

Forging the Climate Consensus

Oversight of the Greenhouse Gas Market

Introduction

Cap-and-trade programs are designed to reach an emissions reduction target at the lowest possible cost. The trading mechanism associated with cap-and-trade provides companies with flexibility and limits costs to consumers. Previous environmental markets—such as those created to address SO₂ and NO_x emissions— have demonstrated the value of this approach. These programs have achieved lower-than-projected costs, spurred innovation, and produced verifiable environmental results. Despite this track record, recent failures in the regulation of the housing and credit markets and extreme volatility in energy markets have cast doubts on the transparency, integrity, and fairness of financial markets in general. These concerns, coupled with the potential magnitude of an economy-wide market for greenhouse gas (GHG) allowances, have led policymakers and stakeholders to seek assurances that a strong regime will oversee and regulate this brand new market.

Some stakeholders have called for significant constraints on fundamental design elements of an emissions trading program, such as limits on the ability of traders and other entities without a compliance obligation to participate in the market. Others have called for the elimination of all over-the-counter (OTC) trading of derivatives—that is a contract executed directly between parties, instead of over a regulated exchange—or at a minimum putting the transparency and regulation of this type of trading on the same level as exchange-based trading for other commodities. At the same time, in response to these and other proposals, market advocates have raised concerns that overly stringent regulation of a new GHG market could be counter-productive, leading to higher costs for consumers and businesses and undermining investment in cleaner technologies.

The Commission has concluded that a market for GHG emissions embodies all the benefits and potential pitfalls of financial markets in general. Thus, oversight of GHG markets should be addressed in the context of broader reforms governing commodity, credit, derivative, and other financial markets. An approach that regulates GHG markets the same way as similar commodity markets would be preferable to a piecemeal system that could undermine broader goals of regulatory consistency and transparency of financial markets. On the other hand, because of its political, economic, and environmental importance, the GHG market will likely face more scrutiny, certainly at the start, and should perhaps be subject to greater regulatory oversight. At the same time, there is a real concern that excessive regulation could curtail the efficiency of the allowance trading program, which is the reason for adopting a market-based approach to GHG regulation in the first place. In any event, Congress may adopt GHG legislation before more general financial oversight reforms are put in place—in which case

consumers and other stakeholders will demand that concerns about market abuses be directly addressed in the legislation. If so, then the Commission recommends that *interim* oversight measures be adopted in order to build confidence in GHG markets and mitigate concerns that these new markets could be easily manipulated.

Key Points and Recommendations

Ultimately, the Commission believes that it is possible to maintain the benefits of a cap-and-trade program in terms of promoting innovation and cost savings, while minimizing opportunities for market manipulation and fraud. We have identified several specific program design elements that we believe are critical for striking this important balance:

- Rigorous oversight and disclosure requirements should apply to all aspects of the GHG allowance market, including derivative products. Consistent with this approach, there should be stringent penalties for abuses and there may need to be new mandates for position limits, clearing and margin requirements, reporting and disclosure, and other aspects of regulation. Ultimately, these elements should be made consistent with larger federal efforts to reform and regulate financial markets.
- It is difficult to impose the “right” amount of regulation and oversight for a new market before that market develops. There are simultaneously significant risks of failing to anticipate potential abuses and of undermining economically productive activities. We believe that broader architectural design features that allow the market to function but limit the potential for abuse are preferable when developing a new market. To the extent that climate legislation imposes specific restrictions on certain market activities, there should be authority to modify these restrictions based on credible evidence or evaluations as the GHG market develops and as broader market reforms are implemented.
- Many of the same design parameters that make for an effective GHG trading program also help prevent market abuses. These include clear rules for trading, transparent reporting of emissions data, rigorous verification and monitoring of emissions and offset reductions, clear and stringent penalties for violators, and equal access to the markets and information by all participants. Additionally, permitting regulated entities to bank and borrow allowances across compliance periods and including a well-crafted offset program will not only improve the cost-effectiveness of the program but will also increase the elasticity of allowance supply and demand and thereby reduce the risk of manipulation.
- Comprehensive market reforms will take some time to implement. In the meantime, a price collar would help counter concerns about market manipulation and excessive speculation. In its purest form, a price collar would be a simple price cap that is paired with a minimum price floor, both of which escalate in a pre-determined manner over time and phases out after an initial period. In our view, this is the single most transparent way to limit significant price

volatility, whether caused by market speculation or other factors. As discussed in our previous paper “Managing Economic Risk in a Greenhouse Gas Program,” a properly designed allowance reserve coupled with a price floor offers many of the benefits of a simple price cap and provides greater certainty about cumulative emissions reductions over the life of the program.

