

# Market Oversight of Emissions Markets:

## The Essential Role of Tracking and Registry Systems

It's already happening. Pressure is building for increased oversight and transparency of emissions markets as the U.S. develops a greenhouse gas cap and trade program and legislation advances. In part, this is being driven by more general scrutiny of energy trading in the wake of the Enron and other scandals. But there is also added pressure to ensure that emerging carbon markets are transparent and operating in the public interest to address a serious global environmental problem. Legislators and regulators across the U.S. are sensitive to the concern that certain segments or entities might manipulate or profit excessively in the new markets. Hence the need for systems to ensure oversight so that the new emissions markets operate as intended to achieve policy objectives.



Given the scope of U.S. state, regional, and federal legislative activity, U.S. emissions markets could arguably become the largest and fastest growing new commodity markets in North America. With the potential to be 50 to 100 times larger than today's U.S. acid rain markets, the technology of tracking systems and registries will play an essential role in enabling market oversight at this scale. Pressure for more frequent and timely emissions market data will drive a need for APX technology that supports market oversight better than existing types of emissions and allowance registries currently used by governments.

## Current State of Play on Market Oversight

Several recent actions by Congress point to an increasing trend toward more oversight of emerging greenhouse gas emissions markets:

- In September 2007, Senator Levin of Michigan introduced legislation that would increase regulation of energy trading markets. Senator Levin’s bill, “The Close the Enron Loophole Act,” would require reporting of transactions and price information in Exempt Commercial Markets (ECMs), which have previously had little oversight from the Commodities Futures Trading Commission (CFTC). The bill explicitly covers emissions related derivatives.

**Greenhouse gas emissions markets will require greater transparency and be subject to greater oversight.**

- Senator Dianne Feinstein of California has introduced a measure to establish federal oversight for new carbon emissions trading markets, designed to prevent future Enron-like fraud and manipulation in greenhouse gas credit markets. “Congress is poised to act on comprehensive climate change legislation,” Senator Feinstein said. “This landmark legislation will not only significantly reduce our nation’s carbon footprint, it will also generate tremendous economic potential. In fact, new carbon markets – with annual values of approximately \$300 billion – are expected to emerge once Congress establishes a cap-and-trade program for greenhouse gas emissions. So, it’s critical that oversight authority to prevent fraud and manipulation. Bottom line: if we take action before the markets develop, we can establish a level playing field from the get-go and help prevent another Western Energy Crisis.”

The bill requires that an agency:

- o Publish market price data in order to increase market transparency
- o Monitor trading for manipulation and fraud
- o Enforce position limits or accountability levels to prevent excessive speculation.

The bill would require EPA to create a regulatory structure to oversee the new carbon credit markets that would be parallel to the system used by the Federal Energy Regulatory Commission (FERC) for the electricity and natural gas markets. It prohibits carbon traders from false reporting, engaging in manipulation or deception as defined in the Securities Exchange Act, or cheating or defrauding another market participant, and establishes a maximum \$1 million fine and 10 years in jail for each offense. Further, it clarifies that the CFTC maintains its exclusive jurisdiction over futures markets, including carbon dioxide futures.



# Current State of Play on Market Oversight

- In the 2005 Energy Policy Act, Congress directed the Federal Energy Regulatory Commission (FERC) to increase oversight of energy markets and to consider the impact of financial markets on energy prices. FERC has reportedly beefed up its enforcement staff and is starting to give more attention to emissions markets. This interest in emissions markets is certain to grow if the U.S. adopts a mandatory greenhouse gas (GHG) cap and trade program. There will be a significant and direct relationship between the cost of carbon emissions and the price of electricity in the U.S. That cost is significantly greater than any previous environmental program.

**Types of Oversight Needed**

- Environmental Compliance
- Electricity Market
- Securities and Commodity Market

- Voluntary markets are also receiving more scrutiny. Congressman Ed Markey has held hearings to determine whether the Federal Trade Commission (FTC) should intervene to set standards and to ensure that voluntary offsets are real and valid. In a follow-up to the hearing, Rep. Markey sent a letter to the FTC asking them to evaluate the adequacy of existing standards for voluntary offsets. The FTC is now holding a series of workshops on the subject from the perspective of consumer protection and is evaluating approaches to substantiation of environmental claims.

- The Lieberman-Warner climate bill establishes a “Carbon Market Efficiency Board” that would be responsible for a wide range of responsibilities related to the functioning of the allowance market and the impact of allowance prices on the economy. The Act specifically calls upon the Board to take on a variety of information gathering and reporting responsibilities regarding the status of the market, including information related to emission allowance allocation and availability and prices of emission allowances. The Board is also required to report to Congress quarterly on the status of the emission allowance market, its economic impact on regions and consumers, the incidents and effects of any market fraud or manipulation, recommendations to relieve any excessive costs to the economy, and to make its reports available on the internet.



