-crediting program shall provide comprehensive and transparent information on all credited mitigation activities. The information shall be publicly available in electronic format and shall be accessible to non-specialized audiences, to enable scrutiny of mitigation activities.⁸⁷
4. **Robust independent third-party validation and verification:** The carbon-crediting program shall have program-level requirements for robust independent third-party validation and verification of mitigation activities.⁸⁸
5. **Additionality:** The GHG emission reductions or removals shall be additional (i.e., they would not have occurred in the absence of the incentive created by carbon credit revenues).⁸⁹

⁸⁰ *Id.* at 62.

⁸¹ *Id.* at 68.

⁸² *Id.* at 32.

⁸³ The Integrity Council for the Voluntary Carbon Market, “About Us,” at <https://icvcm.org/about-the-integrity-council/>. The ICVCM’s 22-member Board includes industry participants as well as others. See ICVM, “Our Governing Board,” at <https://icvcm.org/who-we-are-all/>.

⁸⁴ The Integrity Council for the Voluntary Carbon Market, *Core Carbon Principles, Assessment Framework and Assessment Procedure*, July 2023, at <https://icvcm.org/wp-content/uploads/2023/07/CCP-Book-R2-FINAL-26Jul23.pdf>.

⁸⁵ *Id.* at 17.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.* at 18.

6. **Permanence:** The GHG emission reductions or removals should be permanent or, where there is a risk of reversal, there shall be measures to compensate for reversals.⁹⁰
7. **Robust quantification of emission reductions and removals:** The GHG emission reductions or removals shall be robustly quantified, based on conservative approaches, completeness, and scientific methods.⁹¹
8. **No double counting:** The GHG emission reductions or removals from the mitigation activity shall not be double counted (i.e., they shall be counted only once towards achieving mitigation targets or goals. Double counting covers double issuance, double claiming, and double use).⁹²
9. **Sustainable development benefits and safeguards:** The carbon-crediting program shall have clear guidance, tools, and compliance procedures to ensure mitigation activities conform with or go beyond industry best practices on social and environmental safeguards while delivering positive sustainable development impacts.⁹³
10. **Contribution toward net zero transition:** The mitigation activity shall avoid locking-in levels of GHG emissions, technologies, or carbon-intensive practices that are incompatible with achieving net zero GHG emissions by mid-century.⁹⁴

One CFTC commissioner noted the similarities between the CFTC’s proposed guidance and these ICVCM principles and assessment framework.⁹⁵ She added that the proposed guidance adapts terminology, concepts, and standards from the ICVCM’s core principles and assessment framework.⁹⁶ One issue she raised was whether exchanges can realistically improve VCCs’ market integrity by relying on the carbon crediting programs’ own processes and diligence—as assumed in the proposed CFTC guidance—or whether exchanges should conduct additional due diligence themselves into specific protocols or projects.⁹⁷

Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

CORSIA is a carbon reduction program that seeks to lower GHG emissions from international aviation. The International Civil Aviation Organization (ICAO)—a United Nations agency that serves as a global forum of countries for international civil aviation—developed and adopted CORSIA in October 2016.⁹⁸ ICAO member states agreed to implement CORSIA to address any annual increase in total CO₂ emissions from international civil aviation (i.e., civil aviation flights

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.* at 19.

⁹⁴ *Id.*

⁹⁵ Commissioner Christy Goldsmith Romero, *Statement of Commissioner Christy Goldsmith Romero on Exchange Listing Standards for Voluntary Carbon Credit Derivative Contracts*, December 4, 2023, at <https://www.cftc.gov/PressRoom/SpeechesTestimony/romerostatement120423>.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ The United States is one of the 193 member states that are on the ICAO’s Governing Council. See ICAO Council States 2022-2025, at <https://www.icao.int/about-icao/Council/CouncilStates/Pages/default.aspx>.

that depart in one country and arrive in a different country) above the 2020 levels, taking into account special circumstances and respective capabilities.⁹⁹

CORSIA relies on the use of carbon credits to offset the amount of CO₂ emissions that cannot be reduced through the use of sustainable aviation fuels or technological and operational improvements.¹⁰⁰ CORSIA began voluntary implementation in 2021. Compliance was to be measured against the average from all international civil aviation in 2019 and 2020.¹⁰¹ Participation in CORSIA is voluntary through 2026, after which it is slated to become mandatory for members, and the U.S. aviation industry agreed to participate. To fulfill U.S. commitments, the Federal Aviation Administration implemented the CORSIA Monitoring, Reporting, and Verification Program in 2019.¹⁰²

It is unclear whether the CORSIA market for carbon credits will more closely resemble the VCM or a compliance market, once participation in CORSIA becomes mandatory in 2026. In the interim, CORSIA has published a list of carbon credits it deems eligible for the CORSIA program (referred to as “Eligible Emissions Units”).¹⁰³ For the 2024-2026 phase-in period, only two VCC programs are listed in the document, updated in November 2023: the American Carbon Registry and Architecture for REDD+ Transactions.¹⁰⁴ By contrast, for the 2021-2023 period, a total of 10 VCC programs were listed as eligible for CORSIA.¹⁰⁵

In 2019, CORSIA published the required characteristics for the VCCs it deems eligible.¹⁰⁶ Many of these characteristics mirror those in the CFTC 2023 proposed guidance. For instance, the ICAO sets out eight eligibility criteria needed for VCCs to be eligible for CORSIA:

1. Carbon offset programs must represent emissions reductions, avoidance, or removals that are additional.¹⁰⁷
2. Carbon offset credits must be based on realistic and credible baselines. Baselines and underlying assumptions must be publicly disclosed.¹⁰⁸
3. Carbon offset credits must be quantified, monitored, reported, and verified.¹⁰⁹
4. Carbon offset credits must have a clear and transparent chain of custody within the offset program. Offset credits should be assigned an identification number

⁹⁹ For background on CORSIA and emissions, please see CRS In Focus IF11696, *Aviation, Air Pollution, and Climate Change*, by Richard K. Lattanzio.