- Because spot and futures transactions in emission allowances will be conducted similarly, regulation should be consistent across the spot and futures markets. As such, it will also be efficient to rely on a single regulatory agency to oversee both markets. That agency should have clear jurisdiction over spot and futures transactions, along with the resources and personnel needed to adequately oversee all relevant markets. Moreover, because it is likely that markets for emissions allowances and derivative products will develop abroad, there will be a need to coordinate regulatory oversight with these venues to avoid circumvention of domestic regulations.

In the following sections, we provide a brief overview of how commodity markets are structured, outline concerns about market oversight and options to address these concerns, and summarize NCEP’s recommendations in the context of the current legislative debate.

DESCRIPTIONS OF KEY MARKET-RELATED TERMS

<p>Over-the-Counter (OTC)</p>	<p>An OTC transaction is any contract executed directly between parties, as opposed to being mediated through a regulated exchange. OTC transactions offer the benefit of flexible terms that can be negotiated to meet the needs of the contracting parties.</p>	<p>Futures / Forwards</p>	<p>A future is a contract for future delivery of a particular asset. The price, length of maturity, and other terms vary widely among contracts. A futures contract does not usually result in physical delivery of the asset, but is instead satisfied by a payment based on the market price of the asset at the time of maturity. By contrast, a <i>forward</i> is a contract intended to result in future physical delivery.</p>
<p>Exchange</p>	<p>An exchange is a centralized trading floor in which assets are made available to multiple offerors simultaneously. To facilitate trading, products placed on exchanges usually feature standardized terms.</p>	<p>Options</p>	<p>A party to an option pays a fee for the right to purchase (“call”) or sell (“put”) an asset at a particular price at a future date. The price, date of maturity, and other terms vary widely among contracts.</p>
<p>Spot Trading</p>	<p>Also known as the “cash” market, spot trading involves an exchange of cash for immediate delivery of a particular asset. Spot trades in commodities, and forward contracts (defined in the right column of this table), are both excluded from Commodity Futures Trading Commission (CFTC) regulation.</p>	<p>Swaps</p>	<p>Swaps involve an exchange of value between two assets. An example of a GHG allowance swap is an agreement to trade the value of a Clean Development Mechanism (CDM) credit for an EU Emissions Trading System (ETS) credit at a specified date. Like futures, swaps are usually settled through payment rather than delivery.</p>
<p>Derivatives</p>	<p>Derivatives are financial contracts that gain or lose value as an underlying asset changes in price. Futures, options, and swaps are all examples of derivative contracts.</p>	<p>Clearing Organizations</p>	<p>Clearing organizations are financial institutions that stand as intermediaries between two parties to a contract, and assume the risk that one of the parties will default. These entities charge a fee for this service. Clearing is usually associated with exchange-traded assets, but can take place in OTC markets as well.</p>

Background on Market Structures

The basic structures and institutions for GHG allowance trading are similar to those associated with other energy commodities. Commodities have “spot” or “cash” markets that allow actual physical quantities of the commodities to be traded. In the case of emission allowances, for example, a power company could make a purchase on the spot market to obtain the allowances needed to satisfy its current-year compliance obligation.

Commodities markets also use “derivatives,” which are financial instruments such as futures and options contracts that are used to hedge the risk of future price fluctuations. Futures, options, and swaps are all examples of derivative contracts.¹ More generally, derivative contracts may be defined as financial instruments, linked to the price of an underlying commodity, that are used to hedge risk but do not result in a transfer of property.²

An important feature of GHG allowances is that they will exist solely as serial numbers in a government tracking system—in other words, an allowance is not a tangible item that must be physically transported and delivered from seller to buyer. As such, allowances can change hands many times; they are homogenous and, within a given compliance period, fully fungible (that is, any entity can use any valid allowance—regardless of origin—to meet its regulatory obligations within a given compliance period). This has several implications for future GHG markets. First, because of the ability to bank and borrow allowances, it means that there will likely be little difference, in practice, between physical and derivatives markets for GHG allowances. Second, it means that regulators will be in a better position to know who holds what allowances at all times than is the case in other commodity markets. A further implication is that allowances will in some ways bear a closer resemblance to financial products like stock options than to conventional commodities (like barrels of oil) that are more cumbersome to deliver and that embody extraction and storage costs. Finally, the timing of demand for allowances is shaped by a known compliance schedule (i.e., regulated entities are required to submit allowances at known intervals), though the ability to bank and borrow allowances across compliance periods, if permitted in the legislation, can of course modify this timing to a certain extent.

¹ Commodity Futures Trading Commission. The CFTC Glossary: A Layman’s Guide to the Language of the Futures Industry. July 2006.