## Are Past Models of Emissions Market Oversight Appropriate for Emerging Greenhouse Gas Markets?

Markets for emissions allowances have been lightly regulated in the past. For example, most SO<sub>2</sub> allowances are traded “over-the-counter” with no requirement by the CFTC for reporting of transactions or price data. The U.S. Environmental Protection Agency (EPA) administers a system that tracks and publishes transfers of allowances between allowance accounts. Reporting of these transfers is required only to the extent that a company wants to use purchased allowances for compliance, i.e., to cover emissions at one of its facilities. However, there is no requirement to report transactions that are unrelated to compliance, and allowances may be traded repeatedly without the transactions showing up in the acid rain system. There is also no requirement for the reporting of price information. In contrast, current legislation before Congress (Sec 2601-3) requires tracking, calculation and reporting of prices for emissions allowances.

An important difference between current GHG market designs and past models is the concept of an emissions offset. Current state, regional, and federal GHG legislation typically allow certain emissions reduction activities to qualify as emissions offsets that may be used for compliance purposes in lieu of emissions allowances. Reforestation, landfill gas methane reduction, new agricultural practices, and certain types of renewable energy are typical examples of offset projects. Verification, certification, tracking, and reporting of this new environmental market commodity are complex and require additional oversight. There is no equivalent to carbon offsets under past government models for environmental markets.

Despite the success of these past approaches with the SO<sub>2</sub> and NO<sub>x</sub> programs, future greenhouse gas emissions markets will likely require greater transparency and be subject to greater oversight. This is because:

- The global greenhouse gas market could be the largest commodity market in the world. The value of U.S. allowances and offsets could be as much as \$300 billion per year and the value of traded allowances and offsets could be orders of magnitude greater than transactions in the SO<sub>2</sub> and NO<sub>x</sub> markets.
- The number of participants in the GHG market will be much greater than previous markets. Past US markets for SO<sub>2</sub> and NO<sub>x</sub> allowances impacted several hundred largely power sector companies, mainly the owners of fossil fuel power plants. The new carbon markets will impact thousands of U.S. companies across many sectors of the economy.
- Increased concern about the general transparency of energy markets will also affect the GHG trading market. FERC and possibly CFTC may need more frequent and timely data on environmental commodities to better understand the physical market for carbon emission allowances and offsets, and how it interacts with wholesale power markets.
- In past programs, the cost adder for SO<sub>2</sub> and NO<sub>x</sub> allowances to the price of electricity has been modest. In a new carbon regime, the cost of carbon in some plants and locations may even approach the fuel cost for power generation. This will drive a need for oversight by electricity regulatory authorities and others.



# Are Past Models of Emissions Market Oversight Appropriate for Emerging Greenhouse Gas Markets?

- There is still skepticism in the U.S. about whether cap and trade is the best mechanism to address climate change. This is despite the fact the U.S. acid rain program has been generally successful, and that international, state, and regional U.S. initiatives are adopting cap and trade approaches.

For example, in California the memory of the state's Energy Crisis during the advent of electricity deregulation and energy trading is still fresh, so many are demanding that strong mechanisms be put in place to ensure integrity in the new markets. Having a system with the maximum integrity is important to build confidence in what will be the most important

mechanism used to address climate change. This sentiment was expressed in Rep. Markey's recent letter to the FTC on voluntary offsets when he wrote: "These aren't just consumer commodities, they're climate commodities. Protecting consumers on carbon offsets also protects the planet." In addition, given that mandatory policies to address climate change are still controversial in the U.S. and that these policies will inevitably lead to higher energy prices, the public will demand

**Existing systems, developed in the mid 1990's for the acid rain program, were not designed for market oversight of the new, dramatically larger, and complex US carbon markets.**

that emissions markets are transparent and free from even the appearance of collusion or manipulation.

- Better and more frequent market data on emissions, allowances, and offsets will provide important information for the market and will ensure that

the type of collapse in market prices that occurred after the first year of the EU ETS (EU Emissions Trading Scheme) will be less likely. More frequent reporting of data is characteristic of other markets. For example, the U.S. Department of Energy publishes weekly oil inventory data. In another example, FERC Electric Quarterly Reports (EQR) require

power market participants to report price, quantity, and counterparty information for transactions. Having access to up-to-date emissions, allowance, and offset levels would remove an important degree of uncertainty from the market and would allow financial intermediaries and other market participants to make more informed decisions. In addition, it would make clear the societal cost of programs and compliance.



