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COMMODITYPOINT®
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White Paper

Seeking Total Risk Management Solutions In Today's Commodity Markets

Prepared by:

UtiliPoint® s.r.o
Frantiskanska 6
602 00 Brno
+42 0533 433 658
www.utilipoint.com
www.commodity-point.com

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Management Summary

Market conditions in the energy and commodities trading area are, more than ever, creating a need for truly integrated enterprise trading and risk management solutions. UtiliPoint's industry surveys consistently find that many firms operating in volatile commodity markets are still utilizing different software packages for varied facets of their trading and risk management business function. These software packages are poorly integrated at best. With increased volatility, tighter credit conditions and the strong likelihood of increased oversight—or even regulation of commodity markets and trading—firms that are not utilizing truly integrated software suites to support their operations will face escalating difficulties and are increasingly open to abuse, error, oversight and perhaps even business failure.

These market conditions are not only increasing the focus on integration but on risk management. Most, if not all, commodity trading firms emphasize market risk via their Risk Desk and the functionality built into their existing CTRM/ETRM software. Other areas of risk such as credit, operational and regulatory are often neglected and are not tightly integrated with the trading operation, either from a business process or software perspective. Market conditions today and into the future are diverging to change this situation and demand greater integration between the various risk areas.

Triple Point Technology has recognized and responded to these challenges through its acquisition of ROME Corporation and INSSINC in 2008. In the process, it added tightly integrated capabilities to its platform around credit, operational and regulatory risk. Triple Point is now uniquely positioned to supply a fully-integrated suite of CTRM software demanded by market conditions. It can also provide best-in-class point solutions that are easily integrated with existing CTRM/ETRM software solutions.

Introduction

As the current financial crisis worsens and threatens to continue unabated for some time, the energy and broader commodity trading industry will continue to feel its effects. Reduced market liquidity, a renewed emphasis on counterparty credit and credit management, greater attention paid to risk metrics and an increasing chance of more stringent regulation and oversight in the future, are just a few of the issues that commodity traders now face. Indeed, as in the after effects of the collapse of the U.S. energy merchants a few years ago, the industry is set to enter unknown territory.

Despite that uncertainty, market pressures, grim economic environment and increasing oversight of both corporate and trading activities dictate that energy traders and utilities re-examine their trading and risk management software solutions over the coming months. These new pressures faced by companies trading commodities are, in UtiliPoint's viewpoint, likely to continue to force the issue of integration in the Energy Trading and Risk Management (ETRM) software area. The idea that a commodities or energy trader can properly and effectively run their business on a host of poorly integrated trading and risk management solutions in today's fiscal and regulatory environment is now simply untenable.

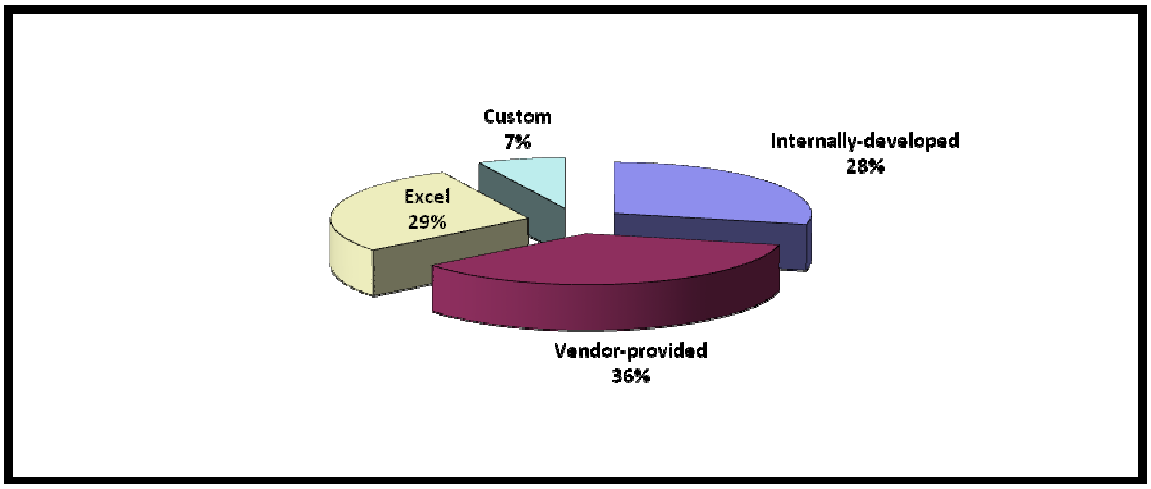
To amplify these issues, this white paper will look specifically at risk management. Not just price or market risk management, but at the increasing risks and complexities faced by trading firms that now includes operational risk, credit risk and regulatory risk. Typically, risk management as it relates to energy trading firms and, specifically the software that supports it (ETRM or CTRM software), has more or less exclusively focused on a singular aspect of risk; market risk. While some commercially available software solutions pay lip service to other forms of risk, users are most often forced to resort to procuring incremental software solutions to cover those aspects of their business and, in some cases, they resort to spreadsheets or custom home-grown solutions. This in turn creates another problem—the need for integration.