² With respect to derivative products for GHG allowances, this definition needs additional clarification. Futures contracts require physical delivery unless they are offset prior to the delivery date. Although futures contracts for many commodities are frequently offset prior to physical delivery, many futures contract for GHG products will likely be delivered. For instance, according to the EU ETS Auction Consultation, the rates of physical delivery on EU ETS futures have been found to be higher than in other futures markets: “Up to now, the share of physical delivery in the European CO₂ futures market is significantly higher than in other derivatives markets, i.e. futures are not only used for hedging strategies, but as a means of buying or selling allowances.” This is important for the GHG market debate because, as a result of this requirement, there will be little difference between a spot transaction and a transaction of a prompt month futures contract (i.e., one that provides for future delivery). It should also be noted that futures contracts will be an important mechanism to generate a forward curve price signal.

Other characteristics of the allowance market can be expected to more closely resemble ordinary commodities. As with many other commodities, the demand for GHG allowances and related derivatives is linked to trends in other markets. If, for example, the price of natural gas goes up relative to the costs of more CO₂-intensive fuels, the price of allowances will likely also rise as consumers shift to more polluting sources of energy, assuming there is a real time fuel switching capability. Because allowances (as well as offset credits) are freely interchangeable, at least within a single trading system, they also lend themselves to “traditional” transactional forms used in other commodities markets, such as forward contracts, futures, options, and swaps.

Overall, experience with existing SO₂ and NO_x markets in the United States and with the European Union’s Emission Trading Scheme (EU ETS) indicates that GHG markets will be more similar than different in comparison to other commodity and financial markets. Furthermore, similar issues and concerns, in terms of the need for market reform and oversight, arise in the context of GHG markets as arise in financial markets more generally. These concerns are addressed in the following section.

Concerns About a New GHG Market

GHG allowance markets are potentially vulnerable to the same types of problems that can threaten any market — including fraud, price manipulation, “cornering,” and insider trading. Concerns about market power and market manipulation were central, for instance, to the California electricity crisis, and some have blamed weak oversight of energy derivatives in part for the sharp escalation of oil and natural gas prices between 2005 and 2008.³ Meanwhile, the recent financial system crisis has also focused attention on behaviors that contribute to systemic risk. The primary concerns that apply across nearly all financial markets are summarized below.

Market Manipulation: Market manipulation is generally defined as a deliberate attempt to create or maintain an artificial price for a commodity or security. To the extent that particular market players can exercise market power and exert undue influence on the price of a commodity, they can drive prices in emissions and energy markets higher (or lower) than competitive levels.⁴ Moreover evidence of market manipulation might also shake public confidence in the cap-and-trade program itself, thereby damaging the credibility of a policy mechanism that will be critical to address climate change.

Excessive Speculation: There is continuing debate over the extent to which “excessive speculation” has driven up the costs of oil and other commodities in recent years. Although speculation in commodities has the potential to drive prices higher, it is also true that speculators can play

³ It should be noted, however, that other economists studying this issue disagree with this proposition.

⁴ If prices don’t actually accurately transmit the marginal cost of emissions abatement, there are real consequences for the effectiveness of the policy as a whole – the private sector could take on more costly emission reductions projects than are needed, or if the price is manipulated lower, it could discourage investments that should otherwise be economically desirable.

important roles that help make markets more efficient and lower costs. This includes enhancing liquidity in a market by being ready buyers and sellers for other participants.

Systemic Risk: The recent financial crisis has focused attention on behaviors that contribute to “systemic risk.” Systemic risk is the risk that behaviors could cause catastrophic failures that extend across markets and threaten large institutions. These behaviors could include “overleveraging” (excessive borrowing to finance risky investments), excessive speculation, and “herd mentalities” leading to asset bubbles and panics. However, in order to create systemic risk such behaviors must be indulged at a very large scale.

Market Design Issues

Before discussing options for more vigorous oversight of GHG markets, it is important to focus on several design elements of a cap-and-trade program that will have a direct impact on the resulting market’s exposure to disruptions from price manipulation, fraud, and/or excessive speculation. Several design elements can minimize the risks of market manipulation within a GHG cap-and-trade program:

- Legislative and regulatory certainty, understandable rules, reliable consequences;
- Banking and borrowing across compliance periods;
- Rigorous monitoring and verification of emissions and offset reductions coupled with adequate enforcement resources and penalties for non compliance;
- Government allowance tracking;
- Timely, transparent, and equal public access to information on verified emissions, allowances, and offset projects; and
- An allowance auction design that encourages participation, competitive bidding, and equal access to information, while also minimizing the ability of market players to influence prices with collusion, market power, or an attempt to submit bids without an intention to execute.⁵

None of the design elements noted above are particularly controversial. Yet, there has been more significant debate about whether legislation should allow unlimited participation in GHG markets by traders and other investors. Indeed, some legislative proposals would restrict trading to entities with compliance obligations.⁶ In general, however, markets with fewer entities are more vulnerable to

⁵ A full discussion of how the design of an auction can help prevent the manipulation of auction prices is beyond the scope of this paper. For a good treatment of these issues, see Holt, C., Shobe, W., Burtraw, D., Palmer, K., Goeree, J. (2007). Auction Design for Selling CO2 Emission Allowances Under the Regional Greenhouse Gas Initiative, Final Report.

