October 7, 2022

Sec. Christopher Kirkpatrick,
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street NW
Washington, DC 20581

Re: Request for Information on Climate-Related Financial Risk [CFTC-2022-0029-0001]

Dear Sec. Kirkpatrick,

On behalf of more than two million members and activists worldwide, many of which are deeply concerned about the physical and transition risks associated with climate change, and their impacts on health, economic vitality and environmental and community resilience, the Environmental Defense Fund (EDF) submits these comments in response to the Commodity Futures Trading Commission (CFTC or Commission)'s Request for information (RFI) on Climate-Related Financial Risk, in particular its inquiries pertaining to voluntary carbon markets and on questions of disclosure.[1]One of the world's leading international nonprofit organizations, EDF creates transformational solutions to the most serious environmental problems. To do so, EDF links science, economics, law and innovative private-sector partnerships.

In alignment with the CFTC's mission to "promote the integrity, resilience, and vibrancy of the U.S. derivatives markets through sound regulation,"[2] and Executive Order 14030, which directs the nation's financial regulators to, among other things, consider and report on the "necessity of any actions to enhance climate-related disclosures by regulated entities to mitigate climate-related financial risk to the financial system or assets and a recommended implementation plan for taking those actions," EDF respectfully welcomes CFTC's interest in identifying the potential for fraud and market manipulation in voluntary carbon markets.

Enhanced quality and integrity in voluntary carbon markets can help mobilize carbon finance, help cut emissions and facilitate the achievement of corporate and national greenhouse gas

[1] "Request for Information on Climate-Related Financial Risk," Commodity Futures Trading Commission, *Federal Register*, Vol. 87, No. 110, June 8, 2022, pp. 34856-34862 https://www.cftc.gov/sites/default/files/2022/06/2022-12302a.pdf
[2] CFTC Mission Statement, https://www.cftc.gov/About/AboutTheCommission.

(GHG) reduction goals. Currently, voluntary carbon markets are vulnerable to several types of fraud or market manipulation, which can undermine environmental outcomes and limit the potential for scaling. To address these potential shortcomings, voluntary carbon markets should be designed with high-quality, transparent and consistent standards for the supply of carbon credits, basic disclosure and structural requirements and structural requirements designed to clarify legal and financial issues and provide market and participant security. Specific areas of fraud and potential areas for oversight by appropriate regulatory or voluntary bodies are discussed in more detail in the comments below.

More broadly, financial risk disclosure - inclusive of risks posed by climate change - can support stated and growing needs of actors across the U.S. financial system. Financial regulators across the federal government have taken recent steps to meet this need. Alignment and consistency, where useful, can help to support efforts by multiple regulators. We highlight below non-exhaustive instances where financial regulators have taken recent, concrete steps to this end.

Introduction

Basis for CFTC Inquiry

Executive Order14030 (EO) established a government-wide policy to "advance consistent, clear, intelligible, comparable and accurate disclosure of climate-related financial risk…including both physical and transition risk; act to mitigate that risk and its drivers."[3] In furtherance of that policy, the EO directed financial regulators and members of the Financial Stability Oversight Council (FSOC) to consider and report on the "necessity of any actions to enhance climate-related disclosures by regulated entities to mitigate climate-related financial risk to the financial system or assets and a recommended implementation plan for taking those actions" and "any current approaches to incorporating the considerations of climate-related financial risk into their respective regulatory and supervisory activities and "any impediments" faced in adopting those approaches.[4] This Request for Information on Climate-Related Financial Risk is a welcome and well-timed step towards satisfying the government-wide policy regarding climate related financial risk and FSOC member directives.

Oversight of voluntary carbon markets, and climate related financial risk in commodities markets, is likely to depend in part on the legal and financial status of carbon credits and voluntary carbon markets. The legal nature of carbon credits will be relevant in determining which law properly governs the creation, transfer and cancellation of the credit, and how security rights can be created over that credit. Further issues arise in relation to how carbon credits should be treated for tax and accounting purposes, in bankruptcy, whether and to what extent credits, or derivative interests in credits, should be treated as subject to regulation in an investment, and

[3] CFTC, Request for Information on Climate-Related Financial Risk, 87 FR 34856, https://www.federalregister.gov/documents/2021/05/25/2021-11168/climate-related-financial-risk
[4] *Id.*

whether and how credits can be the subject of property based criminal activity.[5] These issues are evolving through coalitions in the voluntary market space and other jurisdictions with more formalized markets.