The Integration Problem

With increased price volatility, tighter credit conditions and the strong likelihood of increased oversight or even regulation of commodity markets and trading, firms that are not utilizing truly integrated software suites to support their operations will face increasing difficulties and are increasingly open to abuse, error, oversight and perhaps even business failure.

The integration problem faced by most trading firms was aptly demonstrated by a recent UtiliPoint survey[1]. This survey did not ask about their ETRM software solution but rather the systems used around it and the levels of integration between them. It found that critical applications related to ETRM software such as hedge accounting largely relied on Excel spreadsheets or internally developed solutions. Similarly, credit management was largely supported using home-grown applications. Even in instances where support for these functions was offered by the ETRM software in use by the respondents, it was insufficiently functional to actually support the business needs and was, therefore, not used in favor of a home-grown application or a system from another vendor.

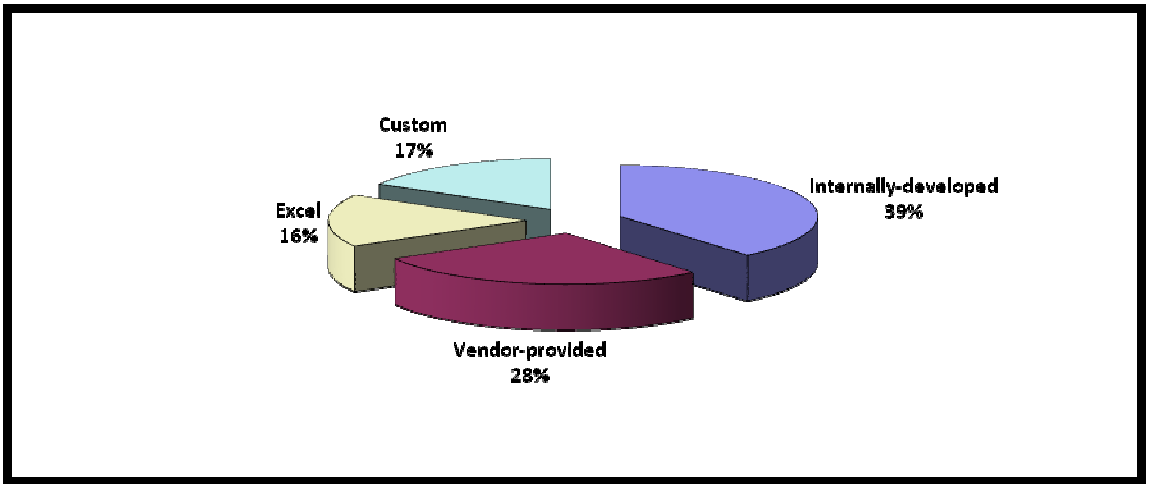
Figure 1: Survey Findings—Types of Application Used for Hedge Accounting



The problem with this approach is one of integration. Functions such as credit management, hedge accounting and so on are integral components in trading profitably and, particularly in today's trading environment, integration between these systems is absolutely essential.

