REPORT ON THE SECONDARY MARKET FOR RGGI CO_2 ALLOWANCES: FOURTH QUARTER 2010

Prepared for:

RGGI, Inc., on behalf of the RGGI Participating States

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POTOMAC ECONOMICS

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The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by participating states to reduce emissions of carbon dioxide (CO_2), a greenhouse gas that causes global warming.

RGGI, Inc. is a non-profit corporation created to provide technical and administrative services to the CO_2 Budget Trading Programs of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

A. INTRODUCTION

The primary market for RGGI CO_2 allowances consists mainly of the auctions where allowances are initially sold. Once an allowance is purchased in the primary market, it can then be resold in the secondary market. The secondary market for RGGI CO_2 allowances comprises the trading of physical allowances and financial derivatives, such as futures and options contracts.

The secondary market is important for several reasons. First, it gives firms an ability to obtain CO_2 allowances at any time during the three months between the RGGI auctions. Second, it provides firms a way to protect themselves against the potential volatility of future auction clearing prices. Third, it provides price signals that assist firms in making investment decisions in markets affected by the cost of RGGI compliance.

This report provides a summary of activity in the secondary market in the fourth quarter of 2010 and discusses the results of our market power screens. Several patterns have emerged in this period in the secondary market:

- *Prices* – CO_2 allowance prices were very stable in the fourth quarter of 2010 as the daily closing price of 2009 vintage allowances traded in a narrow range between $1.85 and $1.94, averaging $1.90.

- *CO_2 Allowance Holdings* – In the fourth quarter of 2010, CO_2 allowance transfers between unaffiliated firms totaled just 0.6 million, a decrease of 83 percent from 3.4 million allowances in the third quarter. However, in the first week following the fourth quarter, the delivery of December 2010 contracts led to large changes in CO_2 allowance holdings as 21 million allowances were transferred between unaffiliated firms.

- *Futures Trading* – The volume of trading increased 277 percent to 15 million CO_2 allowances in the fourth quarter of 2010, up from 4 million allowances in the third quarter.

- *Open Interest* – Open interest in RGGI futures contracts remained relatively steady during the fourth quarter, although the delivery of December 2010 contracts led to large changes in futures open interest following the close of the fourth quarter of 2010 when open interest fell 89 percent to 2.5 million CO_2 allowances.

We evaluate information on the holdings of CO_2 allowances and allowance derivatives as well as the demand for allowances to identify firms that may have acquired a position that raises competitive concerns. We find no evidence of anticompetitive conduct; however, we will continue to evaluate the competitiveness of the market.

B. Background

The secondary market for RGGI CO_2 allowances comprises the trading of physical allowances and financial derivatives, such as futures and options contracts. A physical allowance trade occurs when the parties to the transaction register the transfer of ownership in RGGI's CO_2 Allowance Tracking System ("COATS"). Futures, options, and other financial derivatives are called "exchange-traded" when they are traded on a public exchange, and are called "over-the-counter" ("OTC") when they are not traded on one of the public exchanges. Many financial derivatives eventually result in the transfer of physical allowances (i.e., the transfer is registered in COATS), but this may occur months or years after the parties enter into a transaction.

Standard futures and options contracts for RGGI CO_2 allowances are traded on the Chicago Climate Futures Exchange ("CCFE"). Three categories of standard contracts are traded:

- Futures – Under these contracts, two parties agree to exchange a fixed number of allowances of a certain vintage year at a particular price at a specific point in the future (called the "delivery month"). At the end of the delivery month, the contracted number of allowances must be physically transferred to the buyer's account in the COATS registry and funds must be transferred to the seller. The vintage year refers to the compliance year of the allowance that is to be transferred. One standard futures contract equals 1,000 RGGI allowances. [1]

- Call Options – Call options give the purchaser the option to buy a fixed number of allowances of a certain vintage year at a particular strike price at any time prior to the expiration date. For example, suppose a firm holds a call option with a 2009 vintage year, $5 strike price, and June 2009 expiration date. If the price of the corresponding futures contract rose to $5.75, the firm could exercise the option to buy allowances at $5 and immediately sell them at $5.75. Alternatively, if the price of the futures contract

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[1] More precisely, a futures contract requires parties with an open interest to post financial assurance in an account with the exchange until the contract reaches expiration. The exchange continually withdraws and deposits funds according to changes in the prices of the contracts in which the party has interest. For example, if a firm buys a contract for 1,000 allowances at $3.50/allowance, the purchasing firm (firm with a long position) must put $3,500 in an account (or whatever share of the entire liability the exchange requires). If the futures price declines to $3/allowance, the exchange transfers $500 from the account of a firm with a long position to the account of a firm with a short position (firm that sold a contract), and the firm with a long position is only required to keep $3,000 in the account. At the end of the delivery month, allowances are exchanged for funds according to the closing price on the last day of the month.

stayed below $5, the firm would let the option expire without exercising it. One standard options contract can be exercised for 1,000 RGGI allowances.

- Put Options – Put options are similar to call options but they give the purchaser the option to *sell* a certain number of allowances of a particular vintage year at a specified strike price any time prior to the expiration date.

Futures and options contracts are important because they allow firms to manage risks associated with unforeseen swings in commodity prices. Futures allow firms to lock-in the prices of future purchases or sales. Options allow firms to limit their exposure to price volatility. Call options protect the purchaser if the price of the commodity increases, while put options protect the purchaser if the price of the commodity decreases. Although options provide less certainty than futures contracts, they usually require less financial security, making them more attractive to some firms.