State of Development of Voluntary Carbon Markets

Under the 2015 Paris Agreement, nearly 200 countries endorsed the global goal of limiting the rise in average temperatures to 2.0° C above preindustrial levels, and ideally 1.5ºC. Reaching the 1.5°C target will require that global greenhouse-gas emissions are cut by 50% of current levels by 2030 and reduced to net zero by 2050. Limiting warming to 1.5°C has clear and considerable benefits, such as significantly reducing the risks of water scarcity, ill-health, food insecurity, flood and drought, extreme heat, tropical cyclones, biodiversity loss and sea level rise.[6] According to the most recent National Climate Assessment, achieving climate goals will also help avert significant public health impacts in the U.S., including changes in mortality and hospitalizations due to extreme weather, heat waves, floods and droughts; changes in vector-, food-, and water borne infectious diseases; changes in chemical exposures via air, food and water; and stresses to mental health.[7]

Corporate action to reduce emissions will be required to accompany and accelerate national commitments. From 2019 to 2022, the number of companies making pledges to reduce GHG emissions to net-zero significantly expanded, from 500 to more than 1,200,[8] and nearly 66% of the 2,000 largest publicly traded companies in the world have made corporate commitments to reduce GHG emissions. The combined Scope 1-3[9] emissions of the 54 Global Fortune 500 companies that committed to net zero by 2050 or earlier stands today at approximately 2.5

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[5] *See,* Financial Markets Law Committee, Emission Allowances: Creating Legal Certainty: Legal assessment of lacunae in the legal framework of the European Emissions Trading Scheme and the case for legislative reform (Oct. 2009); http://fmlc.org/wp-content/uploads/2018/02/Issue-116-Emission-allowances-1.10.2009.pdf; European Commission, Directorate-General for Climate Action, Reins, L., Ballesteros, M., Bart, I., et al. (2019) *Legal nature of EU ETS allowances : final report*. Publications Office; https://op.europa.eu/s/w2aD

[6] IPCC, Special Report, Global Warming of 1.5C (2018); https://www.ipcc.ch/sr15/

[7] https://blogs.edf.org/markets/2021/10/04/capturing-the-health-benefits-of-climate-policy-is-critical/; citing the Fourth National Climate Assessment, Chapter 14: Human Health; https://nca2018.globalchange.gov/chapter/14/ Ezzati, Majid, Lopez, Alan D, Rodgers, Anthony A & Murray, Christopher J. L. (2004). Comparative quantification of health risks : global and regional burden of disease attributable to selected major risk factors / edited by Majid Ezzati ... [et al.]. World Health Organization. https://apps.who.int/iris/handle/10665/42770; Bressler, R.D. The mortality cost of carbon. *Nat Commun* **12**, 4467 (2021). https://doi.org/10.1038/s41467-021-24487-w see also; https://www.thelancet.com/countdown-health-climate.

[8] UN Climate Action, Net Zero Coalition; https://www.un.org/en/climatechange/net-zero-coalition; *See also*, Angel Hsu et al., *Accelerating net zero: Exploring cities, regions, and companies' pledges to decarbonize*, Data-Driven EnviroLab & NewClimate Institute, September 2020, datadrivenlab.org.

[9] The GHG Protocol divides GHG emission into three Scopes. Scope 1 covers all direct GHG emissions by a company, including fuel combustion, company vehicles and fugitive emissions. Scope 2 covers indirect GHG emissions from consumption of purchased electricity, heat or steam. Scope 3 emissions (also known as value chain emissions) covers other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses) not covered in Scope 2, outsourced activities, waste disposal, etc. Scope 3 emissions often represent the largest source of GHG emissions and in some cases can account for up to 90% of the total carbon impact.

gigatons of CO_2 equivalent annually, or about 7% of global annual emissions in 2019.[10] This means that those companies will need to internally reduce or offset a collective 2.5 gigatons of CO_2 equivalent, annually, by 2050 or earlier depending on the end date of their target. That is a laudable and ambitious task. As these companies begin to develop their emission reductions strategies, they are turning to voluntary carbon markets to enable them to achieve neutrality sooner, buy time to invest in the technologies and operational changes needed for full internal transformation to decarbonize, and address residual emissions in their operations or in their value chain (i.e., upstream/supply chain or downstream emissions) for which abatement solutions do not yet exist.

Both voluntary and compliance-based/mandatory carbon markets facilitated by national or private administrators are proliferating. In 2021, there were 24 compliance-based emissions trading systems in operation worldwide, covering 16% of global emissions.[11] Another 22 governments are developing or considering an emissions trading system. Article 6 of the Paris Agreement provides for international cooperation, such as linking national emissions trading systems, and for international voluntary carbon markets, where credits for emission reductions can be traded between countries.[12]

At the same time, the voluntary carbon market is growing. Ecosystem Marketplace reports that voluntary credit transaction volumes more than doubled between 2017 and 2018 and continued to grow in 2019.[13] In 2021, voluntary carbon market transactions exceeded $1 billion, and demand for carbon credits could increase by a factor of 15 or more by 2030 and by a factor of up to 100 by 2050.[14] Overall, McKinsey Sustainability estimates that the voluntary market for carbon credits could be worth over $50 billion in 2030.[15] Demand for carbon credits from tropical forests – both in the form of reduced deforestation (REDD+) and afforestation/restoration activities – is also likely to grow significantly, potentially exceeding available supply by 400% by 2050.

Standardization, disclosures and oversight are essential to ensure carbon markets provide verifiable and robust environmental and social benefits. Today's voluntary carbon markets are fragmented, opaque and complex. Some credits do not represent actual emissions reductions.