⁶ The Cap and Dividend Act of 2009 (H.R. 1862), introduced by Representative Van Hollen, authorizes trading only among GHG permit holders. Similarly, draft legislation circulated by Senator Cantwell under the title “Carbon Limits and Energy for America’s Renewal Act of 2009” or CLEAR Act 2009, allows only covered entities to purchase GHG permits and prohibits the development of a secondary market for GHG permits.

the exercise of market power by individual participants. An overly constrained market would function less efficiently and therefore drive up overall costs. In addition, there is often no clear delineation between who is a covered entity and who is a trader. For example, banks that trade allowances may also own an equity stake in a power plant regulated under the program. Conversely, some power companies that own regulated entities have their own energy and allowance trading department, which may take speculative positions in some markets. Finally, it is important to emphasize that traders serve an important function in markets by providing the liquidity that allows compliance entities to hedge risk and manage the timing of capital expenditures. In fact, traders have been active participants in the successful SO₂ trading program, where they have filled this liquidity role.⁷ Thus, the Commission believes that restricting participation makes a market more vulnerable to manipulation instead of less.

Options for Ensuring Market Integrity

Although market misconduct around GHG financial products is possible, there is no reason to think it is more likely than in other financial markets. Moreover, these risks can be minimized through vigorous market oversight, clear and consistent regulatory safeguards, and good market design. GHG legislation passed in the House includes explicit market reforms and oversight authorities for GHG emission markets. In the Senate, Senators Dianne Feinstein (D-CA) and Olympia Snowe (R-ME) have introduced the “Carbon Market Oversight Act of 2009,” which also provides specific oversight authorities for the new GHG market. Meanwhile, the Obama Administration has offered an across-the-board proposal to reform financial markets and related regulations. Included in the Administration’s plan is a proposal to regulate derivatives contracts, including those for GHG allowances. Some of the restrictions and mechanisms that have been included in the Administration’s overall proposal that would affect regulation of the GHG market are summarized below.

Venue Restrictions: In general, the trading of emission allowances and their derivatives on the secondary market may take place in three different types of venues, which have been defined in past regulations by the Commodity Futures Trading Commission (CFTC):

- **Designated Contract Market (DCM):** DCMs are formal exchanges such as the New York Mercantile Exchange (NYMEX). They are regulated by the CFTC and are subject to the most extensive regulatory oversight and requirements, including disclosure requirements for transactions, procedures for setting position limits, credit risk management tools such as margin requirements, and registration requirements for participants. These regulatory requirements impose a high degree of standardization and are intended to protect market participants from the default of counterparties and from manipulative behavior by other market participants. However, these benefits also add to the costs of trading on these exchanges.

⁷ Congressional Research Service. Air Pollution as a Commodity: Regulation of the Sulfur Dioxide Allowance Market 15 (CRS Report No. RL34235 2007). October 2007.

- Exempt Commercial Market (ECM): ECMs are electronic trading facilities that have traditionally been exempt from the highest level of CFTC regulation, which is reserved for DCMs. These markets, which are limited to larger players, provide lower transaction costs for market participants in exchange for higher transaction risk. However, in the aftermath of highly publicized abuses in the electricity and natural gas markets by Enron and Amaranth respectively, a March 2009 CFTC final rulemaking extended some of the reporting and position limit requirements formerly reserved for DCMs to ECMs.
- Over-the-counter (OTC): OTC transactions are discreet bilateral arrangements directly between two parties or facilitated by market intermediaries, such as brokers. Although the CFTC has some general anti-fraud provisions that apply to these markets, the Commission generally does not have a strong oversight role for OTC transactions and most OTC transactions are not reported to the CFTC.

As discussed below, several Congressional proposals would require all standardized derivative contracts associated with GHG allowances to trade on exchanges (DCMs). Some policy-makers have focused on exchanges because they promote two desirable goals. First, exchange transactions are more *transparent to regulators*. By requiring participants to transact in a limited number of identified venues, exchanges allow regulators to more easily examine the nature and extent of market activity; collect data from the exchange itself, or from individual traders; and monitor market failures or misconduct. By making such data available, exchanges also enable regulators to enforce regulations at lower cost. Second, exchanges make the market *transparent to participants* by developing standardized financial products and by promoting the rapid publication and dissemination of price information. In principle, a marketplace with well-informed participants should (1) operate more fairly by reducing opportunities for fraud or deceptive behavior and (2) operate more efficiently by allocating capital on the basis of current and complete data. Both of these factors, in turn, improve public confidence in the integrity of the market and encourage investment, thereby increasing the volume of transactions and the liquidity of the market as a whole.⁸