Public exchanges are attractive to firms that need a simple way to trade standard products. Moreover, public exchanges effectively eliminate the risk of default by counter-parties, since the exchange constantly monitors the account holdings of each participant to ensure that they have posted sufficient financial security to meet their obligations.

OTC trading is attractive to firms that prefer contracts with non-standard provisions. Firms with on-going business relationships may have other ways to manage the risk of default by the other party.[2] Compliance entities may prefer to buy RGGI CO_2 allowances bundled with other goods and services from their fuel suppliers or operations service providers. The OTC market allows parties to create contracts specifically tailored to their needs. In general, much more information is available about trading on public exchanges than trading in the OTC market.

The amount of *open interest* is the net amount of futures or options contracts that have been traded for a contract with a particular set of specifications (i.e., vintage year, delivery month,

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2 For instance, firms may enter into forward contracts rather than futures contracts. The primary difference between a futures contract and a forward contract is that a futures contract typically requires parties with an open interest to post financial assurance which the exchange draws upon or adds to until the contract reaches expiration, while a forward contract requires that all financial settlement occur at expiration.

etc.), but have not reached the time of delivery, expired, or been exercised. For example, if Firm A sells 100 contracts of a particular type to Firm B, Firm A will have a short position of 100 contracts, Firm B will have a long position of 100 contracts, and the total open interest for the particular type of contract will be 100 contracts. Hence, the total open interest can be determined by summing across all of the long positions of market participants or by summing across all of the short positions.

C. Summary of Prices

This section of the report summarizes prices in the secondary market for RGGI CO_2 allowances during the fourth quarter of 2010. Figure 1 shows the transaction prices of actual CO_2 allowances and futures contracts for allowances on trading days. This section also summarizes the prices of options contracts for CO_2 allowances. For context, Figure 1 shows prices through the first five trading days of the first quarter of 2011 when settlement was completed for futures contracts for December 2010 delivery.

Key observations regarding RGGI CO_2 allowance prices:

- CO_2 allowance prices were very stable in the fourth quarter of 2010 as the daily closing price of 2009 vintage allowances averaged $1.90 and ranged between $1.85 and $1.94.
- The prices of futures contracts were generally consistent with the clearing prices in the December auction and the transaction prices recorded in COATS.

Prices of CO_2 Allowances and Allowance Derivatives

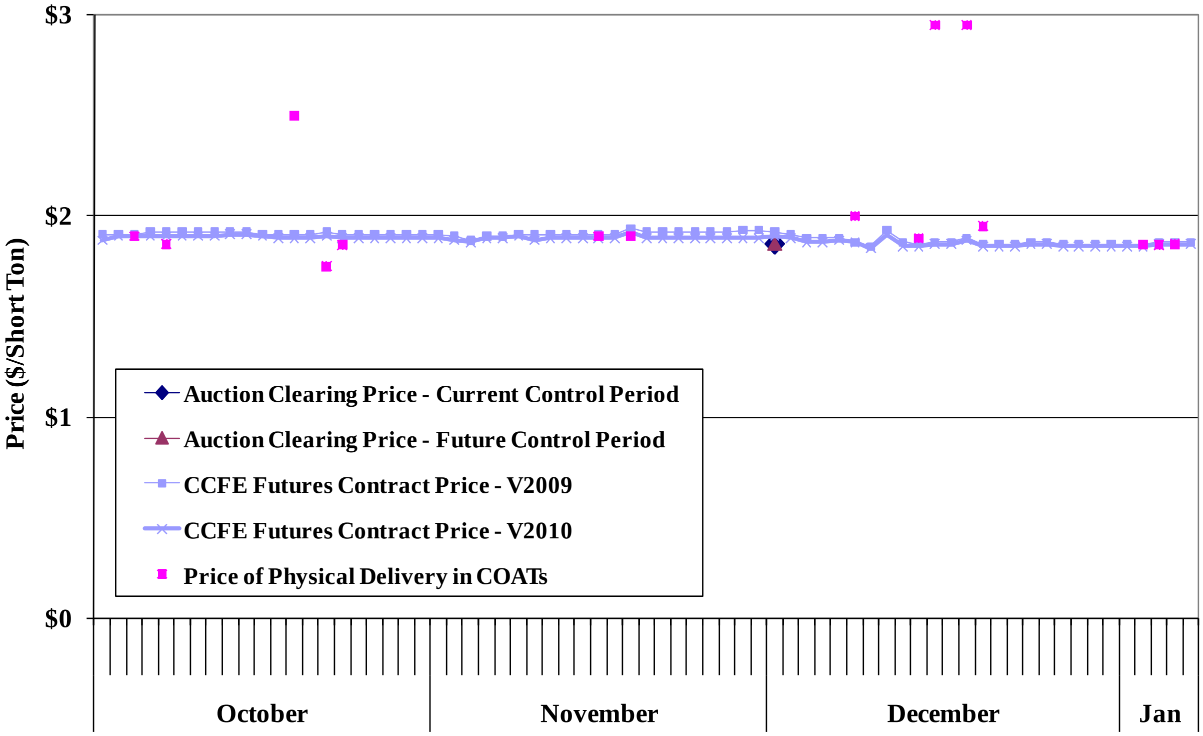
Figure 1 summarizes prices in the secondary market during the period. One light blue line shows the closing price on each trading day of the 2009 vintage CCFE futures contract with delivery at the end of the month.[3] A second light blue line shows the closing price of the 2010 vintage futures contract with delivery at the end of the month. The squares show the volume-weighted average price of physical deliveries in COATS on each day when a transaction took place and where the parties recorded the transaction price.[4, 5] For comparison, Figure 1 also shows the clearing prices of CO_2 allowances sold in the RGGI auction held on December 1 for the current control period (i.e., 2009 through 2011) and a future control period.