[1] European ETRM Integration Survey Results – UtiliPoint Report, 2008

Figure 2: Survey Findings – Types of Application Used for Credit Management



Managing Risk

Nowhere have requirements changed more than in the area of managing risk, and that trend is only likely to continue. As stated above, while many ETRM solutions may manage market risk effectively, they do not offer the depth of functionality to manage other equally important forms of risk.

Market Risk

Market/price risk are aspects of risk management that are most commonly supported by commercially supported ETRM software solutions. This is usually the primary focus of the Risk Manager and Risk Desk and thus solutions have been designed to meet their requirements for tools such as mark-to-market, Value at Risk (VaR) and so on. Most software suppliers offer adequate coverage in this area.

Credit Risk

It is true that many ETRM software solutions purport to include some form of credit risk functionality but most often that functionality is insufficient to fully meet all the market requirements. In today's market environment, credit risk has become increasingly important and is now deemed essential as traders appreciate that a trade's profitability can be severely negatively impacted unless the credit side of that trade is thoroughly understood. More and more,

credit and counterparty management is migrating to the front office. The credit department is no longer simply a potential stop sign on a trade but an integral part of the trading process.

While all trading firms have credit policies and controls in place, these are often impossible to carry out because the information required to do so is stored in spreadsheets, on paper, in un-integrated systems, or the information is simply out-of-date. Where these processes do exist, they must be effectively managed as was evidenced by Constellation Energy Group's recent problems. Constellation had miscalculated their collateral requirements in the event of a credit downgrade. With a few of the banks providing their credit facilities starting to weaken or go under, other companies stopped trading with them and their credit dried up.

Credit management processes must be performed in a systematic and comprehensive manner to better allow companies to anticipate excessive exposures and counterparty instability rather than react to them. There are a number of areas that need to be addressed specifically;

- Exposure—the need to gain an understanding of potential exposure to all counterparties including which companies are actually subsidiaries of others;
- Concentration – where is that exposure? Is it all in one sector, one commodity, or one deal type?
- Forecasting—even if those exposures seem fine at a particular point in time, how might they change through time?
- Liquidity—the ability to book and understand cash flow is critical. Furthermore, in times of tight credit, companies need to know what could be margined and what their collateral requirements might be, along with any particular limitations or constraints that could exist such as having to act before a certain date so that exposures can be mitigated via netting or some other mechanism. In fact, the number of collateral agreements in place is increasing all of the time, requiring companies to spend much time and effort tracking collateral positions on both sides of a transaction.
- Credit Scoring—flaws in the ratings offered by credit rating agencies have recently become very evident, leading companies to often develop their own scoring criteria. However, this process can be time consuming and error prone and would ultimately benefit from automation.

- Analytics—for example, the ability to calculate Credit VaR and Potential Future Exposure (PFE).

Given the above requirements, most ETRM solutions fall well short and will need to be supplemented by other systems and processes.

Regulatory Risk

Calls for increased oversight and regulation of markets are gaining strength as a result of the current financial crisis and the preceding run up in commodity prices. There can be no doubt that new rules, regulations and practices will be placed on the industry over the next 6 to 24 months. In effect, it's already occurring as shareholders and regulators seek greater insight into companies' balance sheets and P&L statements. One result of such scrutiny is the concept of 'fair value disclosure.'

Fair Value Disclosure

Fair value disclosure is an effort to understand the quality of earnings generated by firms by establishing different levels or categories of earnings and forcing companies to report on that basis. In fact, there are three levels generally defined based on the ability to fairly value the position ranging from level 1, where there is an observable reference price on an exchange, to level 3 where the transaction is illiquid and extremely difficult to value. The reporting requirements associated with level 3 P&L or mark-to-model values are extremely complex and difficult. Unfortunately, for most firms trading energy or broader commodities, a lot of what they do falls into that level 3 category.

Further complexities arise in defining these three different levels. Simplistically, a transaction based on an exchange index would be level 1 but something like a NYMEX swap over the counter (OTC), while based on an exchange price, is actually level 2. Level 3 transactions are those based on unobservable prices such as a black box pricing technique or if there is some extrapolation of future prices for example. Level 1 and 2 earnings are relatively easy to account for and disclose but level 3 is very complex and difficult to deal with. The issue facing firms trading commodities is to identify the level of different earnings and transactions and then to properly account for, and disclose them, as many transactions undertaken in the industry will naturally fall under level 3.