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[10] EDF and ENGIE Impact, Mobilizing Voluntary Carbon Markets to Drive Climate Action: Trends in the Voluntary Carbon Markets: Where We are and What's Next (April 2021); https://www.edf.org/sites/default/files/documents/trends-voluntary-carbon-markets_1.pdf

[11] World Bank, *State and Trends of Carbon Pricing 2022*, https://openknowledge.worldbank.org/handle/10986/37455

[12] Hanafi, Alex, Carbon Market Cooperation; New Coalitions for greater ambition; https://www.edf.org/climate/carbon-market-cooperation

[13] Ecosystem Marketplace, State of the Voluntary Carbon Market 2019.

[14] Ecosystem Marketplace, Special Ecosystem Marketplace COP26 Bulletin (Nov. 10, 2021); https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin/ McKinsey Sustainability, Blueprint for Scaling Voluntary Carbon Markets to Meet the Climate Challenge (Jan. 29, 2021); https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge

[15] McKinsey Sustainability, Blueprint for Scaling Voluntary Carbon Markets to Meet the Climate Challenge (Jan. 29, 2021); https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge

Carbon crediting methodologies are inconsistent and vulnerable to manipulation. Incomplete pricing data makes it difficult for buyers to evaluate terms, and for suppliers to manage the risk they take on by financing and working on carbon-reduction projects. Market structures and operations are vulnerable to financial, technical and privacy failures. Collaborative efforts to address these opportunities for fraud in voluntary carbon markets are underway and may provide instructive to the CFTC in its considerations in this arena.

Opportunities for fraud in voluntary carbon markets

In its Request for Information, the Commission requested feedback on whether there are "aspects of the voluntary carbon markets that are susceptible to fraud and manipulation."[16] As voluntary carbon markets grow in size and value, they become vulnerable to basic forms of fraud and manipulation impacting market infrastructure, process and systems. Unlike traditional commodities, which at some point must be physically delivered, the intangible nature of GHG emissions makes investments in credits for emission reductions and removals particularly vulnerable to the fraudulent manipulation of measurements and false or misleading claims. These vulnerabilities limit market potential and undermine environmental outcomes: companies seeking to offset their GHG emissions by purchasing carbon credits are challenged by a lack of standardization around carbon accounting and offset crediting; carbon crediting programs that uphold integrity principles are undercut by low quality credits, driving down prices below feasibility thresholds.

Generally, fraud in voluntary carbon markets can be expressed in four areas:

1. False or misleading claims with respect to the environmental benefits of purchased carbon credits;
2. Fraudulent manipulation of measurements to claim more carbon credits from a project than were actually generated;
3. Exploitation of the lack of regulations on the carbon market to commit financial crimes, such as money laundering, securities fraud or tax fraud; and
4. Computer hacking/phishing to steal carbon credits and the theft of personal information.[17]

Each of these areas, and examples of how they have been expressed in carbon markets, are discussed in more detail below.

[16] "Request for Information on Climate-Related Financial Risk," Question 23, Commodity Futures Trading Commission, *Federal Register*, Vol. 87, No. 110, June 8, 2022, pp. 34856-34862 https://www.cftc.gov/sites/default/files/2022/06/2022-12302a.pdf

[17] *See also,* Interpol Environmental Crime Programme, Guide to Carbon Trading Crime, June 2013; https://www.interpol.int/content/download/5172/file/Guide%20to%20Carbon%20Trading%20Crime.pdf

False or misleading claims regarding the environmental benefit of investments

Dissonance between carbon credits claimed and actual outcomes can arise as a result of four major factors: additionality, double counting, leakage, and non-permanence. Without rigorous, science-based standards and consistent strategies for addressing these factors, voluntary carbon markets may be vulnerable to manipulation and fraudulent claims regarding the amount of GHG reductions associated with each credit. Each factor is described below.

Additionality

In the context of carbon crediting mechanisms, emissions reductions or removals from a mitigation activity are considered additional if the mitigation activity would not have taken place in the absence of the added incentive created by the carbon credits. Assessment of additionality is difficult, because proof of what could or would have happened in the absence of a project's implementation is somewhat theoretical, and protocols have different standards for meeting this threshold.[18] Difficulties in assessing additionality provides ample opportunities to manipulate voluntary carbon markets, and make false claims regarding the environmental benefits of the underlying credits.

To gauge the additionality of a carbon credit, it is therefore important to assess the influence of any other financial, economic, legal or technological drivers of the viability of the project. This can be accomplished by applying different sub-criteria, such as assessing whether projects are implemented due to policies or regulations and whether projects must demonstrate that they considered carbon credits at project implementation. An assessment of the economic feasibility of projects without carbon credits as well as to what degree carbon credits change the economic attractiveness of a project can also help identify whether any potential other economic drivers make the project viable in the absence of carbon credits. Furthermore, an analysis of noneconomic barriers that the project might face gives information as to whether carbon credits might help in overcoming these barriers.[19]

Double Counting

One particular concern in carbon markets is that traded reductions might be "double counted," a situation in which a single GHG emission reduction or removal (i.e. credit) is counted more than once towards achieving mitigation targets or goals. For example, a credit could be counted once by the jurisdiction of origin when reporting its emissions inventory, and again by the receiving country (or other purchasing entity) when justifying emissions above its pledged climate effort. In the absence of rules, a jurisdiction of origin could reduce emissions to meet its pledged effort and transfer those to a recipient; the recipient could then claim those same reduction s to meet its pledged effort. In that case, only one reduction has actually occurred but two are being claimed.