3 For instance, in October, the price of the futures contract for October 2010 delivery is shown.

4 Parties are required to report the transaction price if there is an underlying financial transaction related to the transfer of allowances between accounts.

5 Many of the transaction prices reported in COATS are associated with physical deliveries that result from the expiration of the previous month's CCFE futures contract. By the third business day following the expiration month of the futures contract, CO_2 allowances are exchanged for funds according to the closing

Figure 1: Prices in the Secondary Market for RGGI CO_2 Allowances[6]
October 1 to January 7, 2011



Observations regarding CO_2 allowance prices:

- For 2009 vintage CCFE futures contracts, the daily closing price remained stable in the fourth quarter, trading in a narrow range between $1.85 and $1.94 throughout the period. The average daily closing price of 2009 CCFE futures contracts was $1.90. The historic volatility of 2009 vintage futures prices was 13 percent in the fourth quarter, which is up from 10 percent in the third quarter of 2010 but down from 19 percent in the fourth quarter of 2009.[7]

price on the last day of the expiration month.

6 Sources: Auction clearing prices are available at "www.rggi.org/co2-auctions/results", CCFE futures contract prices are available at "www.ccfe.com/mktdata_ccfe/futuresSummary.jsf?symbol=rggi", and the prices of physical deliveries in COATS are based on information in COATS available at "https://rggi-coats.org/eats/rggi/".

7 Historic volatility is a measure of the standard deviation of the day-over-day percentage change in price. Volatility is normally expressed as an estimated standard deviation for a one year period, even if it is calculated from a shorter period of time.

- There were no significant differences between the prices of contracts for 2009 vintage and 2010 vintage CO_2 allowances during the fourth quarter. This is to be expected, since they are interchangeable for compliance purposes in the RGGI program.

- The CO_2 allowances that were auctioned on December 1 for the current and future control periods cleared at $1.86, which is equal to the reserve price in the auction. This was slightly lower than the futures prices of 2009 vintage and 2010 vintage CO_2 allowances, which closed at $1.89 on the day before the auction.

- The prices of physical deliveries reported in COATS have been generally consistent with the prices reported by the CCFE, although there were three days when COATS transaction prices for a relatively small number of CO_2 allowances (46 thousand) were between $2.50 and $2.95.

Prices of Options for CO_2 Allowances

The clearing prices of options contracts are important because they can provide insight about how the market expects the price of the underlying commodity to behave. The price of an option depends on two factors: (i) the expected value of the underlying commodity relative to the strike price of the option, and (ii) the expected volatility of the underlying commodity over the period before the expiration date. When call option price decreases coincide with put option price increases, it signals a decrease in the expected price of the underlying commodity. Conversely, when call option prices and put option prices move in the same direction, it signals a change in the expected volatility of the underlying commodity price.

There has been no trading of options contracts for RGGI CO2 allowances since August of 2010. The low volume of options trading may reflect that firms perceive little risk from variations in future CO_2 allowance prices. Since the auction reserve price of $1.86 is indexed to inflation, compliance entities are unlikely to be able to obtain CO_2 allowances at a lower price in the future. Prices in the futures market have remained above the auction reserve price, suggesting that firms perceive little risk that CO_2 allowances will fall below this level.

D. Volumes and Open Interest

This section evaluates the volume of trading and the open interest in exchange-traded futures and options as well as transfers of CO_2 allowances between unaffiliated parties as recorded in COATS. Figure 2 summarizes the volumes of futures and options contracts traded on the CCFE, while Figure 3 shows the open interest. Figure 4 examines the volume of CO_2 allowance transfers recorded in COATS and the net change in allowance ownership recorded in COATS.

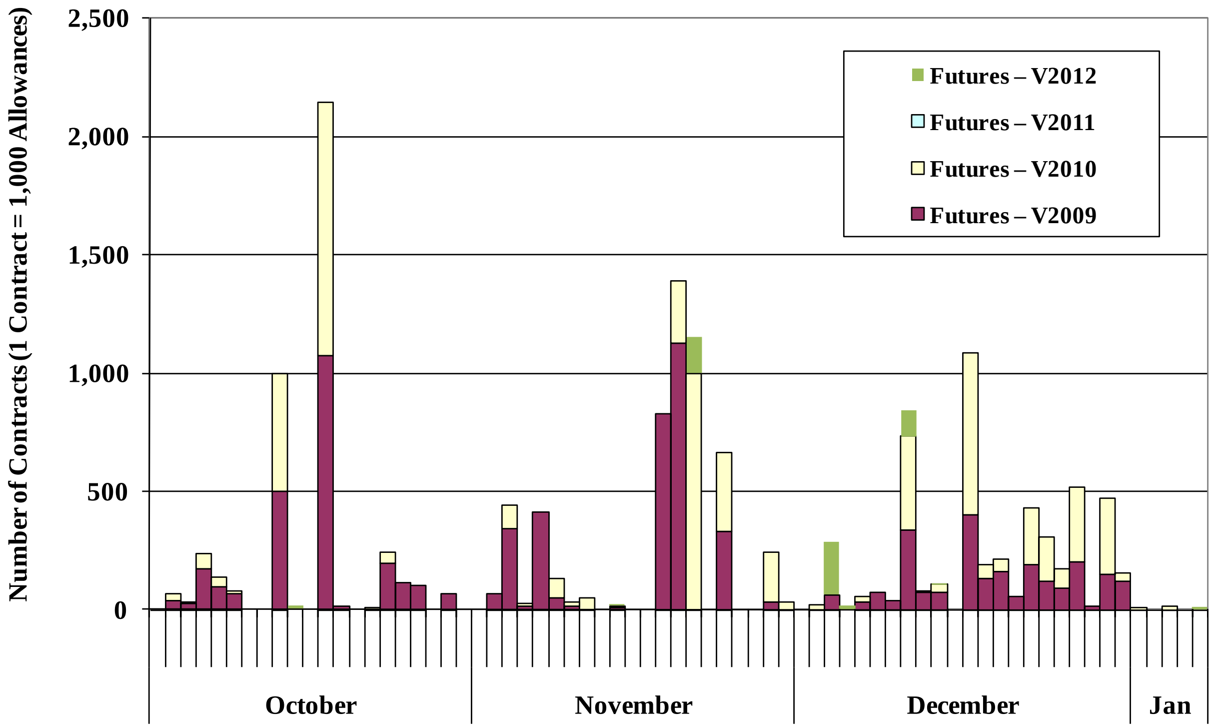
Key observations regarding trading volumes and open interest:

