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FEDERAL ENERGY REGULATORY COMMISSION**

Technical Conference on Greenhouse Gas)	Docket No.	PL21-3-000
Mitigation: Natural Gas Act Sections 3 and 7)		
Authorizations			

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My name is Carl Pechman. I am the Director of the National Regulatory Research Institute ("NRRRI"). The National Association of Regulatory Commissioners ("NARUC") created NRRRI as our nation's public utility research institute. I have been involved with state and federal utility regulation since 1979. I appreciate the opportunity to provide comments to the Federal Energy Regulatory Commission ("FERC") in response to the first question in its November 9, 2021, Supplemental Notice of Technical Conference:

How could the Commission ensure continued verification and accounting of GHG mitigation measures since the Commission would need to monitor and assess mitigation during the life of the project?

The FERC has begun examining its role in regulating offsets through verification and accounting by reaching out to the regulatory community for input into how that role should be defined. I believe that the FERC should take an expansive view of its role in this process and not restrict its oversight to specific projects being regulated under the Natural Gas Act ("NGA"). The verification and accounting of greenhouse gas ("GHG") mitigation measures including offsets extends across all of the many energy industries and the organized wholesale markets that the FERC regulates under the NGA and the Federal Power Act ("FPA"). This regulation of offsets will become increasingly important as society moves towards decarbonization and greater electrification.

The FERC has the unique role of assuring that the cost of offsets as a factor of production in both the regulated natural gas industry and organized wholesale electric markets results in FERC-jurisdictional rates that are just and reasonable and not unduly discriminatory or preferential. Rates could be unjust and unreasonable and unduly discriminatory or preferential if the cost of ineffective or fake offsets is included in rates, resulting in costs for which there is no value. In the organized markets, discriminatory and preferential rates could occur when the FERC or a state commission must choose between two otherwise similar because one used less costly, ineffective or inferior offsets while the other used more costly effective offsets (i.e., the resource with inferior offsets clears, while the resource with effective offsets does not).

My comments describe the imperative for the FERC to take action to provide coherence to the valuation of GHG offsets by establishing and/or certifying valuation protocols through enforcement mechanisms such as carbon accounting and offset tracking. The FERC has a special interest in the efficiency, transparency, and robustness of the offset markets, and its exclusive ratemaking authority under the FPA provides a basis for providing oversight of the way that these offset markets directly affect the rates

in the organized wholesale electric markets.¹ FERC’s authority is based upon both its general “affecting” jurisdiction and its duty to protect the integrity of the organized wholesale markets. This authority was made clear in the Supreme Court’s decision in *FERC v. EPSA*, and its direct ratemaking authority over FERC-jurisdictional rates that allow for the recovery of the cost of offsets in the wholesale rates. The FERC is already using its ratemaking authority in this area by reviewing allowance costs under RGGI and AB32 for generators in terms of their market offers/bids. By establishing accounting protocols for carbon offsets, the FERC will be able to determine whether rates for the electric and natural gas products that it regulates are just and reasonable and not unduly discriminatory or preferential. The success of decarbonization will depend at least in part on the efficiency, transparency, robustness, and ultimate credibility of offset markets. The efficiency and credibility of long-run futures markets for offsets must be built on a foundation of credible offset markets. Ultimately, for markets that will enable minimizing the cost of decarbonization to flourish, the FERC must establish rules, practices, and methods to ensure continued verification and accounting of GHG mitigation measures.

The FERC plays an important role as a transformative agency that provides economic coherence to the resources and markets that it regulates. The FERC does so to ensure just and reasonable and not unduly discriminatory or preferential rates by promulgating systematic principles and rules that govern the functioning of the wholesale electric and natural gas markets. As the United States faces the new challenges associated with decarbonization, the FERC’s transformative role will become even more important. To fulfill its statutory mandate, the FERC must provide direction to markets on the valuation of carbon reductions and offsets that may ultimately determine the wholesale rates for electricity that are an integral element in the organized markets, as well as the economic viability of natural gas projects and products.

These comments are organized as follows. After explaining FERC’s role as a transformative agency, I describe the emerging role of offsets and their critical importance in economically achieving carbon reduction targets. I explain that the demand for offsets is exploding and that their role will increase over time. I catalog the diversity of current procedures for certification that differentiate offset products. I then opine on the interest of economic regulators in offset markets. Finally, I recommend that the FERC issue a Notice of Inquiry on how it can fulfill its appropriate role in the oversight of offsets and lay out a series of questions for its consideration.

The FERC as a transformative agency

The FPA and the NGA provided the FERC’s predecessor, the Federal Power Commission (“FPC”), with regulatory authority over price making for interstate sales of electricity and natural gas. At the core of both acts are the “just and reasonable standard,” which provides the basis for the regulatory bargain of protecting consumers against excessive prices while providing regulated providers the opportunity to earn a fair return on their invested capital. The requirement that rates not be unduly discriminatory or preferential ensures that resources are treated fairly and, in this case, that inferior offsets do not gain an unfair advantage. Since the passage of these two acts, the FPC, followed by the FERC, has shaped energy markets. The FERC has done so in response to legislative mandates, petitions of interested parties, and on its own motion in search of just and reasonable and not unduly discriminatory or preferential rates and oversight of price making mechanisms for customers and providers.

¹ Sup. Ct., DC Circuit and FERC precedent regarding FERC’s “affecting” or “indirect” jurisdiction under the FPA (e.g., *EPSA v. FERC* (Sup. Ct.), *SCP PSA v. FERC* (DC Circuit), *Orders re Order 2222* (FERC)).