[18] https://www.edf.org/sites/default/files/content/agricultural-soil-carbon-credits-protocol-synthesis.pdf
[19] https://www.edf.org/sites/default/files/documents/what_makes_a_high_quality_carbon_credit.pdf

Analysis indicates that such double-counting could eliminate the entire climate benefit of all the Nationally Determined Contributions, or NDCs, under the Paris Agreement.[20] Therefore, strong rules are needed to ensure comprehensive reporting of all transfers of mitigation outcomes, regardless of what sector or country they originate in or what mitigation commitment they are used toward. Importantly, reporting rules should be standardized to ensure equal accounting treatment of all mitigation outcomes, regardless of where they originate or what commitment they are used towards.

Leakage

Leakage refers to circumstances where GHG emissions increase outside of a carbon mitigation or removal project as a result of project activities. These include, for example, indirect emission changes upstream or downstream of the mitigation activity or rebound effects. Leakage may occur on a national or international scale. In the agricultural sector, an example of leakage occurs when net carbon sequestration on one plot of land results in lower productivity, which causes an expansion of land under agricultural production to compensate for yield reductions and generates an overall increase in GHG emissions. Appropriately defining a "leakage area" and accounting for increased emissions within that area resulting from project area activities remains a challenge.[21]

Non-Permanence

A final key determinant of the quality of carbon credits is their permanence, or ability of the project to provide lasting climate benefits. Permanence refers to the alignment between emissions reductions or removals underpinning a carbon credit and the effects of carbon dioxide emissions in the atmosphere, which is critical as emission reductions or removals are sold to large GHG emitters that are purchasing these credits to offset continued emissions. The period of permanence is inconsistent across crediting programs. The United Nations' Intergovernmental Panel on Climate Change defined a 100-year timeframe for monitoring permanence, in combination with determining global warming potential over the same time frame.[22]

Addressing non-permanence is critical to achieve the promised environmental benefits associated with a given carbon credit. Methods to address non-permanence differ between programs but include avoiding or compensating for instances where emissions reductions or removals generated by a project activity are later reversed. The risk of non-permanence differs among projects and is frequently assessed using scenario analysis and climate models that predict likelihood and severity of project impacting physical risks such as wildfire, flood, drought, or catastrophic storm. Reversal risks are also a threat due to land management decisions in

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[20] Gabriela Leslie, Alex Hanafi and Annie Petsonk, *Global Emissions Within and Outside the Scope of Nationally Determined Contributions* (Environmental Defense Fund), June 2018; https://www.edf.org/sites/default/files/documents/NDC_Coverage_OnePager_June_2019.pdf, *see also,* EDF, Meeting the Climate Change Goals of the Paris Agreement*: How to Avoid Double Counting of Emissions Reductions*, https://www.edf.org/sites/default/files/documents/double-counting-handbook.pdf

[21] Oldfield, EE, A.J. Eagle, R.L. Rubin, J.Rudek, J Sanderman, D.R. Gordon. 2021. Agricultural soil carbon credits: Making sense of protocols for carbon sequestration and net greenhouse gas removals. https://www.edf.org/sites/default/files/content/agricultural-soil-carbon-credits-protocol-synthesis.pdf

[22] International Panel on Climate Change, Updates to Methodology for Greenhouse Gas Inventories; https://www.ipcc.ch/2019/05/13/ipcc-2019-refinement/

agricultural soils and forests, such as repeated tillage events after no-till, or from mechanical failures or product disruption.

The robustness of approaches for addressing non-permanence risks is crucial to establishing verifiable environmental benefits from carbon credits. Key factors include establishment of liability for reversals, the duration for which the occurrence of reversals is monitored and accounted, whether and how any reversals are compensated and whether the compensation mechanisms are sufficient to address disastrous events. Most crediting protocols distinguish between avoidable and unavoidable reversals. Avoidable reversals are those due to intentional activities and must be compensated for directly by the project developer. Unavoidable reversals are those due to wind, fire, disease or other force majeure events outside the control of the project developer; crediting treatment differs between programs.

Manipulation of measurements to claim more credits from a project than were generated

The methodologies used by crediting programs to quantity emission reductions or removals from credited mitigation activities must not lead to an over-estimation of the emission reductions or removals. There are two primary opportunities for manipulation of measurements to obtain a greater allocation of carbon credits than actually deserved. First, misstating the "business-as-usual" scenario by overinflating the estimate of emissions that would otherwise have occurred or threat to conserved land. Second, emissions reduction or removal claims that are inconsistent with actual behaviors or practices.

Measurement manipulation can take a variety of forms, aside from intentional misreporting of data. Distortion of measurement analysis by selecting only certain variables, data collection sites or the adoption of certain assumptions in calculations can all significantly skew the underlying values used to calculate and price carbon credits. Compounding this risk is a lack of reliable data and poor institutional capacity, which are exacerbated in some host project countries, to monitor data collection.