- CCFE futures trading volumes increased 277 percent to 15 million CO_2 allowances in the fourth quarter of 2010, up from 4 million allowances in the third quarter.
- CO_2 allowance transfers between unaffiliated firms totaled just 0.6 million in the fourth quarter of 2010, a decrease of 83 percent from 3.4 million allowances in the third quarter.
- The delivery of December 2010 contracts led to large changes in futures open interest and CO_2 allowance holdings following the close of the fourth quarter of 2010. Futures open interest fell 89 percent after the close of the fourth quarter to 2.5 million allowances. Accordingly, 21 million CO_2 allowances were transferred in COATS between unaffiliated firms in the week following the quarter.
- The share of CO_2 allowances that are held by compliance entities and their affiliates rose to 97 percent following delivery of December 2010 contracts.
- The majority of CO_2 allowances are held by firms that acquired them through the auctions, although there are some firms that have acquired most of the allowances they hold through the secondary market.

Volume and Open Interest in CCFE Futures and Options Contracts

Figure 2 shows the volume of trading on the CCFE each day for futures contracts according to the vintage year. The volume of options trading is not shown in the figure as there have been no such trades during the fourth quarter.

Figure 2: Volume of Trading of CCFE Futures Contracts[8]
October 1 to January 7, 2011



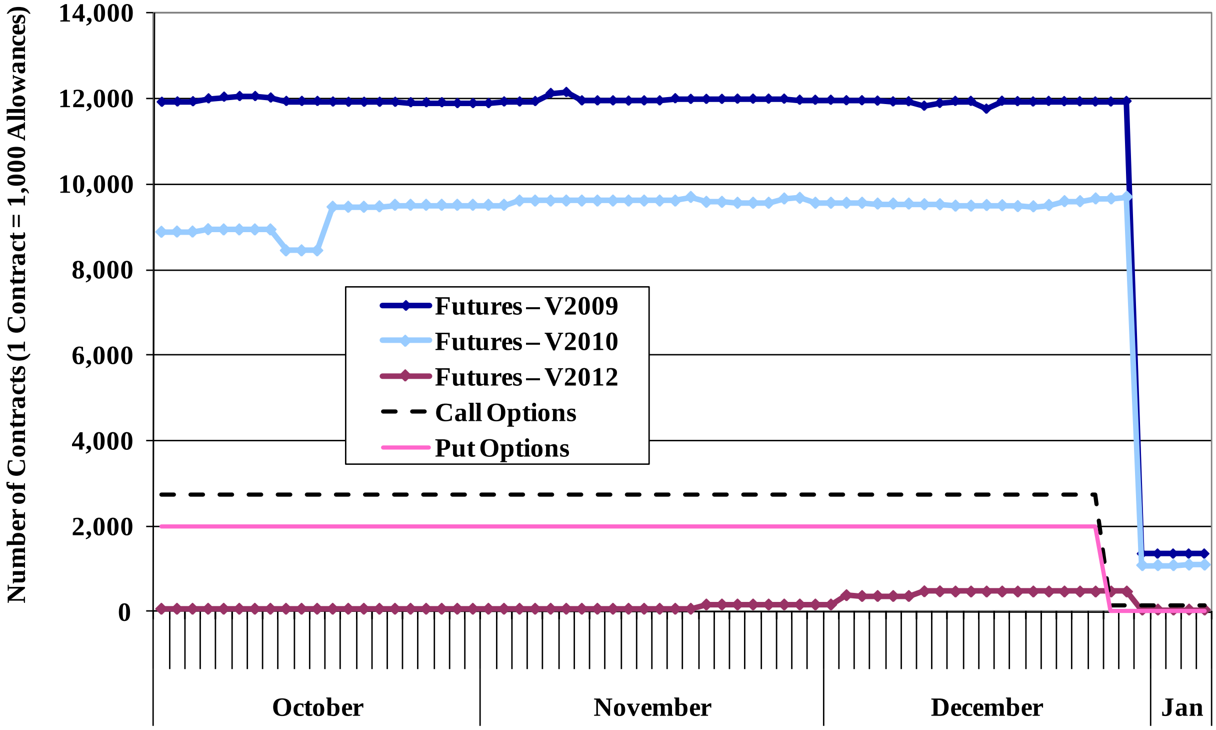
Observations regarding the volume of CCFE futures trading:

- The volume of trading in futures contracts rose substantially in the fourth quarter of 2010. The total volume of futures trading increased 277 percent from 4 million CO_2 allowances in the third quarter of 2010 to 15 million allowances in the fourth quarter of 2010.
- The share of trading volume for 2009 vintage contracts deceased from 65 to 54 percent of the total trading volume in the fourth quarter, while the share of trading volume for 2010 vintage contracts increased from 35 to 43 percent and the share of trading volume for 2012 vintage contracts increased from 0 to 4 percent. There were no trades of 2011 vintage contracts in the fourth quarter of 2010.