Fair value disclosure, according to FAS 157 or IFRS 7, is an existing complexity but also quite likely only the beginning in terms of greater transparency and oversights in the industry.

Hedge Accounting

Another area of potential complexity in operational and regulatory risk - already felt by some commodity trading firms - is Hedge Effectiveness Accounting. FAS 133 and IAS 39 seek fair value accounting practices and have effectively lumbered companies that opt to do hedge accounting with another area of complex accounting, tracking and disclosures. Hedge Accounting standards require companies to prove that a hedge transaction is in fact a hedge by requiring an 80R squared or better correlation between what is hedged and the hedging instrument. The hedge has to be documented at a minimum on a quarterly basis, but because a hedge's effectiveness can actually change through time, it can pay to review hedge effectiveness more often. If a hedge is de-designated, the company hedging may take a large Mark-to-Market hit and, in addition, must also report when the hedge was last effective.

In fact, hedge accounting is extremely onerous and requires an enterprise view of the hedge – not just a trader view. The hedge effectiveness regulations and reporting requirements touch many different aspects of the business including trading, credit, accounting and risk management making disclosure a burden in which adequate documentation is required for the external auditors. *In fact*, hedge accounting isn't just regression analysis, but the entire spectrum of processes from Board authorization, following of hedging policies, documentation and reporting.

FAS 161, which falls under FAS 133, adds additional complexity to hedge accounting reporting. It calls for more information to be reported about an entity's liquidity by requiring disclosure of derivative features that are credit risk–related.

Operational Risk

Operational Risk is an area that must often rely on business processes, checks and balances. Nonetheless, CTRM software solutions ought to provide a level of support for operational risk and some do including; support for physical logistics properly integrated with trading & risk management, the ability to set and monitor various limits such as trader and/or credit limits, the

ability to set up controls via the software including authorizations and automated confirmations to name a few.

Managing Risks

In the above review of some of the forms of risk facing trading firms, it is evident that the management of risk goes well beyond the concept of managing market price risk if that trading firm wishes to remain profitable and comply with the various existing and potentially new regulations now and in the future. What should also be apparent is the sheer complexity and volume of disclosure required, placing a significant administrative burden on a trading firm. The risk to the business and its shareholders of a failure in any one of these risk areas can be devastating and total. Indeed, it isn't just the administrative burden but the idea that information must be available on a timely basis and accurate and useable by many different functions within the organization.

Many trading firms today continue to utilize a main ETRM software solution supplemented by home-grown or other solutions to support areas of the business such as credit management or hedge accounting and may even rely on manual processes to manage other areas such as fair value disclosure. Under these circumstances, critical information is not available on a timely basis, nor is it always accurate, posing a significant risk to the business. Poorly integrated solutions simply add complexity, potential for clerical error and expose the business to greater risks.

Triple Point's Commodity XL Suite Offers a Comprehensive Risk Solution

Triple Point perhaps raised a few eyebrows amongst ETRM software vendor watchers this last 12-18 months as it completed a number of acquisitions. First, it acquired INSSINC in June 2008. INSSINC has over twenty years of experience in successfully developing and implementing state-of-the-art derivative accounting systems for hundreds of clients worldwide, and it sells one of the most widely used Treasury Management and Regulatory Compliance and Hedge Accounting solutions.

In July, 2008 Triple Point also announced the acquisition of ROME Corporation, a leading provider of credit risk management solutions to the energy industry. In reality, these acquisitions

were smart and truly anticipated a need for a much broader-based integrated solution for trading companies. Indeed both acquired platforms can be procured as stand-alone product suites offering comprehensive best-in-class point solutions or as a part of Triple Point's CTRM software platform—Commodity XL™.