The design of existing carbon crediting protocols that assess carbon sequestered through the adoption of a limited number of cropland management practices like cover crops, reduced tillage, and crop rotation makes it difficult to ensure net climate benefits have been achieved. Scientists do not have a clear understanding about the degree to which these conservation practices can sequester sufficient atmospheric carbon to have an appreciable impact in mitigating climate change.[23] This uncertainty stems from a lack of data on spatial and temporal patterns of soil organic carbon accrual across working farms and under different management practices. Soil organic carbon can vary significantly over space, and it changes very slowly over time. This makes it difficult to detect change without collecting and analyzing a high density of soil samples, which is expensive and potentially cost prohibitive. As such, published protocols rely either exclusively on models or on approaches that combine episodic soil sampling, such as every five years, with process-based models. Confidence that models can produce accurate and unbiased estimates of soil organic carbon sequestration is critical, as credits will primarily be

[23] https://thebreakthrough.org/issues/food-agriculture-environment/carbon-farming

issued based on modeled results in the short term. Little evidence suggests that existing models can accurately capture soil organic carbon change at the field level under all proposed management interventions for all combinations of soils and climate. Soil sampling details provided by published protocols may prove insufficient, depending on the associated challenges to quantifying soil organic carbon and the level of certainty demanded by buyers of credits.[24]

One common – but imperfect – solution to this threat of fraud is third-party validation. Independent third-party auditors may be susceptible to bribes or collusion to manipulate results, or simply unavailable due to training and resource constraints. The level of independence of third-party validators may also be a vulnerability due to commercial arrangements that typically specify that validators be paid by project developers, only after project approval. This arrangement raises inherent conflicts of interest in which validators are incentivized to facilitate the projects approval rather than ensure accuracy of the validation process.[25] Proposed legislation, authorizing the U.S. Department of Agriculture to establish a voluntary Greenhouse Gas Technical Assistance Provider and Third-Party Verification Program to help reduce entry barriers into voluntary environmental credit markets for farmers, ranchers and private landowners, could provide a potential resolution to this risk.[26]

Exploitation of voluntary markets to commit financial crimes

Voluntary carbon markets are increasingly vulnerable to types of financial fraud exhibited in other sectors, as demand for carbon credits increase in scale and value. Financial crimes such as securities fraud, tax evasion, transfer mispricing and money laundering are examples of white-collar crimes that may find purchase in the burgeoning voluntary carbon markets. Essentially, any crime that may be committed with a traded financial security may also occur in the voluntary markets.

Deceptive practices that induce investors to make decisions to purchase or sell carbon credits on the basis of information, such as manipulating the price of carbon credits to embezzlement by traders. Carbon credit prices may be manipulated by large traders issuing buy/sell recommendations to customers, while doing the opposite with their own credits or trading carbon credits while also having purchased or established companies responsible for generating carbon credits through offset projects.

Tax fraud is another possibility, as was amply proven in the European Union's Emissions Trading System (the E.U.'s mandatory emissions trading scheme). Here, several criminals employed the so-called carrousel fraud, or missing trader method to reclaim VAT after fake transactions that have crossed EU Member State borders. This resulted in billions of dollars of

[24] https://www.greenbiz.com/article/digging-complex-confusing-and-contentious-world-soil-carbon-offsets; https://www.science.org/doi/10.1126/science.abl7991

[25] Michael Szabo, DNV Suspension Another Jab at Battered CO2 Scheme, REUTERS, Dec. 2, 2008, http://www.reuters.com/article/2008/12/02/us-carbon-dnv- idUSTRE4B04K120081202; Danny Fortson, Carbon-Trading Market Hit as UN Suspends Clean-Energy Auditor, THE TIMES, Sept. 13, 2009, http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article6832259.ece; James Murray, DNV Wins UN Authorisation CDM Project Approval, BUSINESS GREEN, Feb. 16, 2009, http://www.businessgreen.com/bg/news/1804681/dnv-wins-un- authorisation-cdm-project-approval.

[26] S.1251 – Growing Climate Solutions Act of 2021; https://www.congress.gov/bill/117th-congress/senate-bill/1251

losses across multiple Member States.[27] These crimes exploited particularities of EU tax regulation, and thus are not directly transferable to the US, but they are a reminder that if there are opportunities for tax fraud in a carbon market, they are liable to be exploited.

Other jurisdictions have adopted regulations to minimize the risk of carbon traders being inadvertently used to facilitate money-laundering. In 2011, Australia amended its Anti-Money Laundering legislation to specify traders and brokers of carbon credits, ensuring they adopt anti-money laundering measures and report suspicious transactions.[28] A European Union Directive requires similar anti-money laundering actions be adopted by persons engaged in investment services including dealing in financial instruments relating to climatic variables and emission allowances.[29] These examples illustrate the importance of careful collaboration between U.S. financial regulators and independent bodies with expertise in the operation of voluntary carbon markets.

Computer hacking/phishing

Weaknesses in the internet security of carbon trading registries have been exploited by criminals to steal carbon credits. The electronic nature of carbon credits, transfers and validation techniques make the voluntary carbon markets particularly susceptible to technology crimes such as hacking. In addition, basic information technology security measures may also be required to protect against privacy threats and attempts to collect carbon credit purchaser or provider personal and financial data, commonly known as phishing.