While exchanges offer clear benefits for many types of transactions, there is also a strong case for allowing some OTC trading to handle more customized types of trades. In existing emissions markets, there has been significant trading of customized contracts on OTC markets. For example, in the U.S. SO₂ trading program, coal contracts have been bundled with emissions allowances to assure that if sulfur content varied, the combination of coal and allowances would allow electric utilities to meet a compliance standard.⁹ According to one observer, this type of flexibility has allowed a large utility in the Southeast to structure a coal contract that has helped keep a local coal mine in operation.¹⁰ A variety of additional types of customized contracts could be envisioned for a GHG market. For example, an electric power company may find it useful to hedge risks by entering into contracts that

⁸ See Congressional Oversight Panel, Special Report on Regulatory Reform 13 (2009).

⁹ Ellerman A.D., Joskow P., Schmalensee R., Montero J.P., Bailey E. *Markets for clean air, the US acid rain program*. Cambridge University Press, Cambridge. 2000.

¹⁰ Gentry, C. and Media, A. Testimony before Senator Tom Carper and Senator Lamar Alexander. "Roundtable: Is a three-pollutant bill needed?" April 23, 2009.

protect against changes in relative prices (for example, electricity prices in a particular region or city as compared to allowance prices), or to use contracts that allow for the purchase (at a specified price) of a quantity of allowances that depends on local electricity demand. These examples illustrate that it is impossible to anticipate the entire set of customized contracts that might prove beneficial. Restricting market participants to using only standardized contracts could impede innovation in contract design and could impose additional costs on market participants. Additionally, another issue that arises with exchange trading is the cost of transacting trades.¹¹

Advocates of maintaining OTC trading for GHG derivative markets also argue that the stringent capital requirements imposed by exchanges (see discussion below) could make financing difficult for some projects. For instance, the stream of offset credits earned by qualifying GHG-reduction projects is frequently used by project developers to attract needed equity investment. These agreements are, by necessity, highly tailored to the individual risks of the project and usually require intensive negotiations over the assignment of those risks. In addition, these agreements may involve a single project undertaken by a relatively small player—such as a farmer or forest owner—who would find it onerous to comply with the registration and reporting requirements that often accompany participation in exchanges. Thus, treating such customized or individualized contracts under which offset project investors get rights to future offset credits as regulated futures contracts could create a significant obstacle to, or even completely preclude, investment in certain offsets projects.

The Waxman–Markey bill would require exchange trading for all derivatives.¹² Feinstein–Snowe requires all trading of GHG allowances and standardized allowance derivatives to occur through “registered GHG trading facilities.” Unlike the Waxman–Markey bill, Feinstein–Snowe permits some OTC and bi-lateral contracts if the CTFC determines that such contracts are unique, are not settled against the price of emission allowances or derivatives (that is, a contract isn’t exchanged in reference to the emissions allowance price), and are not part of a large liquid market. In order for trades in these customized products to occur, each trade has to be cleared centrally or reported to the CTFC and included as part of the total GHG market risk exposure of the participant. Similarly, the Obama Administration proposal would not prohibit all customized OTC contracts. However, large OTC dealers

¹¹ It is worth elaborating on how the motivations for OTC trading differ for spot versus derivatives markets. In spot markets, the case for OTC trading is predominantly to help companies minimize their transaction costs, as what is being traded is always the same: allowances. For example, if a firm has a very large number of allowances to buy or sell, it would not want to expose itself to the market by placing orders on an exchange because such exposure could raise or lower prices against its trading position. Instead, a firm would rather do this in a way that does not move allowance prices against its trading position—such as by having a broker arrange a large block trade off-exchange (though reporting of the transaction immediately afterwards could still be required). In derivative markets, the benefits of OTC trading are primarily to allow a variety of instruments to be traded—even ones that are not amenable to being listed on an exchange where, unlike in the spot market, there is not just one instrument being traded. Furthermore, exchanges typically drop low-volume products because they are not profitable. If all trades in a specific product are required to be on exchanges and no exchange is willing to make a market, the effect is to essentially prohibit all trading. Exchanges don’t trade otherwise standard stock options contracts that have distant expiration dates, for instance. In this case a firm would only be able to buy or sell them over the counter.

¹² Certain types of swap transactions may, however, be allowed under H.R 2454.

and some other firms would be subject to regulatory requirements with regard to capital reserves, business conduct, reporting, and initial margins. All standardized OTC derivatives would be cleared through clearing organizations, which would also impose margin requirements.