Figure 3 shows the open interest on each day for the futures contracts shown in the previous figure as well as for options contracts.

[8] Sources: Options volumes are available at "www.ccfe.com/mktdata_ccfe/optionsSummary.jsf?symbol =rggi" and futures volumes are available at "www.ccfe.com/mktdata_ccfe/futuresSummary.jsf?symbol =rggi".

Figure 3: Open Interest in CCFE Futures and Options[9]
October 1 to January 7, 2011



Observations regarding the open interest in CCFE futures and options contracts:

- Open interest in RGGI futures contracts remained relatively steady during the fourth quarter, although the delivery of December 2010 contracts led to large changes in futures open interest and CO_2 allowance holdings following the close of the fourth quarter. For 2009 vintage contracts, open interest was 11.9 million on the first day of the quarter and remained steady until December 31 when open interest dropped 89 percent to 1.4 million. For 2010 vintage contracts, open interest rose 8 percent to 9.7 million before the end of the quarter when open interest dropped 89 percent to 1.1 million.

- The majority of open interest remains in 2009 vintage contracts, although the share related to 2010 vintage contracts increased to 44 percent on the first day following the quarter.

- The open interest in options contracts opened the fourth quarter of 2010 at 2.0 million CO_2 allowances for put options and 2.8 million allowances for call options. Although

[9] Sources: Open interest in options is available at “www.ccfe.com/mktdata_ccfe/optionsSummary.jsf ?symbol=rggi”, and open interest in futures is available at “www.ccfe.com/mktdata_ccfe/futures Summary.jsf?symbol=rggi”.

there were no trades during the fourth quarter, the expiration of December 2010 options led to a large drop in open interest at the end of December.

CO_2 Allowance Transfers Registered in COATS

Figure 4 summarizes transfers of CO_2 allowances between the COATS accounts of unaffiliated firms. The figure shows the volume of COATS transfers between unaffiliated firms and the net amount of CO_2 allowances that have been acquired as a result of transactions between unaffiliated firms during the fourth quarter of 2010.[10] The figure shows data through the first five trading days of January in order to include transfers that result from the delivery of futures and forward contracts with a December 2010 delivery month.

The net amount of CO_2 allowances that have been acquired from transactions is smaller than the gross volume of transactions between unaffiliated firms because the net acquisition offsets sales against purchases for each firm. For example, if Firm A purchases 100,000 CO_2 allowances but then sells 20,000 allowances, the figure would show a net acquisition by Firm A of 80,000 allowances even though the volume of transfers would be 120,000 allowances. This is an important distinction because the net amount of CO_2 allowances that have been acquired from trading since RGGI allowances have been in circulation was 42.5 million as of January 7, 2011, while the gross volume of transfers between unaffiliated firms has been almost 78 million allowances.

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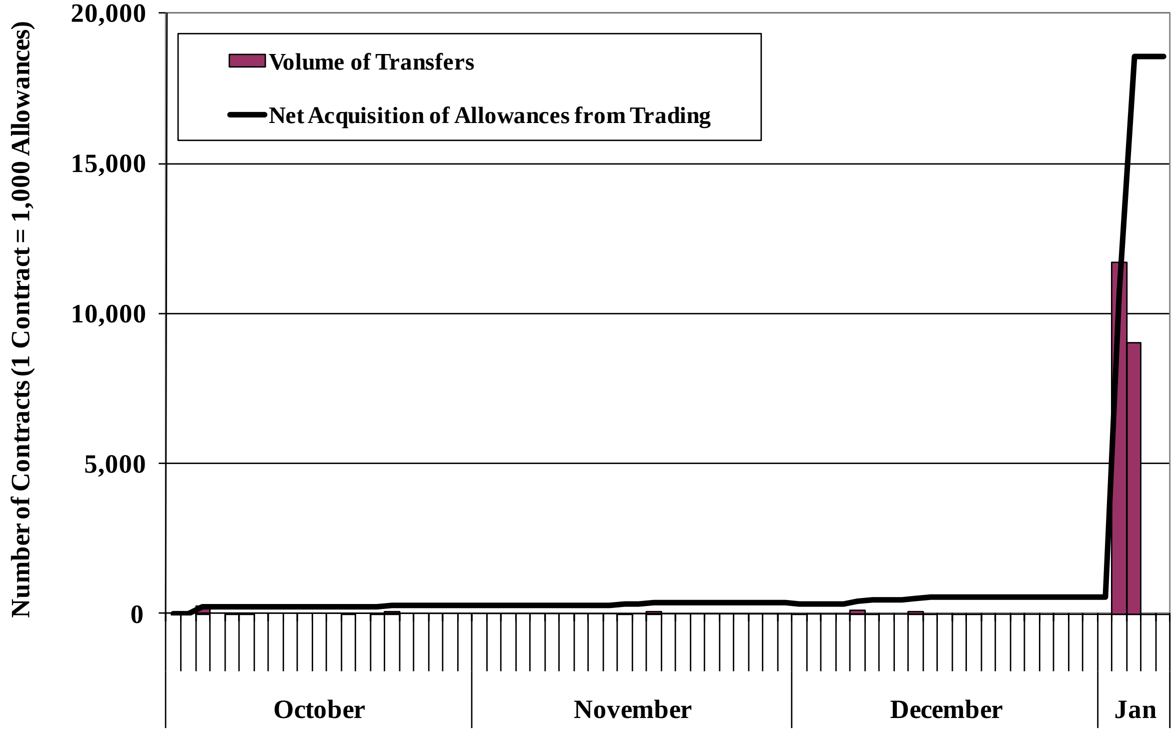
[10] This excludes the majority of allowances, which are held by firms that purchased them directly in the auction, received them through allocations by one of the Participating States, or acquired them as a result of a transaction prior to the fourth quarter of 2010.