In January 2011, all EU ETS registries had to be shut down for several months because computer hackers broke into the systems of the Czech registry and stole around 1 million EU allowances from account holders.[30] This was not the only example of robbery from registries. These thefts were possible because of lax information technology (IT) security, and also because at the time there existed a spot market for EU allowances where it was possible to easily pass on stolen goods. Spot trading of EU allowances was reformed afterwards, and new IT security requirements were introduced by EU lawmakers.

An important lesson from the EU experience is that when fraud, hacking, and other criminal activities that take place in many industries take place in the voluntary carbon markets – relatively new developments – it harms public confidence in the very idea of the carbon market. These are implementation problems, not fundamental flaws. By contrast, if authorities discover a scheme for credit card fraud, the public generally does not assume that there is something wrong with the concept or framework of credit cards.

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[27] *See eg.* https://www.rfi.fr/en/environment/20170913-12-jailed-huge-french-carbon-trading-fraud; https://www.reuters.com/article/uk-germany-carbon-fraud/six-stand-trial-in-carbon-fraud-case-in-germany-idUKTRE77E41J20110815

[28] See http://www.austrac.gov.au/aml_ctf.html

[29] Directive 2005/60/EC on the prevention of the use of the financial system for the purpose of money laundering and terrorist financing (26 October 2005).

[30] https://ihsmarkit.com/country-industry-forecasting.html?id=1065928822

Efforts to Enhance Integrity in Voluntary Carbon Markets and areas for Improvement

Existing Carbon Credit Quality Initiatives

As demonstrated by evidence of fraud, quality standards for carbon credits are essential to ensure robust GHG emissions impacts. An evolving ecosystem of initiatives and resources focused on the governance of voluntary carbon markets is underway. In assessing CFTC's role in oversight of voluntary carbon markets, the CFTC should recognize and value the work of many other initiatives and platforms seeing to improve the integrity of voluntary carbon markets, including the Integrity Council for Voluntary Carbon Markets (IC-VCM), the Natural Climate Solutions Alliance (NCSA), the Science Based Targets initiative (SBTi), Voluntary Carbon Markets Integrity initiative (VCMI), the Carbon Credit Quality Initiative (CCQI), and others. These and other initiatives are working to provide guidance on demand-side carbon credit quality issues such as claims, as well as guidance on credit generation.

Notably, the Taskforce on Scaling Voluntary Carbon Markets (TSVCM), is a private sector-led initiative working to scale an effective and efficient voluntary carbon market to help meet the goals of the Paris Agreement. The TSVCM's over 250 member institutions represent buyers and sellers of carbon credits, standard setters, the financial sector, market infrastructure providers, civil society, international organizations and academics. An advisory board of 20 environmental non-governmental organizations, investor alliances, academics and international organizations provide guidance on recommendations. In 2021, the TSVCM launched a governance body – the Integrity Council for Voluntary Carbon Markets – to bring high-quality, transparent and consistent meta-standards (Core Carbon Principles) to the supply of carbon credits.[31]

Additionally, the Carbon Credit Quality Initiative, a collaboration between EDF, the World Wildlife Fund and Oeko-Institute, is also developing an independent, user-friendly scoring tool that will empower carbon credit buyers to identify high-quality credits while also pushing for high standards in the voluntary carbon market.[32] CCQI's methodology, which scores a given carbon credit on an interval scale of one through fie against several quality objectives, allows buyers to understand the nuances and trade-offs in the quality of carbon credits and make informed decisions regarding which crediting programs offer robust, and reliable environmental benefits. The Voluntary Carbon Market Integrity Initiative offers a multi-stakeholder platform to drive credible, net-zero-aligned participation in the voluntary carbon market.[33] The Tropical Forest Credit Integrity Guide, developed collaboratively by eight organizations, guides companies interested in differentiating forest carbon credits by impact, quality, and scale, in

[31] EDF has a seat on the executive board of the ICVM, and is co-chairing the expert advisory group; Integrity Council for the Voluntary Carbon Market; https://icvcm.org
[32] The Carbon Credit Quality Initiative; https://carboncreditquality.org
[33] Voluntary Carbon Market Integrity Initiative; https://vcmintegrity.org; EDF is chairing the advisory group.

order to identify and purchase credits with high social and environmental integrity.[34] These efforts, and others, demonstrate the effort and scale of collaboration needed to establish clear standards and baseline operating criteria for voluntary carbon markets.

Mutually supportive relationships between markets, independent bodies and regulators can achieve best outcomes. Independent bodies closest to markets will have insight and expertise necessary to establish meaningful standards for accountability that reflect market, participant and project needs, while regulatory bodies may play an essential supporting role by adopting by reference or benchmarking the work of external collaborative bodies. We encourage the CFTC to think critically about gaps in oversight capacity, avoid duplicative efforts, and work collaboratively with existing initiatives in order to support the evolution of a consistent, coherent and efficient framework for voluntary carbon market governance.