Multi-state holding companies were a significant feature of the electric utility industry when the FPA was passed. One prime motivation for the FPA was that state utility regulators did not have access to the information necessary to develop a complete picture of the costs incurred by utilities owned by holding companies and so could not ensure that the prices that they were setting were justified by the actual costs incurred to provide service. President Franklin Roosevelt warned, “(n)o government effort can be expected to carry out effective, continuous and intricate regulation of the kind of private empires within the Nation which the holding company device has proven capable of creating.”² Bonbright and Means observed, “(T)he regulation of the operating company must necessarily be ineffective as long as its great master, the holding company, remains free from control by a public service commission.”³ Their explanation of the mechanism for control was, “(t)hrough the use of the service charge, it [the holding company] has enabled the stockholders of the holding company to ‘milk’ the operating companies by extortionate charges for services and for commodities, which must be paid for by the consuming public in high rates.”⁴

The adoption of accounting standards by the FPC codified a regulatory structure that provided states with the information they needed to regulate effectively. The FPC collected and reported the information necessary to protect customers by providing the states with a “complete, permanent, and effective bond of protection against unreasonable charges.”⁵ By adopting the Uniform System of Accounts, the FPC established reporting requirements that provided public utility commissions (“PUCs”) with an understanding of the transactions in which their state’s utilities engaged with the holding companies in other states. This equipped state PUCs with the evidence they needed to identify and disallow excessive and extortionate charges when determining the revenues that those local utilities were allowed to collect from customers.

Beginning in the 1970’s, the FPC and its successor the FERC began the economic journey of transforming the market structure and methods for pricing natural gas. Ultimately, under the direction of the FERC, the production and transportation of gas was unbundled, relying on market mechanisms to establish both the field prices of natural gas and the cost of pipeline transportation.

The Public Utilities Regulatory Policy Act of 1978 (“PURPA”) empowered the FERC to oversee the methods states used to establish avoided costs. Avoided costs were administrative determinations of the cost that the utility would incur “but for” the purchase of non-utility generation. The estimates of avoided costs formed the basis for the rates paid to eligible generators for their output (whether a Qualifying Facility or Independent Power Producer). The avoided cost price regimes overseen by the FERC transformed the operation of power systems, demonstrating that they could reliably operate with diverse generation ownership. It also led to the significant technical advances in renewable and small-scale generation that are now key resources in decarbonization efforts.

As interest in competitive power markets grew, largely due to the successful deployment of non-utility generation, the FERC developed standards for establishing competitive markets. It did so in Orders 888 and 889 by specifying the nature of products in those markets (which fall into one of five categories: day-ahead and real-time energy (including scarcity pricing), capacity, transmission, and ancillary services) as well as creating a broad template approving the nature of the institutions that would

² Twentieth Century Fund, *Electric Power and Government Policy*, Lord Baltimore Press. 1948. pg. 347.

³ Bonbright, J. and Means, G. C., *The Holding Company*.: McGraw-Hill Book Company, Inc., 1932. pg. 148

⁴ *ibid*, pg.154

⁵ *Electrical District No. 1 v. F.E.R.C.*, 774 F.2d 490, 492 (D.C. Cir. 1985)

coordinate those markets (Independent System Operators (“ISOs”) and Regional Transmission Organizations (“RTOs”)). Doing so transformed the nature of power production in many regions of the country, resulting in billions of dollars in cost savings to customers.

More recently, the FERC has taken steps to further transform wholesale power markets by enabling customer resources to participate. It did so through a number of orders that established mechanisms for the pricing and participation of customer-side resources:

- Order Nos. 719 and 745 established the requirement that ISO/RTOs accept bids from demand response resources and established rules for its pricing;
- Order No. 841 covered the incorporation of storage resources into the wholesale market; and
- Order No. 2222 addressed participation of distributed energy resources (“DER”) through aggregators in the wholesale markets.

These orders and others show that the FERC has a long and effective history of establishing new market mechanisms and procedures that have allowed gas and electric markets to evolve with changing technologies and circumstances.

Now, the overriding impetus for change is decarbonization. The market and the FERC’s oversight will need to evolve to respond to the requirements for supporting decarbonization. The question is what the FERC’s role will be in the transformation to a decarbonized energy system. Recent history has demonstrated that the information conveyed by price is an important driver in economic behavior. These comments argue that one aspect of that role is to provide coherence to markets for carbon offsets that will play a crucial role in price formulation.

Increasingly, energy companies within FERC’s jurisdiction are beginning their own transformative decarbonization programs driven by customers, investors, and governments. Many of these voluntary programs include setting “net zero” targets that aim to reduce emissions to near zero. These programs compensate for remaining emissions through carbon offsets or removals. The role of carbon offsets will be important for many energy providers as they make this transition. As a result, the veracity of the claims of “net zero” and of the carbon credits or removals is gaining attention from financial as well as economic and environmental regulators, who want to ensure that corporate responses to climate change and climate policies are made in a way that guards against the creation of systemic risk to the global financial system.⁶ FERC has a valuable role to play in helping ensure that the use of high-quality credits by regulated companies is recognized and fairly rewarded.

The role of offsets

The uncontrolled emissions of GHG are what economists call an externality. The key feature of this externality is that the environmental impacts of emitting GHG are not taken into consideration in the economic decisions of the emitter. The economics profession has long recognized that the way to change this behavior is to internalize the cost of the externality. This was done in early air quality regulation by imposing limits on emissions or by specifying the nature of the technology to be used in a particular process (commonly referred to as the Best Available Control Technology (“BACT”)). Economists and environmental regulators recognized that providing strict controls on economic activity

⁶ For more on climate and systemic risk, see “Addressing Climate as a Systemic Risk: A Call to Action for Financial Regulators” at <https://corpgov.law.harvard.edu/2020/06/28/addressing-climate-as-a-systemic-risk-a-call-to-action-for-financial-regulators/>

(such as BACT) led to inefficient outcomes that unnecessarily increased the cost of achieving environmental objectives. As a consequence, economists and environmental regulators sought market-based options.