The Commission believes that customized derivatives can be valuable for hedging risks and increasing the overall efficiency of a GHG market. We support an approach that maintains the option of trading customized derivatives while ensuring that all derivatives have sufficient oversight and safeguards, and we view the proposals from Senators Feinstein and Snowe and the Obama Administration as constructive attempts to balance these goals.¹³

Reporting and Disclosure: Transparency is one of the most valuable tools for facilitating efficient and well functioning markets and for shedding light on disruptive market behaviors. Public access to aggregate market information (for example, concerning price, volume, and types of transactions) would facilitate price discovery, reduce opportunities for fraud, allow for greater oversight, and enable thorough analysis of market behaviors and price movements to discourage and/or uncover misconduct. Less clear is which data should be public and what should be considered confidential business information. Similarly, there is debate about which information should be automatically reported to oversight authorities and whether the costs of this reporting requirement for certain information are justified.

Assuming that all standardized contracts are required to be executed on an exchange that makes price and volume information public, questions remain about the treatment of customized contracts. For example, in the case of customized contracts that are executed outside a regulated exchange or regulated clearing organization, should all settled contracts or just those contracts that exceed a volume threshold and/or are transacted by large traders be made public? In addition to information about price, volume, time/date, and basic transaction type, which additional information, if any, should be made public about the terms of customized contracts? Should public data requirements be different for customized contracts when they involve spot allowances versus allowance derivatives? While there is debate about the risks and benefits of releasing detailed public data, there is good reason, based on systemic risk, for requiring that all data be reported to a regulator.

Requiring extensive contract details to be made public for each personalized agreement would most likely create a burden and raise concerns about business confidentiality for affected firms. However, a requirement to report price and volume information, without details on the type of transaction (for example, spot, option, forward, swap, etc.) would render reports less meaningful and harder to interpret. A balanced approach might include public reporting of basic transaction type, price, volume, and timing coupled with confidential full reporting requirements to regulators.

Some Congressional proposals incorporate these types of reporting and market information requirements. For example, the Feinstein–Snowe bill would require all trades of allowances and

¹³ However, unlike in Feinstein-Snowe, we believe spot trades should be allowed off the exchange subject to reporting requirements, akin to what exists with large block trades of NYSE listed stocks.

standardized derivatives to create a “central limit order book” (CLOB) so that trades are recorded in real time with the CFTC. A CLOB is an electronic platform that facilitates buying and selling, provides price and other information to the public, and potentially allows regulators to collect transaction data and monitor market activity.¹⁴ The Obama Administration’s derivatives proposal would require all trades not cleared through clearing organizations to be reported to a regulated trade repository, which in turn would make data on individual entities’ positions and trades available to regulators, and aggregate position and volume data available to the public.

Margin Requirements: Commodity exchanges set “margin requirements” that essentially constitute the collateral that the holder of an option or futures contract must deposit to cover credit risk. Such margin requirements increase the capital required to engage in trading and reduce the risks that an over-leveraged firm could default on its obligation to a counter-party. Because of this capital requirement, margin restrictions increase the costs of trading and limit the positions held by some parties.

The Waxman– Markey bill charges Federal Energy Regulatory Commission (FERC) with promulgating margin requirements for allowances in the spot market. This would be a new role for FERC as its purview has generally not extended into market regulation of this nature. Because all derivatives would be trading on exchanges under the bill, margin requirements for these transactions would be set by the applicable exchanges. In the Senate, the Feinstein–Snowe bill would require the CFTC to promulgate regulations on margin requirements for individual market participants within one year. It is important for agencies promulgating margin requirements to examine not just cash-only margins but also other kinds of collateral, such as asset equity.

Clearing requirements: Clearinghouses ensure that both parties to a trade fulfill their contracts by assuming the financial risk if one of the parties defaults. Clearing organizations are owned by their members, who are collectively responsible for guaranteeing trades. Traders who are not members must have a member guarantee their trades. Given the possibility of extensive losses due to defaults, these organizations carefully monitor the credit quality of their members and impose margin requirements and position limits.^{15,16}

Clearing is usually associated with exchanges, but can take place in OTC markets as well. Many customized derivative and spot contracts that are not amenable to a standardized exchange-traded product could be cleared through a regulated clearing organization. This offers many of the advantages of trading on an exchange in terms of mitigating the risk of default and providing transparency. However, there may be legitimate reasons why compliance entities and market participants that serve

¹⁴ See Monast, J., Anda, J. and Profeta, T. Nicholas Institute for Environmental Policy Solutions. U.S. Carbon Market Design: Regulating Emission Allowances as Financial Instruments. (2009).

¹⁵ Harris, L. Trading and Exchanges, Market Microstructure for Practitioners. Oxford University Press, New York. 2003.

¹⁶ Historically, clearing organizations are overseen and regulated by CFTC to ensure that they maintain adequate capital.

compliance entities would want to execute some allowance and derivative transactions outside of a regulated clearing organization. For example, some customized contracts may involve legitimate complexities that would make risk assessment by a regulated clearing facility difficult or costly.