Increasing Demand for Disclosures

Collaborative initiatives described above, as well as activists, shareholders and both existing and potential carbon market participants have repeatedly called for voluntary carbon market disclosures in these areas. For example, the Tropical Forest Integrity Guide calls on companies purchasing carbon credits from voluntary carbon markets to "support the establishment of the rules, administrative systems and infrastructure needed by national governments to implement the Paris Agreement's Article 6 transparency and accounting requirements as they apply to carbon credits."[35] According to CarbonPlan, "an investor in public markets today cannot adequately characterize most companies' use of carbon offsets, and by extension the adequacy of their net-zero transition plans, on the basis of existing public information."[36]

Standardized disclosures from carbon market participants will boost transparency and help align reporting of credit purchases with emerging Paris Agreement accounting requirements. Specifically, purchasers of carbon credits should report several simple, but critical details to allow market participants to differentiate credits by impact, quality and scale:

- use of carbon credits
- claiming entity (if not the purchaser)
- host country of the carbon crediting activity
- credit vintage
- credit price
- project or program name
- standard-setting body (third-party)
- credit retirement
- relationship between Indigenous territories and jurisdictional-scale crediting, and

[34] Tropical Forest Credit Integrity Guide; https://tfciguide.org; authoring organizations include: Conservation International, Coordinator of Indigenous Organizations of the Amazon Basin, EDF, The Nature Conservancy, Wildlife Conservation Society, World Resources Institute, WWF, IPAM Amazonia.
[35] Tropical Forest Integrity Guide: Differentiating Tropical Forest Carbon Credits by Impact, Quality and Scale (2022); https://tfciguide.org/wp-content/uploads/2022/07/TFCI-Guide-English.pdf
[36] https://carbonplan.org/research/offset-disclosure-needs

- whether credits are associated with a corresponding adjustment.[37]

While all disclosure areas identified above are critical, and would enhance transparency, security, market function and environmental outcomes, two areas of essential disclosure may require additional explanation: credit use and corresponding adjustments.

Use of Carbon Credits

The most basic definition of a "carbon credit" is an emission unit that is issued by a carbon crediting program and represents an emission reduction or removal of GHGs (i.e., a "mitigation outcome" as referenced in international agreements). Carbon credits are uniquely serialized, issued, tracked and cancelled by means of an electronic registry. Carbon credits can be used and claimed within corporate climate strategies in various ways. However, the terms for – and claims regarding – use of carbon credits are evolving, with different proposals by host countries, voluntary standards and norms within the market, and differences of view among the coauthoring organizations.

This definitional and claim disparity between and among market participants points to the complexity and importance of oversight of credible corporate claims. For example, some credits may be appropriate to use towards claims such as "carbon neutrality" or "net zero." Other carbon credits may be bound by use terms that only allow the buyer of the credit to refer reduction or removal financing, because the host country claims the credit. Initiatives such as the Voluntary Carbon Market Integrity Initiative (VCMI) are developing additional guidance on how companies should make claims associated with their voluntary use and accounting of carbon credits.

Corresponding adjustments

Corresponding adjustments, a critical area for voluntary carbon market disclosures, are an accounting mechanism of the Paris Agreement, designed to avoid double-counting of a carbon credit between the host country and the country of final use of the carbon credit. If the credit purchaser claims the credit against their emissions footprint, the country where the project takes place should adjust their emissions upwards so that the emission reduction is not counted twice. Conversely, if carbon crediting activities will be counted towards the host country's Nationally Determined Contribution, the company should publicly communicate that the underlying reductions or removals will also contribute to the host country's NDC.

To date, debate around the use of corresponding adjustments for voluntary carbon credit purposes has assumed that the voluntary market would not have a material impact on host country emissions. Research conducted by EDF and Trove Research on tropical forest voluntary carbon markets suggests the opposite is likely to be true when the long-term growth in demand for voluntary carbon credits is factored in.

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[37] U.N. Framework Convention on Climate Change, Technical paper on options for operationalizing the guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement and in decision 1/CMA.3; PA/A6.2/TP/1 (Sept. 13, 2022); https://unfccc.int/sites/default/files/resource/SBSTA57_Artcile%206.2_Technical%20paper.pdf

If voluntary demand for carbon credits materializes to the extent projected, it could facilitate the creation of correspondingly-adjusted credits. Correspondingly-adjusted credits would likely be priced at a significant premium to carbon credits without an adjustment, as governments would prioritize the lowest-cost forms of mitigation first in achieving their NDCs, so that emissions reductions beyond their NDCs would be more costly. However, the appetite to pay for these higher priced credits has yet to be tested in the voluntary corporate sector.

Compliance/Mandatory Carbon Markets and European Union Emissions Trading System

Early experiences of fraud and market manipulation in the European Union Emissions Trading System (ETS) and subsequent efforts to bolster confidence and ensure a safe and efficient trading environment may be illustrative.[38] See above sections for specific instances of fraud in the ETS. In general, these measures mean a much higher barrier to market entry, and thus there was a significant drop in the number of market intermediaries.

In response to these, and other examples of fraud, and in order to foster a safe and efficient trading environment, the Commission partnered with the European Securities and Markets Authority to analyze the trading of emission allowances to identify specific cases of market manipulation, abnormalities in the functioning of the ETS, evolutions of carbon prices and volatility.[39] The report additionally concluded that close collaboration between national financial regulators and the EU Commission was necessary to ensure the integrity of the market.

