THE Emissions Trader

*A publication of the Emissions Marketing Association*
*Serving the International Emissions Trading Community*

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# Setting Up the Ecoasset Portfolio: Ounces of Prevention Can Save 'Tons' of Cure

BY MICHAEL CANTERBURY
ESP

Addressing a few key implementation issues prior to applying risk management to environmental compliance is critical for program success. Often these issues are as simple as making minor adjustment to computational models and portfolio structures to ensure an accurate overlay on existing risk management programs. The challenge is to address these issues not only for today's compliance programs but for future ones as well.

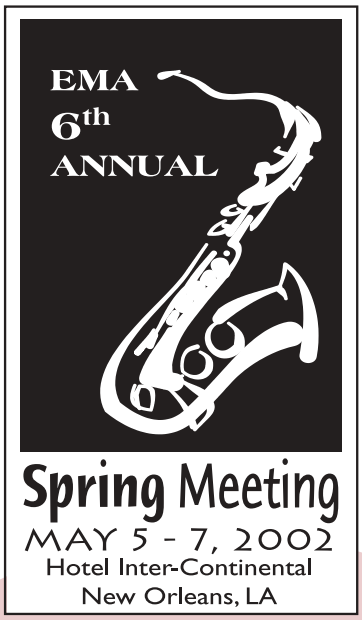
Without proper planning and implementation, risk management yields garbage-in and garbage-out (GIGO) results that can become the nightmare of the portfolio manager. Controlling the GIGO factor means applying the right models to analyze each situation and to structure the portfolio data to best serve the ecoAsset (allowances, credits, certificates, etc) risk program.

## Computational Models

Risk management techniques are built upon a series of standardized economic models. The efficiency and effectiveness of these models are in part driven by how well the asset characteristics fit model assumptions. Since environmental compliance programs are not standardized, the characteristics of each program's assets vary due to inconsistencies in regulatory guidelines. Therefore, not all ecoAssets can be churned through the same analytical processes and routines.

Evidence of the different needs among ecoAssets is ever- present for companies with diverse ecoAsset portfolios that include both U.S. SO2 NOx allowances and greenhouse gases (GHG) credits. U.S. SO2 NOx allowances are traded in a liquid market. Commodity risk management techniques can be applied to value these ecoAssets and quantify the uncertainty stemming from the market. Other assumptions underlying commodity risk models such as standardized market instruments also fit favorably with the emissions allowance markets. Conversely, for ecoAssets that are the product of bilateral agreements like GHG, more traditional cost-benefit analysis driven by expected values are appropriate.

Each ecoAsset requires a program review in order to determine the correct risk analysis models. Equally important is the application of common measures and models to summarize and report all ecoAsset risks. As more ecoAsset markets commoditize, a common measure will evolve and enhance a standardized approach to risk management. As for models, value-at-risk will gain monentum as ecoAssets commoditize but that model will forever be complemented with innovate techniques like real-option valuation, Monte Carlo simulation, and future innovations.




## Book Structures

The best models in the world are only effective if properly implemented. The lessons learned from the U.S. SO2 NOx market clearly show that risk models are susceptible to improper account set-up and long-term asset valuation.

For the U.S. SO2 NOx program, accounts were setup and allocated allowances according to units as directed by the EPA. While this structure works for compliance, it may not expose the value of the portfolio in a way needed for best risk management results. To address this issue, unit account allowances can be transferred to general accounts. Since the allowances must be in the unit accounts at the time of compliance, the general account must deliver allowances back to the unit accounts at the regular reporting intervals. How you structure this arrangement will impact your risk management results as well as change the company's bottom line. The commitments to deliver these allowances can be structured on your risk books as forwards, European options, or daily swing options. Delivery of the allow-

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# EMA 5th Annual Fall Meeting & International Conference Highlights

*A good time was had by all during the EMA President's Reception near the beach on Hilton Head Island.*

*Bob Bruce, Enron and Matt Most, Edison Mission Marketing & Trading, led the discussions at the EMA Contracts Committee Meeting.*

*Gary Hart awards the 2001 EMA President's Award to Dan Chartier, PG&E National Energy Group, during the EMA Business Meeting.*

*The EMA Poster Session was very interactive throughout the meeting.*

## EMA on the WEB

*Did you know when you visit the EMA at www.emissions.org you can find the online company directory, past issues of The Emissions Trader, along with other helpful sites and publications including a trader's sample purchase and sale agreement?*