## Many Audiences

This discussion has largely focused on the drivers for increased oversight, the differences between the prior model and the new carbon markets, and how APX can provide better emission market information to facilitate an increase in market oversight. The audience for this approach is primarily regulators, including:

- Environmental regulators such as the EPA, air regulators, and other state GHG officials, who will need to assess compliance by regulated companies and ensure that markets achieve environmental goals. They will also likely be called upon to provide market information to other agencies (e.g., CFTC and FERC), and
- Energy and financial market regulators that have oversight authority for their respective markets, as well as state and federal legislators.

Do opportunities exist for technology deployments to support the needs of these and other stakeholders with an interest in the market? For example:

- If Congress passes legislation to increase oversight of Exempt Commercial Markets (ECMs), would the CFTC require its own infrastructure to track allowance and offset transactions?
- Will FERC want to put in place a capability to track emissions, allowance, or offset transactions?
- Would market participants agree to a voluntary initiative to track, report, and disseminate emissions, allowance, offset, and/or price information? This might be viewed as a way to potentially preempt additional government oversight of emissions markets.
- What information would assist public interest groups to evaluate the effectiveness of carbon reduction policies and effects on consumers?
- How can tracking and registry systems help regulated companies plan for and achieve GHG compliance by managing their carbon allowance and offset portfolio?

A comprehensive data infrastructure for environmental markets can provide a means to address these possibilities.



## Where Does APX Technology Have an Edge Over Existing Government Registries?

The existing emissions and allowance registries have performed well for the SO<sub>2</sub> and NO<sub>x</sub> programs. Acid rain program allowance tracking capability has been adequate given the size of the market, the single sector approach with a limited number of participants, the lack of a reporting requirement for all transactions, the lack of complexity factors (such as offsets), the limited economic impact, and the lack of a requirement to report price and transaction information. On the emissions side, the acid rain tracking system has also been sufficient for assuring environmental compliance. This type of system might be adequate for tracking environmental compliance in a GHG trading system because CO<sub>2</sub> is a globally mixed pollutant that is of concern as it accumulates over decades. There is no concern about hot spots or short term spikes. In fact, some will argue that annual, rather than quarterly, emissions reporting is more than adequate for a CO<sub>2</sub> trading program. (For example, there is currently an annual reporting requirement in the EU ETS.) If environmental compliance is the sole criterion, there might be an inclination to stick with current approaches and data systems.

However, in our view the technology system for existing programs, developed in the mid 1990's, is not adequate and was not designed for the collection and dissemination of the information that the new, complex, and dramatically larger U.S. carbon market will need for efficient function and that regulators will need for market oversight. Given the

potential size of the GHG market – across sectors with thousands of corporate participants – there is a need for more frequent, timely, and transparent dissemination of emissions, allowance, and offset

market data, including volume, price, full audit trail, and historical information to regulators, market participants and the public.

APX provides proven, large-scale information systems which provide the compliance infrastructure that environmental regulators need, while at the same time managing the offset and allowance information with the

security and completeness needed by participants and market regulators. This is likely to include both electricity sector and commodities/securities regulators. To the extent that state or federal regulators are given the authority to collect more comprehensive allowance and offset transaction or price information, APX's more robust platform offers a further advantage over existing data systems.

Finally, the scale of market activity for the new environmental commodities will require an information technology infrastructure, security, back-up systems, geographically redundant data centers, help desk services, web-based access and reporting, and a robustness commensurate with the needs of a large U.S. financial market. This essential aspect is often overlooked in regulatory discussions, but is an important factor in the success of any market operation and its oversight, and is part of the current APX offering.

**APX provides the compliance infrastructure that environmental regulators need and the market information needed by energy and securities market regulators.**

## APX Solutions

APX is the leading infrastructure provider for environmental and energy markets in renewable energy and greenhouse gases including carbon commodities. Our clients include governments, agencies, corporations, marketers, trading organizations, energy companies, and not-for-profit entities. Our technology is the backbone for every major renewable energy market in North America, including the PJM (GATS), ISO New England (NEPOOL GIS), ERCOT (Texas REC), MISO (MRETS) and Western States (WREGIS) markets. Most of these are cross-jurisdictional, multi state environmental markets. In total, more than 2 billion certificates representing renewable energy and generation have been created and are under management using this infrastructure. Our comments are based on our experience over years in working with regulators and market participants in states and regions to set up reliable and efficient environmental market systems.

APX has also been selected from among 17 international bidders to create and manage the Gold Standard's Registry for Verified Emissions Reductions (VERs) in the voluntary carbon market. The Registry provides the Gold Standard, endorsed by 49 key environmental NGOs worldwide, with a user-friendly, web-based software application that

creates, tracks, and enables trading of Gold Standard VERs (offsets) with full audit trail and security capabilities. The registry features serialization of each metric ton of CO<sub>2</sub> equivalent reduced versus an emissions baseline, a double-entry accounting framework, and full ownership and transaction tracking for VER credits. Real-time reporting capabilities assist account holders in the management of VER credits, while also providing program transparency to account holders and the public.

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