Offsets are a market method for achieving emission reductions in an economically efficient manner. Offsets are a sophisticated version of the early market-based efforts to create efficiency through the “Bubble Policy.” Early Bubble Policy was aimed at controlling emissions from individual plants, as opposed to current offset mechanisms in which the whole earth is the bubble.

Traditional command and control environmental regulation resulted in a higher cost of meeting environmental objectives than necessary. The “Bubble Policy” rectified this problem, at least in part. The Bubble Policy, first introduced in 1979, demonstrates the economic appeal of offsets. Prior to the adoption of that policy, criteria pollutants were regulated through a system of “command and control” in which strict requirements about the nature of pollution control technologies and the type of fuel burned were imposed on generators based upon their vintage. As the then Environmental Protection Administrator (“EPA”) administrator, Douglas M. Costle explained when introducing the Bubble Policy,

Environmental rules now regulate each of the different processes in a plant. With this new policy we will draw an imaginary bubble around the whole plant and tell the company that it can find the most efficient way of controlling the plants emissions as a whole.⁷

The Northport Power Station on Long Island demonstrates the result of implementing the Bubble Policy. Northport was an early adopter of the Bubble Policy. This power plant had four 400-megawatt units, the older three of which were of a vintage that limited their fuel sulfur content to 2.8%. The newer, fourth unit was required to burn 0.3% sulfur oil at a considerable cost premium. The cost of achieving a target level of emissions from the plant was reduced by allowing the company the flexibility to choose fuel types. It was possible to meet emission targets at significantly reduced cost by decreasing the sulfur content of the older three units and by allowing an offsetting increase to the sulfur content of the fourth unit.

The Bubble Policy provided the utility with the flexibility to determine what fuel mix would minimize its fuel costs. In addition to the reduction in fuel cost, the utility also achieved savings by eliminating the redundant fuel handling and storage facilities required to maintain two different fuel types based on their sulfur content. The benefits of a market-based approach such as the Bubble Policy allowed the DuPont Corporation to estimate that it could cut its annual air pollution expenditures by 60%, from \$136 million to \$55 million, by making use of this new policy.⁸

The Bubble Policy focused on controlling emissions at a single plant. Given climate change, the Greenhouse Gas Bubble is now the entire earth. Like the Bubble Policy, offsets are a substitute for meeting a strict command and control emissions cap at a particular facility. Offsets allow “a reduction in emissions in one location to compensate for emissions made elsewhere. . . . Offsets are based on the principle that a ton of greenhouse gas has the [same] climate forcing effect no matter where in the

⁷ US EPA, ““Bubble” Policy Added to EPA’s Cleanup Strategy,” Press release December 3, 1979 (<https://archive.epa.gov/epa/aboutepa/bubble-policy-added-epas-cleanup-strategy.html>).

⁸ US EPA, ““Bubble” Policy Added to EPA’s Cleanup Strategy,” Press release December 3, 1979 (<https://archive.epa.gov/epa/aboutepa/bubble-policy-added-epas-cleanup-strategy.html>).

globe that it is produced.”⁹ Offsets provide a powerful tool for enabling firms and public entities that have an imperative to reduce carbon emissions to minimize the cost of doing so.

An offset credit is equivalent to a GHG reduction or GHG removal enhancement of one metric ton of carbon dioxide equivalents (CO₂e).¹⁰ The GHG reduction or GHG removal enhancement must be real, additive to other reductions, quantifiable, permanent, verifiable, and enforceable.¹¹

The possibilities for offsets are tremendous, including the following broad categories:¹²

- GHG emission reductions from fuel combustion
- GHG emission reductions from industrial processes (non-combustion, chemical reaction, fugitive, other)
- Forestry and Soil Sequestration
- Carbon Capture and Storage
- Direct Air Capture
- Livestock and agricultural methods
- Capture of fugitive methane leakage

The purchase of offsets internalizes the carbon externality and provides information that can guide production or consumption decisions. From an economic perspective, the offset market can provide a cost curve for decarbonization, informing and driving innovation in the market as it searches for the least cost method of decarbonization. The incorporation of ineffective offsets will distort this curve, providing misinformation to the market and policy makers that depend upon it.

Offset Quality

Offsets are not a homogeneous product. Some offsets, like those that involve the physical capture and storage of greenhouse gasses, are readily measurable and tracked. Others, such as biological methods of capture and sequestration, are somewhat more difficult to quantify and typically require additional guardrails for assuring permanence and for avoiding leakage.

A review of various offset protocols reveals a broad consensus on the elements of offset quality. The Offset Quality Initiative¹³ outlined the key criteria defining offset quality, that are summarized below.¹⁴

- **Offsets should be real** representing actual emission reductions
- **Offsets should be additional** and not based upon actions that would have occurred anyway (e.g., in compliance with regulations)

⁹ California Air Resources Board, “Compliance Offsets Protocol Task Force Final Recommendations, March 2, 2021. Pg. 15 Compliance Offsets Protocol Task Force Final Recommendations, March 2, 2021 (ca.gov)

¹⁰ CO₂e – CO₂ equivalents - is the standard unit of accounting for GHG emissions and emission reductions that allows comparison the impact of different greenhouse gasses.