## EMA Calendar of Events

**EMA 6TH ANNUAL SPRING MEETING**
May 5-7, 2002
Hotel Inter-Continental
New Orleans, Louisiana

**EMA 6TH ANNUAL FALL MEETING & INTERNATIONAL CONFERENCE**
September 29 - October 1, 2002
Hilton Toronto
Toronto, Canada

**EMA 7TH ANNUAL SPRING MEETING**
May 4-6, 2003
Wigwam Resort
Phoenix, Arizona

# Multi-Pollutant Approaches Offer Needed Certainty and Opportunity to Shape Emerging Emissions Trading Designs

BY LISA JACOBSON AND JEFF KEELER
ENRON

**Disclaimer...**The opinions expressed in this article do not necessarily represent the view or opinions of the Emissions Marketing Association. Your comments are encouraged and can be sent to comments@emissions.org

As the next international climate change negotiations approach, U.S. companies face continued uncertainty on greenhouse gas emissions regulation. While the tragic events of September 11 have resulted in appropriately slowing down the pace of Congressional consideration of multi-pollutant legislation for the electric generation sector, addressing air quality under a national framework and reducing greenhouse gas emissions should remain a priority.

Looking beyond our borders, other nations are moving ahead with programs to address climate change and to reduce greenhouse gas emissions. Market-based programs like emissions trading are primary components of many of these plans. The European Union's intention to finalize its greenhouse gas emission trading program this fall demonstrates its commitment to reduce greenhouse gas emissions and to prepare its member states for ratification of the Kyoto Protocol in 2002.

Canada, which is viewed by many as still in "wait and see" mode on the Kyoto Protocol, gave two significant hints at its direction on climate change. In August, Eastern Premiers joined U.S. New England Governors in calling for a regional approach to reduce greenhouse gas emissions and adopted regional targets and timetables for the next decade and beyond. In September, Canada's Energy and Environment Ministers released a statement that said that they would be continuing discussions on greenhouse gas emissions trading, competitiveness, carbon sinks and technology in order to consider ratification of the Kyoto Protocol in 2002. Japan and Australia also are evaluating their strategies, as domestic pressure to address climate change remains. With the next set of climate change meetings approaching, it will become harder for political leaders to delay action as they try to bring the U.S. back to the negotiating table or while they wait for the release of a U.S. alternative.

The uncertain regulatory climate is driving U.S. firms and multinationals to assess their potential greenhouse gas emission exposure as well as to develop risk management strategies. This is complicated however by regulatory uncertainty and weak price signals for carbon dioxide equivalent reductions in the U.S. While some companies look to operations

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**Internet site:** www.emissions.org
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# Ecoasset Portfolio *...from cover*

ances from the general account (trading) to compliance management through these instruments is no different than delivering other commodities using the same instruments.

Another issue particularly pertinent to U.S. SO2 NOx account structures centers on the range of vintage year allowances to include in the analysis. Clearly, if you do financial analysis for investment purposes, you include all allowances. For risk management, it makes sense to include only those allowances that are liquid which for U.S. SO2 NOx is at best 10 years. Including trades beyond that point tends to overstate the portfolio value and the value-at-risk. Furthermore, there is no valid risk management action applicable to these out-years and including them in risk measures yields marginal value.

## Conclusion

In preparing for or adjusting your ecoAsset risk management program there two key components vital to the program success: choosing the right analytical models and creating the optimal book structure. As for analytical models, each ecoAsset program will command the appropriateness of certain models. As more environmental compliance programs are added and commoditized, using ecoAsset-wide measures such as VaR will add credibility to the program and provide a linkage to enterprise risk management. As for the book structures, each company must examine its unique needs and levels of commitment before structuring these portfolios. Trading companies are likely to have the capacity to explore complex ecoAsset portfolio structures whereas compliance oriented companies may lack the resources and desire to take on such commitments. Whatever the level of participation, risk management plays a viable roll in protecting and enhancing the value of the ecoAssets.

## ABOUT THE AUTHOR

Michael Canterbury is the Director of ESP's ecoAsset Manager product line. He also serves as a consultant, helping to design and implement emission trading strategies, establish risk management programs for allowance management, and prepare special analysis for projects related to allowance and capital investments.

## 2002 EMA Board of Directors


**CORINNE BOONE**
DIRECTOR
CO2e.com
416-350-2177
Fax: 419-710-7758
cboone@co2e.com

**MICHAEL INTRATOR**
DIRECTOR
Natsource LLC
212-232 5305
Fax: 212- 232 5305
mintrator@natsource.com

**C. NORWOOD DAVIS**
DIRECTOR
Duke Energy Corp.
704- 382 2498
Fax: 704- 373 6410
cndavis@duke-energy.com

**MATTHEW MOST**
DIRECTOR
Edison Mission Marketing & Trading
617-912 5912
Fax: 617- 912 5701
mmost@edisonmission.com

**GARY HART**
DIRECTOR
Southern Company Generation & Energy Marketing
205-257-7438
Fax: 205-257-0334
grhart@southernco.com

