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

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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.

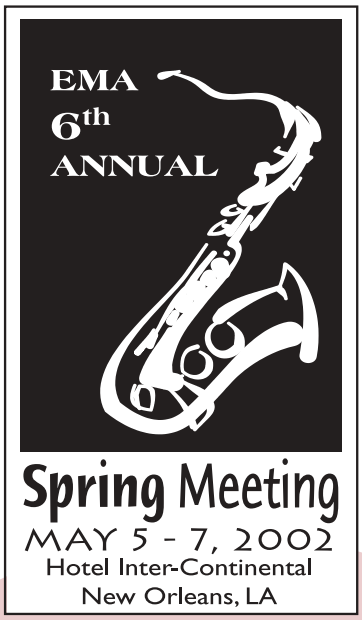
Without proper planning and implementation, risk management yields garbage-in and garbage-out (GIGO) results that can become the nightmare of the portfolio manager. Controlling the GIGO factor means applying the right models to analyze each situation and to structure the portfolio data to best serve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