¹¹ California Air Resources Board, “ Cap-and-Trade Regulation Instructional Guidance” September 2012, pg. 12 Chapter 1: How Does the Cap and Trade Program Work?

¹² Largely based upon, American Carbon Registry, Carbon Accounting — American Carbon Registry

¹³ OQI was a coalition of six nonprofit organizations—The Climate Trust, Pew Center on Global Climate Change, Climate Action Reserve, Environmental Resources Trust/Winrock International, Greenhouse Gas Management Institute, and The Climate Group with funding from the Energy Foundation.

¹⁴ Offset Quality Initiative, “Ensuring Offset Quality,” July 2008, Ensuring Offset Quality | Center for Climate and Energy Solutions (<https://www.c2es.org/document/ensuring-offset-quality/>).

- **Offsets should be based on a reasonable baseline** where the difference between the baseline and the actual emissions after the offset project is implemented represents the additional reduction that is the basis of the offset.
- **Offsets should be quantified and monitored** with specific monitoring plans based upon established standards¹⁵
- **Offsets should be independently verified** by a qualified, third-party verifier following approved methodologies and regulations.
- **Offsets should be unambiguously owned** with an uncontested title established by contractual assignment and/or government recognition of ownership rights.
- **Offsets should address leakage** avoiding an increase in emissions outside of the project's emissions boundary that occurs as a result of the project's implementation.
- **Offsets should address permanence** so that the value of offsets cannot be reversed at a later time, for example through consumption or economic activity.
- **Offsets should do no net harm** or cause adverse effects in human health or the environment.

Clearly, there are a wide variety of offsets with elements that will meet each of these criteria in a different manner. Implementing these criteria is a nontrivial exercise and requires some sort of independent oversight. There are two types of governance standards, voluntary and governmental. To a large extent the choice of standards depends on the way that the offsets are used and the nature of the markets in which they are bought and sold.

In recent years, the voluntary and compliance markets have begun to converge. For example, both the California AB 32 program and the International Civil Aeronautic Organization's ("ICAO") Carbon Offsetting and Reduction Scheme for International Aviation ("CORSIA") program accept credits produced by independent standards like the Verified Carbon Standard ("VCS"), the American Carbon Registry ("ACR"), and the Climate Action Reserve ("CAR") for compliance with governmental targets.

The demand for offsets

The demand for offsets falls into two broad categories: voluntary and statutory. The nature of demand is important, because it sends the buyer to different markets with different standards.

Corporations have increasingly taken steps to voluntarily decarbonize and to move to net zero carbon emissions. They have largely relied upon efficiency improvements, fuel switching (e.g., electric vehicles), and carbon offsets to do so. For example, in October 2016, the ICAO resolved to adopt a global market-based measure to address CO₂ emissions from international aviation as of 2021. CORSIA aims to stabilize CO₂ emissions at 2020 levels by requiring airlines to offset any emission growth after 2020. CORSIA relies on offsets to stabilize and ultimately reduce greenhouse gas emissions.¹⁶ Importantly, the United States, through the Federal Aviation Administration,¹⁷ participates in the CORSIA program, which will cover international flights of US airlines using the methods approved by VCS, ACR, CAR, and others.

¹⁵ Such as the World Resources Institute's Greenhouse Gas Protocol for Project Accounting and the International Standards Organization 14064-Part 2.

¹⁶ European Commission, "Reducing emissions from aviation," Reducing emissions from aviation (europa.eu)

¹⁷ <https://www.federalregister.gov/documents/2019/03/14/2019-04739/faas-corsia-monitoring-reporting-and-verification-program>

Figure 1 demonstrates the surging demand for voluntary offsets. As Elizabeth Willmott, Carbon Program Director of Microsoft, commented, "(o)ver the last year, demand for high-quality carbon removal has heated up considerably. It has been a seller's market, with a 15-fold increase in demand for carbon credits expected by 2030, equaling up to \$50 billion." The same article in *Environmental Finance* in which Ms. Willmott's observation was reported expressed the concern that while "growing demand for offsets is a sign of the market's growing maturity, teething problems remain – such as clarifying market guidance and standardizing credit issuance documents."¹⁸

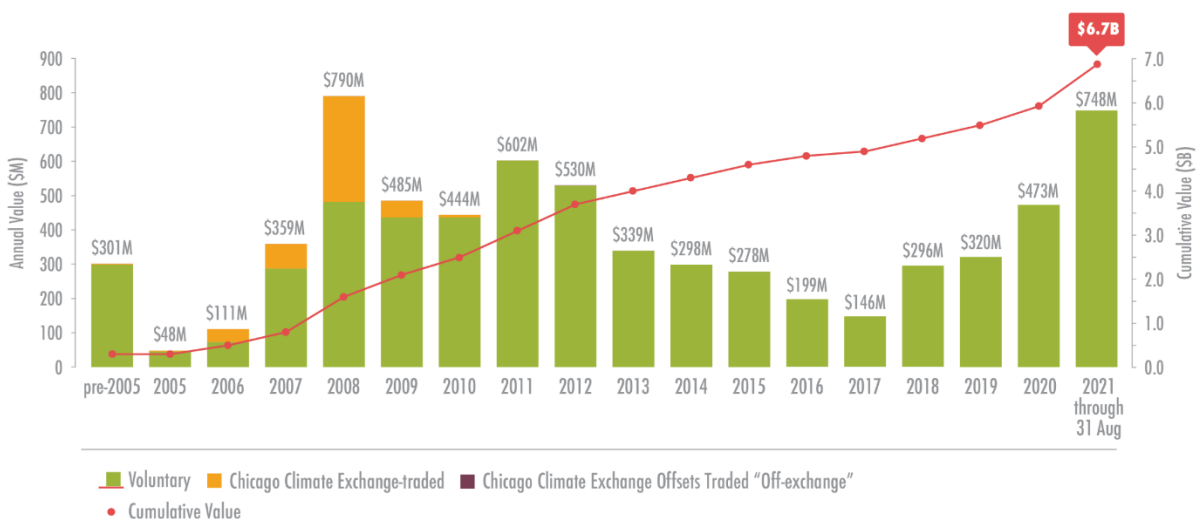


Figure 1 Market Size by Traded Value of Voluntary Carbon Offsets, pre-2005 to 31 August 2021¹⁹