Regarding clearing requirements, Waxman–Markey would have FERC set standards for spot allowances that would be traded on exchanges. Because the Waxman–Markey bill requires exchange trading for all derivatives, clearing would also be required under existing CFTC authority. Feinstein–Snowe requires the CFTC to establish a new Carbon Clearing Organization, which is charged with creating a common clearing platform for regulated allowances. Under the Feinstein–Snowe proposal, private derivative clearing organizations could be designated as registered clearing organizations but would first have to be certified by the CFTC. Finally, under the Obama Administration proposal, all standardized OTC derivatives would be cleared through regulated central counterparties (CCPs).

Position Limits: Position limits are predetermined constraints on the size of a position held by a single entity for a specific type of commodity contract or option. The intent of these restrictions is to protect markets from excessive speculation that can cause unreasonable or unwarranted price fluctuations. In theory, large positions could be used to “corner” or “squeeze” an emissions market.¹⁷ Emitters who have not accumulated the requisite number of allowances in advance of the calendar date on which emission rights must be surrendered may be particularly vulnerable to a corner or squeeze.

Most contracts involving commodities that must be physically delivered and many financial futures and option contracts regulated by the CFTC are subject to speculative position limits. For several markets (corn, oats, wheat, soybeans, soybean oil, soybean meal, and cotton), the limits are determined by the CFTC and set out in federal regulations. For other markets, the limits are determined by exchanges. The CFTC provides exemptions to position limits for “bona fide hedging” that is intended to limit risks to commercial enterprises that have large exposures as a result of their compliance obligations. The CFTC also sets rules for aggregating the positions of multiple traders that are subject to the same control.¹⁸

Although the rationale for position limits is clear, a number of questions must be addressed when setting these limits. For example, at what level should position limits be set and how should limits be aggregated across multiple venues? Position limits focused on a single venue (for example, the spot market) are not as useful as aggregate position limits that would incorporate the positions of large traders on each potential trading venue. Therefore, in addition to large-trader position limits for individual trading venues (such as already exist on exchanges), regulators may need to impose aggregate position limits that span trading venues to include multiple exchanges and the OTC markets, while potentially also covering the spot allowance, allowance derivatives, physical offsets, and offset derivatives markets.

¹⁷ Given the number of buyers and sellers in future GHG market and the difficulty of exercising significant market power, the occurrence of a corner or squeeze is unlikely.

¹⁸ See <http://www.cftc.gov/industryoversight/marketsurveillance/speculativelimits.html>.

The Waxman–Markey bill charges FERC with promulgating position limits for allowances in the spot market. Because all derivatives would be traded on exchanges under the bill, position limits would be set by the applicable exchanges as is required under the Commodities Exchange Act. In the Senate, the Feinstein–Snowe bill would require the CFTC to promulgate regulations on position limits for individual market participants within one year.

Regulatory Jurisdiction: The distinctions between spot and derivatives markets for GHG products are less important than for some other commodities because what is referenced in a futures contract is exactly identical to what is traded in the spot market: an emission allowance. This attribute, coupled with opportunities to bank and/or borrow emissions allowances over compliance periods, makes GHG allowances and derivative products fungible.

Given the strong similarities between spot and futures transactions in emission allowances, regulation should be consistent across the spot and futures markets. If not, market participants are likely to quickly shift their activity to the market that presents a more favorable regulatory framework. If regulations are essentially identical across the spot and futures markets then it will also be efficient to rely on a single agency to regulate both markets. Another advantage of this approach is that a single regulator would presumably have greater capacity to aggregate information across all relevant markets and therefore would be able to monitor relevant data more broadly, instead of focusing on information solely within its limited jurisdiction. Important linkages between spot and derivative markets (and possibly other energy markets) could be missed if these two areas are assigned to different agencies. The Feinstein-Snowe bill takes this approach and gives all oversight authority for the GHG trading market to the CFTC. The bill would also establish a new department devoted exclusively to GHG markets issues. In contrast, the Waxman–Markey bill splits authority between FERC for spot markets and CFTC for derivative markets. In addition, it will be necessary to provide for some form of coordinated international oversight to ensure that U.S. regulation of GHG allowance markets does not simply encourage trading activities to move overseas.

Conclusion

The events of the past few years have shaken public confidence in the integrity and social benefits of financial markets. Policymakers are now seeking to impose greater oversight and restrictions on these markets to avoid a repeat of the damaging problems that have occurred in energy, housing, and other markets. GHG cap-and-trade legislation is being debated in this more cautious environment, and policy makers must convince the public that they are developing a market oversight regime for GHG trading that will rigorously protect consumer interests. As always, the difficulty is finding the right balance between “not enough” and “too much” regulation.