**JOHN PALMISANO**
DIRECTOR
Evolution Markets LLC
202-973-8135
Fax: 202-293-3083
johnpalmisano@yahoo.com

**PAUL VICKERS**
DIRECTOR
TransAlta Corporation
403-267-2033
Fax: 403-267-7372
paul_vickers@transalta.com


## EMA Staff


**DAVID FELDNER**
EXECUTIVE DIRECTOR
414-276-3819
Fax: 414-276-3349
dfeldner@emissions.org

**LINDA TERRY**
MEMBERSHIP COORDINATOR
414-276-3819
Fax: 414-276-3349
lterry@emissions.org


## EMA Mission

**EMA was founded to foster market-based trading solutions for environmental management and to serve its membership.**

**EMA promotes the advancement and application of policy and regulation relevant to market-based emission trading systems.**

**EMA encourages and facilitates information exchange among members and other professional and technical groups, and the public.**

**EMA provides programs in education and training to improve knowledge and skills of members and the understanding and acceptance of the public.**

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## Multi-Pollutant Approaches ...continued from page 3

abroad as possible centers for greenhouse gas risk management, there is no need for U.S. firms and facilities to be left behind and face potentially higher costs in the future for greenhouse gas emissions reductions.

Adoption of a national, multi-pollutant emission reduction plan – three or four pollutant in scope – would be a significant first step for the U.S. in achieving several important goals: providing certainty to the electric generation sector (40% of all carbon dioxide emissions in the U.S.); demonstrating U.S. leadership and expertise on emissions issues; providing needed modernization of the design and implementation of U.S. emissions trading systems; and forming the foundation to linkages with other national, regional or multilateral greenhouse gas emissions trading programs.

Key objectives of a three or four pollutant plan are, to spur innovation on a range of technologies required to address climate change (*i.e.*, clean coal, combined heat and power, energy efficiency and renewables) while ensuring energy supply and preventing economic harm.

While several multi-pollutant proposals are under consideration, most would offer enhanced regulatory certainty and incorporate market forces through emissions trading, which provides flexibility to regulated sources to meet emissions reduction obligations at lower costs.

Enron, along with other members of the Clean Power Group (CPG), has promoted a three-pollutant (SO2, NOx and mercury) cap and trade program that couples regulatory reform with declining caps and a cost "circuit breaker" as a means to improve air quality and enable lower compliance costs. While the CPG proposal does not mandate carbon dioxide emission reductions, it provides a framework that can be used to address carbon mitigation if the U.S. chooses too.

On the other hand, industry groups representing electric utilities, like the Clean Energy Group and the Energy for a Clean Air Future coalition, have offered multi-pollutant proposals that provide coverage for carbon dioxide, ranging from mandatory caps to voluntary reporting and baseline protection. Edison Electric Institute has not adopted an official position but is believed to be considering how to address carbon dioxide emissions under a multi-pollutant plan.

The White House has stated clearly that it will not support mandatory carbon dioxide limits, but has expressed strong support for addressing climate change and emissions trading. Statements by top officials indicate interest in a regional greenhouse gas trading program through NAFTA as well as voluntary greenhouse gas trading initiatives. While the Bush Administration develops its own climate change program, adoption of a multi-pollutant emission reduction program would provide more certainty to generators, increase participation in emissions markets and reassert U.S. leadership on the design and implementation of emissions trading programs.

While not economy-wide, a multi-pollutant program could form the foundation for emissions trading between and among other industry sectors as well as other nations. Since the development of a greenhouse gas emissions market involves a high degree of complication and ultimately a global scope, starting with one sector in the U.S. makes sense. As the political debate over coverage of three or four pollutants continues, the practical benefits of multi-pollutant approaches should not be held hostage. At the same time, the more coverage a national multi-pollutant program provides for greenhouse gases, the more the U.S. firms could benefit from reduced regulatory overhead, flexibility and reduction of costs through emissions trading, as well as a clear emissions goal to meet.



### ABOUT THE AUTHORS

Lisa Jacobson manages greenhouse gas emissions issues for Enron as part of the Environmental Strategies Group. Jeff Keeler is the Director of Enron's Environmental Strategies Group and a founder of the Clean Power Group.

# EMA Contracts Committee

BY MATTHEW MOST
EDISON MISSION MARKETING & TRADING

**Disclaimer...**The opinions expressed in this article do not necessarily represent the view or opinions of the Emissions Marketing Association. Your comments are encouraged and can be sent to comments@emissions.org

Of all the emissions products, the allowance markets are by far the most liquid or widely traded. This year the SO2 and NOx allowance markets will complete over 3,000 transactions. Every trade requires a contract unique to that trade, detailing the price, quantity, payment terms, liquidated damages and other pertinent details. It may surprise people not active in allowance markets that attorneys representing each side must review each contract, which is often a unique document. It may surprise even more people that this process can take months. This contract review period is a significant delay to the transfer of allowances and cash, adding cost and uncertainty to the process.