The demand for offsets can also be driven by statutory cap-and-trade policies in which the level of GHG emissions at a particular facility (or system) is capped. There are three ways to achieve the cap. The first is to operate below prescribed limits. The second is to use or purchase allowances that have been allocated to individual users enabling them to emit a certain level of GHG. The third is to purchase offsets so that net emissions from the facility meet the cap.

Offset standards

The offset standard defines the product being bought and sold in different offset markets. There is no single offset product. While there is general agreement on the various elements, there is no comprehensive framework or standard that defines carbon offsets that are available for purchase from carbon registries in voluntary markets. In compliance markets established by governments, the types of offsets allowed for compliance are usually defined by regulation. Early carbon market programs like the European Union ("EU") emissions program are also used in voluntary markets.

In part, the lack of a comprehensive framework for offsets in voluntary markets has occurred because there is no consistent definition for assuring quality in a carbon offset. Different organizations and

¹⁸ Environmental Finance, "Voluntary Carbon Market Rankings 2021," Voluntary Carbon Market Rankings 2021 - Environmental Finance (environmental-finance.com)

¹⁹ Donofrio, S. et.al. "Markets in Motion: State of Voluntary Carbon Markets 2021, Installment 1," Ecosystem Marketplace Insights Report, 2021, <https://www.forest-trends.org/publications/state-of-the-voluntary-carbon-markets-2021/> Used with permission.

governmental entities that sponsor offsets have different requirements for verifying the quality of carbon offsets using their own unique standards and guidelines. Although the requirements differ, each of the different standards follows the same general process: the establishment of a baseline, project review, measurement and verification, and then project certification and registration, and availability for purchase. The standard provides the rules and requirements for projects to be certified, in essence creating a product description. A universal feature of these requirements is the use of independent auditors to verify that the standards are met, and that the carbon savings are evaluated using carbon accounting methods that quantify the level of credits produced. The offsets are then registered and tracked. The high-level overview below and the description of the Kyoto protocol and Paris Agreement demonstrates the diversity of offset products.

The first international effort to create a carbon offset protocol was established by the 1997 Kyoto Protocol that led to the creation of the Clean Development Mechanism (CDM), and its provisions for creating, accounting for, and trading carbon offsets.²⁰ Voluntary carbon offsets markets, with their own governing structures, developed in parallel with the regulated CDM.²¹

The Kyoto CDM expired in 2020 and was superseded by the Sustainable Development Mechanism (SDM) in the Paris Agreement. Under Article 6 of the Paris Agreement, the Conference of Parties (COP) agreed to develop standards for SDM projects, including rules and procedures for designing and implementing climate change mitigation actions and verifying the associated emissions reductions.²² Article 6-4, provides for “[r]eal, measurable, and long-term benefits...[r]eductions in emissions that are additional...[and] [v]erification and certification.” Articles 6-2 and 6-4 of the Paris Agreement direct that the rules and procedures for offsets should “avoid double counting...[and] promote the mitigation of greenhouse gas emissions while fostering sustainable development.” The agreement seeks to “ensure environmental integrity and transparency, including in governance, and shall apply robust accounting.”²³

Table 1 compares the differences in offset policy frameworks between the Kyoto Protocol and the Paris Agreement.

²⁰ “Clean Development Mechanism,” [Webpage] *United Nations Framework Convention on Climate Change*, retrieved March 2021, <https://unfccc.int/process-and-meetings/the-kyoto-protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism>.

²¹ Ibid.

²² “Paris Agreement Annex, Articles 6.2--6.7”, *United Nations Framework Convention on Climate Change*, (2015): 24 <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>. And Marchant, Christopher, “Alok Sharma: COP 26 'will see agreement' on Article 6 debate” [Electronic article], *Environmental Finance*, September 22, 2020, <https://www.environmental-finance.com/content/news/alok-sharma-cop-26-will-see-agreement-on-article-6-debate.html>. See also “Glasgow Climate Change Conference,” [Webpage] *United Nations Framework Convention on Climate Change*, <https://unfccc.int/process-and-meetings/conferences/glasgow-climate-change-conference>.

²³ “Adoption of the Paris Agreement,” *United Nations Framework Convention on Climate Change*, (December 11, 2015) <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

Many of the actions needed to finalize the SDM rules were completed during the COP26 meetings held in Glasgow in November 2021. The United Nations Framework Convention on Climate Change (UNFCCC) reports that COP26 concluded with international agreements in place “on the fundamental norms related to . . . carbon markets, which will . . . will give certainty and predictability.”²⁴ As Spring and Abnett report:

Negotiators closed a deal setting rules for carbon markets at the United Nations COP26 climate talks . . . potentially unlocking trillions of dollars for protecting forests, building renewable energy facilities and other projects to combat climate change. The final deal adopted by nearly 200 countries will implement Article 6 of the 2015 Paris Agreement, allowing countries to partially meet their climate targets by buying offset credits representing emission cuts by others.²⁵

Table 1. Comparison of emissions offset policy frameworks under Kyoto Protocol and Paris Agreement