Figure 4: Net Acquisition of CO_2 Allowances from Trading[11]
October 1 to January 7, 2011



Observations regarding the transfer of CO_2 allowances in COATS:

- In the fourth quarter of 2010, CO_2 allowance transfers between unaffiliated firms totaled just 0.6 million, a decrease of 83 percent from 3.4 million allowances in the third quarter.

- In the week following the fourth quarter of 2010, 21 million CO_2 allowances were transferred between unaffiliated firms, compared to 12 million allowances in the preceding 11 months and 23 million allowances in the week following the fourth quarter of 2009.

- The net amount of CO_2 allowances acquired through the secondary market (18.6 million) during the period shown in Figure 4 is smaller than the total number of allowances exchanged (21.3 million) because some firms both purchased and sold allowances during the period.

- This shows that firms have been able to acquire a substantial number of CO_2 allowances through the secondary market, which is important because some firms prefer to obtain allowances through the secondary market rather than in the quarterly auctions.

11 Source: CO2 allowance transfers are based on information in COATS.

Evaluating Open Interest in Futures Contracts and CO_2 Allowances Holdings

The sum of (i) the current open interest in futures contracts, and (ii) the net amount of CO_2 allowances acquired in COATS accounts as a result of trading since trading began in October 2008 provides a sense of the total financial interest in RGGI CO_2 allowances that firms have acquired through the secondary market.[12] The sum of these two quantities rose to 53 million CO_2 allowances at the end of December, but dropped to 45 million by January 7 following the delivery of December 2010 contracts.[13] This sum is substantial, but still modest compared with the 319 million CO_2 allowances that have been acquired from RGGI auctions through December 2010. Hence, the auctions are still the principal means by which most firms have acquired control of RGGI CO_2 allowances.

[12] For example, if a firm acquires 5 million allowances in its COATS account as a result of trading in the secondary market and it purchases futures contracts for 3 million allowances, the firm has a total financial interest in 8 million allowances.

[13] This is based on the open interest in CCFE futures contracts (including all vintages as reported in Figure 3) of 2.5 million allowances plus the net acquisition of allowances from trading as registered in COATS since RGGI allowances have been in circulation of 42.5 million allowances. However, this sum does not consider: (i) open interest in OTC contracts, and (ii) that some firms may also have short positions that effectively reduce their total net financial interest in allowances.

E. Open Interest of Firms in Futures and Options Contracts

This section provides additional information about the firms trading CCFE futures and options from the weekly Commitments of Traders ("COT") reports, which are published by the Commodity Futures Trading Commission ("CFTC").[14] Figure 5 indicates the level of participation by individual firms by summarizing the numbers of firms that hold long or short positions of at least 25 contracts (25,000 allowances). Figure 6 illustrates the concentration of ownership by showing how widely distributed long and short positions are across firms.

Key observations regarding the open interest of individual firms:

- The number of participants in the market for 2009 vintage RGGI CO_2 allowance derivatives was relatively constant during the fourth quarter of 2010 as approximately 20 firms had significant positions in 2009 vintage contracts.
- A large majority of long positions in 2009 vintage contracts were held by four firms as was a large majority of short positions, indicating that the holdings of futures and options contracts were concentrated.
- Participation in the market for 2010 vintage CO_2 allowance derivatives was not reported by the CFTC during the fourth quarter of 2010, indicating that fewer than 20 firms held reportable positions throughout the period.

Summary of Open Interest

Figure 5 summarizes the long and short positions in 2009 vintage contracts of Commercial and Non-Commercial firms on a weekly basis.[15] The figure also shows the aggregate size of all long positions and the aggregate size of all short positions. Since each contract has a buyer and a