Based on lessons learned from experiences of fraud described above and the ESMA analysis, a series of oversight reforms were enacted in January 2018. Notably, among those reforms was a formal classification of emission allowances as financial instruments.[40] In addition to providing helpful fiscal and legal clarity around these instruments, this classification allowed for the application of key financial market rules to the ETS. Those include high integrity standards for all market participants, who are prohibited from engaging in manipulation through practices such as spreading false information and rumors, anti-money laundering safeguards (e.g. know-your-customer checks) applied to all segments of the carbon market, and better transparency and simpler access to information regarding how much is traded and at what price on carbon exchanges. Larger carbon market participants are additionally subject to stricter rules on inside information to prevent unfair advantages. In general, these measures mean a much higher barrier to market entry, and thus there was a significant drop in the number of market intermediaries.

A range of basic security reforms were also introduced. While before such requirements were established by Member States, the EU developed harmonized rules for identifying and vetting account holders in the EU ETS registries. These rules are very similar to the know-your-

[38] https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/ensuring-integrity-european-carbon-market_en

[39] European Securities and Markets Authority, Final Report on the European Union Carbon Market, (March 28, 2022) https://www.esma.europa.eu/press-news/esma-news/esma-publishes-its-final-report-eu-carbon-market

[40] Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EEC and Directive 2011/61/EU; Directive on Markets in Financial Instruments (MiFID2); https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32014L0065

customer (KYC) rules applicable in banking. An important addition was that Member States are now allowed to reject an account representative if he/she is not resident in the country of the registry. This is important because it allows the police to make inquiries or arrests if the need arises.

Furthermore, the EU has also developed harmonized IT security rules, such as the four-eyes principle (ensuring that every transaction requires two signatories), two-factor authentication, and out-of-band confirmation (requiring an order made on a computer to be confirmed on a different device, e.g. a mobile phone.). To allow registry administrators to respond to irregularities, a 26-hour delay was introduced in the completion of a transaction.

Risk Disclosure and Alignment

As the CFTC and its fellow FSOC members have recognized, improved climate-related financial disclosures by regulated entities "will better inform investors and market participants about the climate-related risks to those entities."[41] The SEC has proposed standards on climate risk disclosures from public companies,[42] which leverage and build upon the widely used voluntary TCFD framework,[43] and has also proposed standards on disclosures from environmental, social, and governance (ESG) funds.[44] The Office of the Comptroller of the Currency (OCC) and Federal Deposit Insurance Corporation (FDIC) included questions about disclosures in their draft principles for climate-related financial risk management for large banks.[45] Continued coordination among U.S. financial regulators on climate-related disclosures can help ensure sharing of lessons learned and alignment on approaches where relevant.[46]

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[41] Fin. Stability Oversight Council, Report on Climate-Related Financial Risk 67 (2021), https://home.treasury.gov/system/files/261/FSOC-Climate-Report.pdf; see also Commodity Futures Trading Comm'n Climate-Related Market Risk Subcomm. of the Market Risk Advisory Comm., Managing Climate Risk in the U.S. Financial System 87 (2020), https://perma.cc/UT9M-FG2Y ("Climate risk disclosure offers a variety of potential benefits to issuers, investors, and society.").

[42] Sec. & Exch. Comm'n, The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21,334 (Apr. 11, 2022).

[43] *See Support the TCFD*, TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURE, https://www.fsb-tcfd.org/support-tcfd/ (last visited Sept. 27, 2022) (indicating that at least 3,400 companies and other entities across 95 jurisdictions worldwide support the TCFD); Madison Condon et al., *Mandating Disclosure of Climate-Related Financial Risk*, 23 NYU J. LEGIS & PUB. POL'Y 745, 771-74 (discussing the TCFD framework).

[44] Sec. & Exch. Comm'n, Enhanced Disclosures by Certain Investment Advisers and Investment Companies About Environmental, Social, and Governance Investment Practices, 87 Fed. Reg. 36,654 (June 17, 2022).

[45] Off. of the Comptroller of the Currency, Principles for Climate-Related Financial Risk Management for Large Banks (Dec. 2021), https://www.occ.treas.gov/news-issuances/news-releases/2021/nr-occ-2021-138a.pdf; Fed. Deposit Ins. Corp., Statement of Principles for Climate-Related Financial Risk Management for Large Financial Institutions, 87 Fed. Reg. 19,507 (Apr. 4, 2022).

[46] EDF and academic partners have published additional analysis on financial risk, climate change, and disclosure in journal article. This work, while focused on the SEC, contains discussion of climate-related financial risks, existing disclosure frameworks, and benefits of improved disclosure that may be relevant for the CFTC's consideration. Madison Condon et al., *Mandating Disclosure of Climate-Related Financial Risk*, 23 NYU J. LEGIS & PUB. POL'Y 745 (2022).

Conclusion

To support CFTC as it fulfils its obligations under EO 14030 and express statutory authority to address market manipulation and fraud, EDF provides the above information regarding failures of the voluntary carbon market to perform as intended, and existing collaborative efforts to remedy those failures. Please do not hesitate to contact the undersigned for additional insights, explanation or data supporting this response.

Respectfully Submitted,

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