Kyoto Protocol CDM	Paris Agreement SDM
Offsets shift, but do not reduce, emissions	Offsets must contribute to overall emissions reductions or mitigation
Developing countries do not have reduction targets, nor future climate action commitments	All countries’ mitigation targets and their progress over time are considered
Created incentives to continue business-as-usual, in some cases increasing emissions in order to be paid to reduce them	Incentives should support countries’ climate action ambitions and encourage implementing climate friendly policies
Credits were authorized for many non-additional projects	Credits must reflect and reinforce changing low-emissions technologies and policies
Offsets made questionable contributions toward sustainable development, sometimes locking-in fossil fuel utilization	Offsets must contribute to: (1) real, measurable, and long-duration mitigation and (2) sustainable development that contributes to shifting away from fossil-fuel lock-in

Because the US is a party to the Paris Agreement, Article 6 is open to participation by the US and its companies. The FERC will now have to consider how to align its policies with the standards provided by Article 6 and the sustainable development mechanism (SDM), as agreed at COP26. The US will be free to use the SDM or independent standards such as the VCS, ACR, CAR and the Gold Standard.

The Gold Standard was created by a group of non-governmental organizations, including the World Wildlife Foundation, IUCN, and the Earthwatch Institute. What separates the gold standard from other offset standards is that among other factors it requires local stakeholder consultation, gender-sensitive project design, contributions to sustainable development, exclusion of project types

²⁴ UNFCCC, *COP26 Reaches Consensus on Key Actions to Address Climate Change* [Press Release, November 13, 2021], <https://unfccc.int/news/cop26-reaches-consensus-on-key-actions-to-address-climate-change>.

²⁵ Spring, J. and Abnett, K. “U.N. climate summit reaches carbon markets deal,” *Reuters News*, November 13, 2021, <https://www.reuters.com/business/cop/outline-carbon-markets-deal-emerges-un-climate-summit-2021-11-13/>.

characterized as having greater risks and negative impacts (e.g., fossil fuel switching), and civil society endorsement from its NGO Supporter Network.²⁶

The VCS is the world's largest voluntary carbon offset program. The VCS product is called a Verified Carbon Unit. It was created in 2005 by the Climate Group, International Emissions Trading Association ("IETA"), and the World Economic Forum which convened a collaborative to draft the first VCS requirements. The group has certified nearly 1,700 projects that have reduced or removed more than 639 million tons of carbon and other GHG emissions from the atmosphere.²⁷ The VCS has neither geographic limits nor social/sustainable development goals. The parent organization, VERRA, that supports the VCS protocol has a Climate, Community & Biodiversity ("CCB") program, a framework for assessing land management projects that create net-positive benefits for climate change mitigation. Under this regime, local communities and biodiversity can be combined with a GHG-crediting program, such as the VCS program, and carbon credits can be labeled with the co-benefits.²⁸

Offsets are also a feature of mandatory governmental cap and trade programs in the U.S. The Regional Greenhouse Gas Initiative ("RGGI") became the first mandatory cap-and-trade program to limit CO₂ emissions in the United States in 2009.²⁹ Electric power generators with generating capacity at or above 25 MW located in the states participating in RGGI have been required to obtain a number of CO₂ allowances equal to the number of tons of CO₂ they emit. The cap is reviewed periodically that have resulted in its reduction over time.³⁰ Offsets are limited to 3.3% of covered entities reported emissions. Massachusetts, New Hampshire, and Virginia do not allow CO₂ offset allowances. For all RGGI members, mission credits are used to cover the net emissions after accounting for offsets.

A unique feature of the RGGI market is that it does not have a single set of rules governing. Prior to submission to a state regulatory agency for accreditation, a Consistency Application, including a review, evaluation, and certification by an accredited independent verifier is filed.³¹ Rather than a consistent set of rules governing offsets from each of the participating states, RGGI uses a handbook to provide guidance on offset programs. This allows each state to implement the state specific offset rules codified in its CO₂ Budget Trading Program regulations. "In the case of any actual or apparent inconsistency between RGGI participating state CO₂ Budget Trading Program provisions and this Offset Handbook, the respective participating state's CO₂ Budget Trading Program provisions are controlling."³²

California also has an offset program that provides a mechanism for cost-effectively meeting a carbon emitter's (compliance entities) reduction requirements under its Cap-and-Trade program. The offset rules have been promulgated by the California Air Resources Board ("CARB"). Verification of offsets is administered through approved crediting standards, such as the VCS, ACR, and CAR. In addition, verifications are carried out by independent verifiers and reviewed by CARB staff. Compliance entities are limited to a percentage of their overall compliance obligations (8% through 2021; 4% from 2021-

²⁶ Carbon Markets: The Gold Standard (<https://www.goldstandard.org/impact-quantification/carbon-markets>)

²⁷ Verified Carbon Standard – Verra (<https://verra.org/project/vcs-program/>).

²⁸ Who We Are – Verra (<https://verra.org/about-verra/who-we-are/>).