Delays are a major concern to traders. The period between the trade and the actual execution of a contract represents a time of great risk. During this time, market prices can change significantly, creating the danger that the party losing money on the trade will attempt to exit the deal. The risk of deals breaking apart imperils other obligations a trader may take predicated on an individual trade.

The unpredictable delays associated with contract negotiations create other problems, including inventory issues. Emissions allowances are a physical commodity. This means that the underlying product is traded, rather than a financial derivative (i.e. a futures contract). When purchasing SO2 allowances for "immediate" delivery, the parties agree to transfer payment and allowances within a given number of days from execution of the contract. If contract completion is unpredictable due to legal delays, it is impossible to forecast when the allowances will be available. This type of inventory uncertainty limits the trader in reselling the allowances, leading to lost opportunities.

Transaction cost is also a significant issue. With legal review required for so many contracts, the many hours of legal overhead is a major cost to the process. It is not uncommon for the impact on legal staffs from allowance trades to rival that of much more liquid commodities. This cost represents lost profits from trading businesses and utilities. Every dollar of overhead cost diminishes the profitability of trading and thus the incentive to trade.

The aggregate effect of contractual issues on allowance trading is increased transaction costs and risk, with significant effects on liquidity. The EMA is devoted to the growth of emissions markets and thus must address this immaturity in the allowance markets. A standardized allowance contract will break through the barriers to entry of transaction costs and risk.

An EMA standard would greatly reduce the legal review required by creating consensus on key terms, which currently slows the process to a crawl.

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## EMA Contracts Committee ...continued from page 7

Low volume traders would not need to develop their own document, and would be able to enter the market more quickly and often. High-volume traders would see a great reduction in legal processing and delivery times.

EMA has provided a contract template in the past, but unfortunately it has not evolved with the market. To solve this problem, the Board of Directors has tasked Gary Payne, (Aquila) and myself to co-chair the EMA Contracts Committee. This team is charged with developing a suite of emissions contracts addressing all emissions commodities. The strategy calls for first addressing the most liquid products (allowances) and working towards less liquid products (offsets, RTCs, ATUs, DERs) and ultimately to Greenhouse Gases. This process will take time and build momentum with the development of each individual agreement.

With each emissions product, a Drafting Subcommittee will be formed of legal representatives from major effected trading houses and utilities. This small team, currently chaired by Jim Sobule (Ameren), will gather templates and distill a recommended standard for the allowance project. The larger group of interested parties will comprise the Working Subcommittee. Currently with over 40 members, this team acts as a sounding board for areas of dissent and reviews the Drafting Subcommittee's work.

**Drafting Subcommittee – "Allowances"**

| | |
|---|---|
| **Jim Sobule, Chair** | Ameren Services |
| **Bob Bruce** | Enron Wholesale Services |
| **Ken Chaney** | Mirant |
| **Donna Foy** | Arizona Public Service |
| **Gary Payne** | Aquila Energy Marketing Corp. |
| **Shari Stack** | Reliant Resources |
| **Bob Viola** | Edison Mission Marketing & Trading |
| **Jeremy Weinstein** | PacifiCorp |

Both Subcommittees have met on the allowance project and expect to recommend a completed standard contract to the EMA Board of Directors prior to the Spring Meeting in New Orleans. The contract will then be posted on the EMA's "Members-Only" website for the use of all members. At the EMA 2002 Spring Meeting, the process will start again with the Working Subcommittee determining the next emissions product to address and forming a new Drafting Subcommittee to tackle the project.

The Contracts Committee is an example of the new committee management structure EMA has implemented this year. The concept came to the fore through the efforts of the Membership Committee to develop areas of added value for EMA members. This process will initiate efforts in the future to further augment the utility of EMA conferences and membership. The Contracts and Membership Committees present great opportunities to get involved and influence the process. Shouldn't you be part of the real and lasting work EMA committees are doing in the emissions markets?

### ABOUT THE AUTHOR

Matthew Most is the Emissions Trader at Edison Mission Marketing & Trading, managing the company's North American emissions positions. Mr. Most's experience includes commodity management posts in the recycling industry as well as emissions brokerage. Mr. Most has an environmental science graduate of Clark University and is currently completing an MBA at Babson College.

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**Emissions Marketing Association**
**611 E. Wells Street**
**Milwaukee, WI 53202**

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