¹⁰⁰ *Id.*

¹⁰¹ However, due to the effects of the Coronavirus Disease 2019 (COVID-19) pandemic on international air travel in 2020, ICAO adopted a baseline based solely on 2019 emissions for a three-year pilot phase, and a baseline of 85% of 2019 emissions for the period 2024-2035. *See id.*

¹⁰² *See* 84 Fed. Reg. 9412 (March 14, 2019).

¹⁰³ International Civil Aviation Organization, *CORSIA Eligible Emissions Units*, ICAO Document, November 2023, https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/CORSIA%20Eligible%20Emissions%20Units_Nov2023.pdf.

¹⁰⁴ *Id.* at 11. The ACR and ART are crediting programs for VCCs.

¹⁰⁵ *Id.* at 3-10.

¹⁰⁶ International Civil Aviation Organization, *CORSIA Emissions Unit Eligibility Criteria*, ICAO Document, March 2019, https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO_Document_09.pdf.

¹⁰⁷ *Id.* at 2.

¹⁰⁸ *Id.* at 3.

¹⁰⁹ *Id.*

- that can be tracked from when the unit is issued through to its transfer or use (cancellation or retirement) via a registry system.¹¹⁰
5. Carbon offset credits must represent emissions reductions, avoidance, or carbon sequestration that are permanent. If there is risk of reductions or removals being reversed, then either (a) such credits are not eligible, or (b) mitigation measures must be in place to monitor, mitigate, and compensate any material incidence of non-permanence.¹¹¹
 6. A system must have measures in place to assess and mitigate incidences of material leakage. Offset credits should be generated from projects that do not cause emissions to materially increase elsewhere (the concept known as leakage).¹¹²
 7. Offset credits are counted only once towards a mitigation obligation. Measures must be in place to avoid:
 - a. Double issuance (i.e., more than one unit is issued for the same emissions or emissions reduction).
 - b. Double use (for example, if a unit is duplicated in registries).
 - c. Double claiming (for example, both an airline and the host country of the emissions reduction activity claim the same credit).¹¹³
 8. Carbon offset credits must represent emissions reductions, avoidance, or carbon sequestration from projects that do no net harm.¹¹⁴

CORSIA most closely aligns with the portion of the CFTC proposed guidance that addresses the integrity and quality of the VCCs underlying any derivatives trading. Specifically, CORSIA's eligibility principles seem to broadly align with the three characteristics identified by the CFTC that DCMs should address in VCC derivative contracts: (1) quality standards, (2) delivery points and facilities, and (3) inspection provisions.¹¹⁵

CORSIA does not set out guidance on a secondary market trading regime, as CORSIA does not aim to create a market trading system. Instead, it seems to track the CFTC proposed guidance regarding the underlying quality and integrity of the VCCs upon which derivatives may be traded. Other CORSIA publications focus on measuring emissions for participating airlines, and on calculating net emissions after offsets, rather than on principles for designing a market for carbon credits, or for verifying carbon credit eligibility.¹¹⁶

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.* at 4.

¹¹⁵ CFTC Proposed VCC Guidance, *supra* note 40, at 89,416.

¹¹⁶ International Civil Aviation Organization, *Training Material on Model Regulations to Assist States in the Implementation of CORSIA*, ICAO Document, July 2023, at: https://www.icao.int/environmental-protection/CORSIA/Documents/Training%20material%20on%20model%20regulations%20to%20assist%20States%20in%20the%20implementation%20of%20CORSIA_v2_2023_forweb.pdf.

California Voluntary Carbon Market Disclosures

In October 2023, California adopted AB 1305, Voluntary Carbon Market Disclosures.¹¹⁷ The statute includes detailed disclosure requirements for entities that participate in carbon markets in California. Specifically, AB 1305 applies to firms that market or sell carbon offsets, purchase or use carbon offsets, or make various claims regarding progress toward carbon reduction goals. The statute requires such entities to disclose how carbon-reduction claims were determined to be accurate or accomplished. Violations of the disclosure requirements are subject to a civil penalty of up to \$2,500 per day for each day that the required information is unavailable or is inaccurate.¹¹⁸

Under the new law, an entity that sells or markets voluntary carbon offsets (VCOs) must disclose, among other things, details of the project; the protocol used to estimate emissions, location, duration and dates of the project and its associated emissions reductions; the project type; whether the project meets third-party standards or independent certification; and the quantity of emissions removed annually. The entity selling VCOs must further specify what accountability measures there will be if the offset project is not completed or does not provide the anticipated emissions benefits. The seller must also disclose any data and calculation methods needed to reproduce and verify the emissions reductions claimed to be associated with the VCO.

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¹¹⁷ Assembly Bill 1305 at Bill Text - AB-1305 Voluntary Carbon Market Disclosures, at <https://legiscan.com/CA/text/AB1305/id/2841701>.

¹¹⁸ Assembly Bill 1305, Section 44475.3, at Bill Text - AB-1305 Voluntary Carbon Market Disclosures.