²⁹ States that are current members of RGGI include: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Virginia

³⁰ Potomac Economics, "Annual Report on the Market for RGGI CO₂ Allowances," May 2021, 2020 Annual Report_DRAFT_05_17_21-Final (rggi.org)

³¹ RGGI, "Offset Handbook for Regional Greenhouse Gas Initiative (RGGI) Model Rule Offset Subpart XX-10 and Model Offset Consistency Applications and Model Monitoring and Verification Reports" Version 1.1, May 13, 2015, pg. 37 (get citations)

³² RGGI, "Offset Handbook for Regional Greenhouse Gas Initiative (RGGI) Model Rule Offset Subpart XX-10 and Model Offset Consistency Applications and Model Monitoring and Verification Reports" Version 1.1, May 13, 2015, pg. 1 (get citations)

2025 and 6% from 2026-2030). Recognizing that offsets have environmental benefits beyond their carbon reduction, beginning in 2021, no more than one half of the offsets may be sourced from projects that do not benefit the state’s environment.³³

Why energy regulators should be concerned over offsets

The energy industry is at an inflection point. Historically, it has operated as if it were largely oblivious to its role in climate change. That is changing. In the United States, both the natural gas and electric industries have embraced the goal of decarbonization. As regulated industries, the cost of decarbonization will be subject to regulatory review. These reviews will determine whether customers are getting what they are paying for and whether the prices paid for offsets support just and reasonable and not unduly discriminatory or preferential rates.

There are essentially three ways that the electric and gas industries can decarbonize. The first is by making investments that reduce emissions, such as carbon capture and sequestration on generating units or increasing the efficiency of those generators or of customer usage. The second is to switch the source of generation from fossil fuels to renewables such as solar. The third is to buy offsets. In considering the costs that are allowed to be recovered in rates, PUCs will need to evaluate whether the choice the utility has made is prudent given the information that was known and knowable at the time that the decision was made.

When a utility creates a plan to decarbonize and then seeks cost recovery for implementing that plan, its regulators will ask whether the path taken was prudent, i.e., was the plan reasonable given the facts that were known and knowable at the time that the plan was formulated. In the event that the utility decides to add carbon capture and sequestration onto a power plant, the PUC will ask why that plan was better than buying offsets. If the utility pursues offsets, the regulatory commission will seek to know that the offsets were reasonably priced and that they were an effective means for reducing GHG emissions.

One way that regulators gain comfort in determining that expenditures are reasonable is by determining that they have been procured from competitive markets. Two key features of competitive markets are price and product uniformity. As discussed above, given the different standards underlying offsets, they are not uniform. In addition, as demonstrated by Table 2, pricing is not uniform either.

Table 2 Source and Average Price of Voluntary Offsets (2020)

Continent where offset sourced	Percent of Offset Volume	Price (US \$)
Africa	14%	\$ 4.24
Asia	57%	\$ 1.6
Europe	2%	\$ 9.47
Latin America and Caribbean	17%	\$ 4.17
North America	14%	\$ 6.31
Oceania	0.4%	\$ 20.57

33 California Air Resources Board, “Compliance Offset Program: About.” (<https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/about>).

Mark Carney, the UN Special Envoy for Climate Action and Finance has characterized the voluntary carbon market as “opaque, cumbersome and fragmented” and suggests that it “struggle[s] with low liquidity and scarce financing.”³⁴ The Interagency Working Group for the Study on Oversight of Carbon Markets has stated in 2011 that “effective oversight could serve a role in promoting market transparency.”³⁵

Different organizations and governmental entities are beginning to address these challenges:

- ICAO established a Technical Advisory Board (“TAB”), chaired by the United States, to review carbon crediting standards for use in the CORSIA program. The TAB approved five crediting standards for eligibility for CORSIA.
- The Integrity Council for the Voluntary Carbon Market (“IC-VCM”), modeled on the CORSIA program, was formed in November, 2020. The IC-VCM will assess independent crediting standards for performance against a threshold standard for “core carbon principles” in order to bring more transparency and fungibility to voluntary markets.
- The Commodity Futures Trading Commission (“CFTC”) is now considering if and/or when the voluntary market could reach a market threshold large enough to warrant federal oversight.³⁶
- Finally, there is increasing scrutiny on companies as to whether they need to report carbon offsets in their public financial reporting, including Environmental, Social and Governance (“ESG”) reporting to the Securities and Exchange Commission (“SEC”).³⁷

Given the national and international nature of the offset markets, PUCs will find themselves in much the same position as they were in the early 20th century when viewing the rate consequences of transactions with trusts. That is, they will not have sufficient information with which to make the types of determinations that are required to enable cost recovery.

FERC’s interest in offset markets

As discussed earlier, the FERC’s statutory charge is to ensure that the prices of natural gas and electricity are just and reasonable and not unduly discriminatory or preferential. Costs for offsets can either be recovered directly through allowed charges, as in the case of mitigating fugitive gas emissions, or the costs of offsets can be used to directly affect the prices in the organized markets. In both cases, the FERC’s regulatory power lies in its ability to disallow costs. In the case of offsets, it can therefore establish processes for determining whether the cost of offsets is reasonable and recoverable.

The FERC’s regulatory interest in offsets is to ensure that the prices that are charged are reasonable and not unduly discriminatory or preferential. To do so, it must have a basis for knowing that the product

³⁴ “Mark Carney oversees blueprint for scaling up carbon markets as offset demand soars,” Climate Home News, October 11, 2020. (<https://www.climatechangenews.com/2020/11/10/mark-carney-oversees-blueprint-scaling-carbon-market-offset-demand-soars/>).