Clearly, past approaches that have allowed OTC trading and other segments of financial markets to operate with insufficient oversight have created large, unrecognized systemic risk. Notably, there

have not been significant problems with OTC trading in SO₂ and NO_x emissions markets in the United States or in the much larger GHG market in Europe. Nevertheless, recent experience in energy and other sectors shows that there must be no “dark corners” in a new GHG market, and all products and trading venues should be subject to strong and credible oversight by regulators. At the same time, while market misconduct has the potential to raise costs and undermine confidence in a market-based climate strategy, so too do overly burdensome trading restrictions and/or excessive reporting requirements that could impede the market’s ability to manage risk, maximize the value of climate-related investments, and reduce the economic impact of reducing emissions on businesses and consumers. Thus, it is important to craft balanced provisions that will both provide reasonable protections and allow the market-based mechanism to achieve its goals and to ensure adequate oversight that can lead to modifications or revisions in the regulatory regime where they are warranted.

Given the level of Congressional attention and energy being devoted to reform of the financial sector, one may question whether climate change legislation should even include unique mechanisms for allowance market oversight. Such provisions could conflict with or duplicate whatever legislation emerges from the Congressional debate over financial sector reform more generally, leading to a redundant and confusing legal framework for GHG-related markets. On the other hand, simply leaving the regulation of GHG allowance markets to be addressed by broader reform efforts is not acceptable, especially since it is unlikely that current reform proposals would have applicability to spot allowance markets. In addition, overall reform of financial markets will take time to develop and implement and we acknowledge the need for public confidence in the integrity of a new GHG market from the start. To this end, interim solutions such as some of those discussed in this paper should be adopted that provide assurance that the market will not be subject to abuses. Climate legislation should provide the authority to modify features such as venue restrictions, position limits, margin requirements, and disclosure provisions to be consistent with both broader market reforms and evolving conditions in the new GHG market and to conform with overall financial market reforms when they are adopted.

Finally, the Commission believes the use of a price collar in the first decade of a climate program would be the most certain and transparent mechanism to limit volatility, whether caused by excessive speculation, changes in fuel markets, or extreme weather conditions. This type of mechanism could serve as an insurance policy, providing greater stability and predictability and building confidence in GHG markets among investors and the public alike while Congress develops a more comprehensive approach to reform and oversight.

The Members of the National Commission on Energy Policy are:

William K. Reilly *Co-Chair*, Senior Advisor, TPG, Inc.; Former Administrator, U.S. Environmental Protection Agency

John W. Rowe *Co-Chair*, Chairman and CEO, Exelon Corporation

Susan Tierney *Co-Chair*, Managing Principal, The Analysis Group; Former Assistant Secretary of Energy

Philip R. Sharp *Congressional Chair*, President, Resources for the Future; Former U.S. Representative, Indiana

Neil Z. Auerbach Founder and Managing Partner, Hudson Clean Energy Partners

Marilyn Brown Visiting Distinguished Scientist, Oak Ridge National Laboratory; Professor, School of Public Policy, Georgia Institute of Technology

John E. Bryson Emeritus Chairman, Edison International; Emeritus Chairman, Southern California Edison

Ralph Cavanagh Senior Attorney and Co-Director, Energy Program, Natural Resources Defense Council

Erroll B. Davis Jr. Chancellor, the University System of Georgia

Senator Rodney Ellis State Senator, Texas

Leo W. Gerard International President, United Steelworkers of America

Robert E. Grady Managing Partner, Carlyle Venture Partners, The Carlyle Group; Former Executive Associate Director, Office of Management and Budget

F. Henry Habicht Managing Partner, SAIL Venture Partners, LLC; Former Deputy Administrator, U.S. Environmental Agency

Newton B. Jones International President, The International Brotherhood of Boilermakers

Richard A. Meserve President, Carnegie Institution; Former Chairman, U.S. Nuclear Regulatory Commission

Mario Molina Professor, University of California, San Diego

Sharon L. Nelson Former Chair, Board of Directors, Consumers Union; Former Chief, Consumer Protection Division, Washington Attorney General's Office

Marvin E. Odum President and Upstream Americas Director, Shell Oil Company

Richard L. Schmalensee Howard W. Johnson Professor of Economics and Management and John C. Head III Dean, Emeritus, Sloan School of Management, Massachusetts Institute of Technology

Norm Szydlowski Former President and Chief Executive Officer of Colonial Pipeline

R. James Woolsey Vice President, Booz Allen, Hamilton; former Director of Central Intelligence

Martin B. Zimmerman Clinical Professor of Business, Ross School of Business, University of Michigan; Former Group Vice President, Corporate Affairs, Ford Motor Company

Jason Grumet Founder and President of the Bipartisan Policy Center; Executive Director of the National Commission on Energy Policy

The National Commission on Energy Policy is a project of the Bipartisan Policy Center