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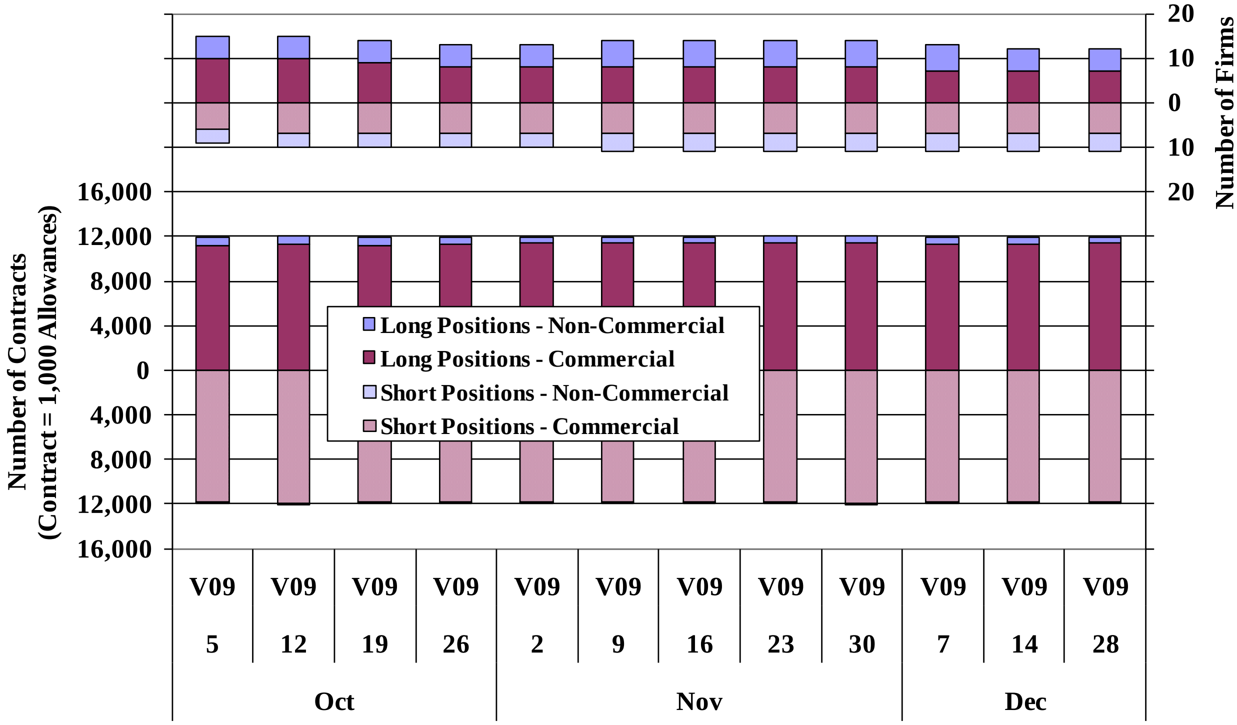
[14] Each day, firms with an open interest of 25 contracts or more are required to report their positions to the CFTC. The CFTC categorizes each firm as Commercial if it engages in trading primarily to supply its own need for allowances or Non-Commercial if it trades for another purpose. Hence, compliance entities are generally designated as Commercial and non-compliance entities are frequently designated as Non-Commercial. Each Tuesday, the CFTC publishes the COT report, which is a summary of the long and short positions of participants in the market.

[15] The CFTC does not publish information from the COT reports for weeks when fewer than 20 firms have reportable positions, which is why no information is shown for the third week December and the first week

seller, the total open interest in the market is equal to the total of all long positions and also to the total of all short positions.

Figure 5: Open Interest in CCFE Futures and Options[16]
October 1 to January 4, 2011



Observations regarding the open interest in futures and options contracts by individual firms:

- The number of firms taking short and long positions in 2009 vintage CO_2 allowance derivatives remained relatively constant throughout the quarter, although there were two weeks at the end of the quarter when information was not available because fewer than 20 firms held reportable positions.

- The CFTC has not published information related to 2010 vintage contracts since the end of the first quarter of 2010, which was shortly after 2010 vintage CO_2 allowances were initially sold in the auction on March 10.

- Commercial firms continue to account for a large majority of long and short positions. The shares held by Commercial firms remained relatively constant during the fourth

in January.

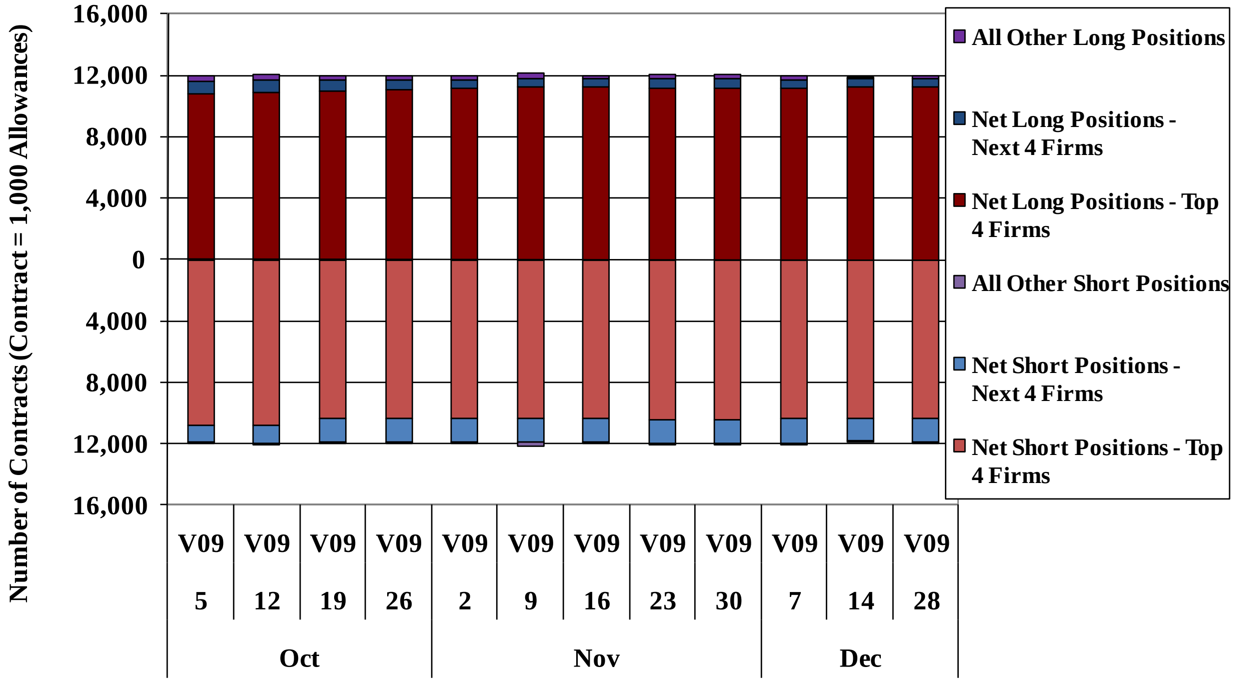
16 Source: The CFTC's Commitment of Traders reports which are available at "www.cftc.gov/marketreports/commitmentsoftraders/index.htm".