³⁵ Interagency Working Group for the Study on Oversight of Carbon Markets, “Report on the Oversight of Existing and Prospective Carbon Markets,” January 18, 2011, pg. 15 <https://www.cftc.gov/PressRoom/PressReleases/5965-11>

³⁶ CFTC, “Opening Statement of Commissioner Dan M. Berkowitz before the Energy and Environmental Markets Advisory Committee,” June 3, 2021 <https://www.cftc.gov/PressRoom/SpeechesTestimony/berkowitzstatement060321>

³⁷ Harnish, K.J., et. al., “SEC and CFTC considerations regarding carbon credits and ESG disclosures,” Norton Rose Fulbright, November 2, 2021, <https://www.nortonrosefulbright.com/en-us/knowledge/publications/137ce3c4/sec-and-cftc-considerations>

delivered is real and effective. As the CARB has observed, “(p)hony tons, or tons not strictly enforced, only serve to undermine and discredit the entire program and further accelerate climate change,”³⁸

Fransen, Bhatia and Hsu argue that “(t)o maximize the utility of GHG information reported to GHG programs, the information should be based on a GHG accounting and reporting standard – that is, a framework that incorporates commonly accepted accounting approaches, concepts, and terminology to establish a true and fair account of GHG emissions.”³⁹ The FPC’s early contribution to the regulation of the electric and gas systems was the development of accounting protocols. Oversight increases transparency and consistency in product design and information, increasing the coherence of the market, while enabling the FERC to more effectively determine whether prices are just and reasonable, and not unduly discriminatory while at the same time aiding state PUCs in their evaluation of the prudence of offset expenditures. In the future, offset expenditures will likely be from markets that are national and international in scope and, like power bought and sold within trusts, outside of the regulatory jurisdiction of state PUCs.

Kolstad and Wolak, provide evidence of the importance of offsets in the markets regulated by the FERC in their paper “Using Environmental Emissions Permit Prices to Raise Electricity Prices: Evidence from the California Electricity Market.” The authors point out “that NOx emission permit prices during 2000 and 2001 were primarily used by these generation unit owners to cost-justify higher bids into the California electricity market that would set higher prices for all electricity they produced.”⁴⁰ The prices used to cost-justify higher bids were inflated when compared to the price paid for NOx permits by non-generator participants in the same market. The authors suggest that their results “underscore the importance of coordinating the design of any environmental market with the resulting product market that cause these emissions, otherwise design flaws in one market can allow firms to leverage these market efficiencies in other markets.”⁴¹

Efficient incorporation of offsets into energy markets will also require the development of secondary markets. The Interagency Working Group for the Study on Oversight of Carbon Markets cites “at least four aspects of the structure of secondary markets that are relevant to a discussion of market oversight: the types of transactions that occur; the means by which and venues through which transactions occur; the entities that participate in the markets; and the provision of information (including price transparency) regarding secondary market activity.”⁴²

Currently, there is no federal regulatory structure overseeing the markets for offsets other than US participation in CORSIA. The FERC can play a key role in addressing that gap.

³⁸ California Air Resources Board, “Compliance offsets Protocol Task Force Final Recommendations,” March, 21 2020. Pg. 16.

³⁹ Fransen, T, et al.,, “Measuring to Manage: A Guide to Designing GHG Accounting and Reporting Programs, report issued by The World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) 2005, pg. 3

⁴⁰ Kolstad, J and Wolak, F., “Using Environmental Emissions Permit Prices to Raise Electricity Prices: Evidence from the California Electricity Market,” University of California Energy Institute, Center for the Study of Energy Markets, Paper CSEMWP113, 2003. pg. 2, <https://haas.berkeley.edu/wp-content/uploads/csemwp113.pdf>.

⁴¹ Ibid, pg.4.

⁴² Interagency Working Group for the Study on Oversight of Carbon Markets, “Report on the Oversight of Existing and Prospective Carbon Markets,” January 18, 2011, pg. 14 <https://www.cftc.gov/PressRoom/PressReleases/5965-11>

Recommendations

In order for the FERC to assess its role and approach to the regulation of markets for carbon offsets, it would be prudent for it to initiate a Notice of Inquiry. There are many questions that will be relevant to the FERC's inquiry. These include:

1. How might offsets be used in the FERC regulated markets and industries?
2. What are the FERC's authorities with respect to the regulation of carbon offsets and their use in the markets that it regulates?
3. Is it just and reasonable and not unduly discriminatory or preferential for the cost of offsets recovered in FERC jurisdictional activities to include costs associated with achieving social and development goals?
4. How does FERC's role of offset oversight change depending on how carbon limitations are imposed?
5. Will (or should) FERC jurisdictional entities be allowed to participate in international voluntary markets in a similar way to US airlines in the CORSIA program?
6. What types of accounting systems are required to enable an efficient offset market to thrive?
7. What kind of market monitoring and oversight are appropriate to assure that market power is not exercised?
8. How will the FERC's efforts support the COP 26 agreements associated with carbon offset markets?
9. Should the FERC coordinate with the IC-VCM? If yes, how?
10. Should the FERC establish a new process for the certification of offsets, or should it first review existing processes and determine which are acceptable?
11. How should the FERC coordinate with stakeholders and other federal agencies and state agencies that might have jurisdictional equities in carbon offset markets, including the EPA, the CFTC, the SEC, the Federal Trade Commission, and the Department of Energy at the federal level, and state PUCs, consumer protection offices and state energy offices at the state level?
12. What is the appropriate method for coordinating with state offset programs?

The inquiry described here would initiate a robust discussion that will allow both a give and take of ideas and the development of creative solutions to the role of offsets in the FERC regulated markets. Doing so, would be a continuation of the FERC history of transforming markets; on this case, transforming energy markets to decarbonize while maintaining reliability at just and reasonable and not unduly discriminatory or preferential rates.

The task that lies ahead for decarbonization is significant. To respond to that task, I encourage the FERC to adopt creative procedures that will enhance the development of creative solutions. As such, one approach that the FERC might consider is to use its world class mediation group to begin a dialogue that can stimulate ideas and creative solutions that are not engendered by a purely paper proceeding that involve simply taking snapshots of ideas and do not provide a process for parties to explore their common interests.

Respectfully submitted,

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