quarter of 2010, ranging from 93 to 96 percent of long positions and 99 percent of short positions in weeks when information was published. It is likely that many firms with short positions on the CCFE also hold physical CO_2 allowances in the COATS registry that were purchased in one of the auctions.

Concentration of Open Interest

Figure 6 summarizes the concentration of open interest in 2009 vintage CCFE futures and options contracts. The figure reports the net long positions in three categories: (i) the four firms with the largest long positions (see “Top 4 Firms”), (ii) the four firms with the largest long positions not including the Top 4 (see “Next 4 Firms”), and (iii) all other long positions. The net long position is defined as a firm’s long position minus its short position (assuming its long position is larger than its short position). For example, if a firm has purchased 5,000 contracts for December 2009 delivery and sold 1,000 contracts for December 2010 delivery, it has a net long position of 4,000 contracts. The figure also reports the net short positions in three categories: (i) the four firms with the largest short positions (see “Top 4 Firms”), (ii) the four firms with the largest short positions not including the Top 4 (see “Next 4 Firms”), and (iii) all other short positions.

Figure 6: Concentration of Open Interest in CCFE Futures and Options[17]
October 1 to January 4, 2011



Observations regarding the concentration of open interest:

- Many firms have open interest in RGGI CO_2 allowance futures and options, although a small number of firms account for large shares of the net long and short positions in 2009 vintage contracts. The net long positions of the top four firms accounted for an average of 93 percent of the total long positions for the weeks shown during the quarter. The net short positions of the top four firms accounted for an average of 87 percent of the total short positions for each of the weeks shown during the quarter.

- The CFTC does not publish firm-level information on open interest, although the information they publish provides an indication of the upper limits of the net long and net short positions of individual firms. Combined with firm-specific information about CO_2 allowance holdings from COATS, the information on open interest that is published by the CFTC is useful for evaluating the potential for a firm to hoard RGGI CO_2 allowances, which is discussed further in Section F.

[17] Source: The CFTC's Commitment of Traders reports which are available at "www.cftc.gov/marketreports/commitmentsoftraders/index.htm".

F. DISCUSSION OF MARKET MONITORING

As the RGGI Market Monitor, we monitor trading in the secondary CO_2 allowance market in order to identify anticompetitive conduct. Additionally, the Commodity Futures Trading Commission ("CFTC") evaluates trading in the secondary CO_2 allowance market consistent with its role as the regulator of futures and option markets in the U.S. This section discusses two types of anti-competitive conduct for which we monitor. As in previous reports on the secondary market, we find no evidence of anti-competitive conduct.

In any commodity market, one potential concern is that a firm could hoard a substantial share of the supply of a commodity to influence prices or to prevent a competitor from obtaining CO_2 allowances. Hence, we screen information on the holdings of CO_2 allowances and allowance-derivatives and the demand for allowances to identify firms that might acquire a position that raises competitive concerns. At this stage, hoarding is not a significant concern for the RGGI CO_2 allowance market because the amount of allowances in circulation and the open interest in allowance derivatives is small relative to the total supply of allowances. The total supply of CO_2 allowances that will ultimately be available in the first compliance period (from 2009 to 2011) is more than 560 million. Given that only 341 million CO_2 allowances are circulating in the secondary market,[18] that the auction rules limit the amount of allowances that can be purchased by a single party or group of affiliated parties to 25 percent, and that the net transfers of CO_2 allowances between parties in the secondary market have been modest thus far, it is not yet possible for the holdings of any participant to raise potential hoarding concerns.

Another potential concern is that a firm expecting to purchase CO_2 allowances in the auction might sell a large number of futures contracts in an effort to push the futures price below the competitive level. Such a firm might profit from buying a large number of CO_2 allowances in the auction at a discount if the bidding in the auction were influenced by the depressed futures

[18] 319 million allowances have been dispersed in the first ten auctions, and 22 million allowances have been allocated by the States.

price. For this to be a profitable strategy, the firm would need to be able to substantially depress the futures price with a relatively small amount of sales—an amount smaller than the amount of CO_2 allowances it planned to buy in the auction. The best protection against this strategy is a market where other firms respond by making additional purchases. Firms that are looking for an opportunity to reduce their short positions or to purchase CO_2 allowances for their future compliance needs help limit the effectiveness of a strategy to depress prices below the competitive level. Hence, it is encouraging that there are a large number of firms with compliance obligations that far exceed the largest possible long position in the futures market. Nevertheless, the CFTC has access to confidential transaction data, which allows it to monitor for evidence of manipulative conduct.