In effect, this now means that Triple Point can provide a suite of integrated software that provides total support for all aspects of risk discussed in this white paper. All transactions entered into Triple Point's trading & risk management solution can be automatically brought into the hedge accounting solution to process them properly and then returned for accounting purposes. As a result of this level of integration, everything is managed accurately and on a timely basis finally helping to solve the age old problem of reconciling Mark-to-Market with actual financial statements. The INSSINC software is now termed Commodity XL™ for Hedge Accounting and Fair Value Disclosure, while the ROME software suite, which has also been fully integrated, is now known as Commodity XL for Credit Risk™.

Triple Point's Treasury Management and Regulatory Compliance Solution Suite

Commodity XL for Hedge Accounting is a dynamic hedge accounting engine that provides the following functionality;

- Allows users to pre-define a variety of hedge objectives and choose from those definitions as trades and exposures are entered;
- Classifies hedges as cash flow, fair value or economic;
- Provides fast, easy deal capture with trade information flowing immediately to everyone in the value chain, ensuring all participants work with current information;
- Saves all trades in a central repository, eliminating local data stores and ensuring auditability of all transactions;
- Maintains all documentation within the system such as hedge objective, type of hedge, description of hedge, type of risk, length of hedge and prospective and retrospective assessment to be used;
- Enables "what if" scenarios prior to deal execution allowing traders to test economic benefit and prospective hedge effectiveness;
- Tests hedge effectiveness on prospective and retrospective basis ; and,

- Generates reports automatically for each cycle close and archives for later viewing.

The software provides key benefits to users. It enhances hedge decision making, streamlines operations and reduces costs, reduces earnings volatility and ensures compliance.

Commodity XL for Fair Value Disclosure is Triple Point's module for FAS 157 and IFRS 7 compliance, providing the tools and the framework to define, measure and manage fair market value levels and meet all disclosure requirements. It includes the following functions;

- Captures valuation level by trader and classifies trades using a rule-based method;
- Supports large quantities of data and is scalable to handle growing trade volumes;
- Provides a credit adjusted MTM for both assets and liabilities by counterparty;
- Uses repeated and optimized procedures making it intuitive to navigate;
- Classifies fair value of strips or group trades based on threshold rules (90/10) to minimize level 3 exposure;
- Categorizes fair value measurements by valuation hierarchy, with separate quantitative disclosures for assets and liabilities;
- Provides level 3 roll forward activity and schedules; and,
- Facilitates Day 1 gain tracking and reporting.

The module benefits its users by ensuring FAS 157 and IFRS 7 compliance, providing a consistent framework for measuring fair value and by delivering on-going, in-depth analysis capabilities.

Triple Point's Credit Risk Management Solution Suite

Commodity XL for Credit Risk™ provides a real-time integrated credit process for efficient and accurate credit decisions. It incorporates full functionality for Exposure Management, Collateral Management, Counterparty Management, Credit Analytics and Credit Scoring including the following;

Collateral Management

- Calculation of contractually accurate collateral and liquidity obligations;

- Automated collateral request processing including the collateral request letter generation and dispute resolution;
- Optimizes collateral utilization
- Facilitates invoicing of interest on credit collateral;
- Stores collateral thresholds, independent amounts, percentage of exposure, rating matrices and more from contract provisions;
- Monitors both outbound and inbound collateral obligations; and,
- Automates the margin calling process enterprise-wide.

Counterparty Management

- Captures multiple hierarchy structures to model legal, parental guarantee and customized hierarchies;
- Handles joint ventures and partial ownerships;
- Maps multiple names and external references;
- Records addresses and bank account information;
- Consolidates counterparty references; and,
- Configures workflows.

Exposure Management

- Calculates cash, forward, current and potential exposure;
- Views credit risk concentrations by commodity, deal types, industry sectors, credit rating, country and more;
- Automates total and unsecured exposure calculations and exposure transfer due to guarantees and letters of credit;
- Drills down through various levels of aggregated exposure to individual transactions; and,
- Models complex limit structures, counterparties, commodities and hierarchies.

Credit Analytics

- Calculates Potential Future Exposure based on stressed market prices, deal valuations, and contractual netting terms;
- Provides comprehensive pre-deal testing;

- Performs what-if scenarios; and,
- Measures CVaR and credit reserve requirements.

Credit Scoring

- Creates scoring models based on customer specific scoring methodologies or industry standard models such as the Large Cap Model, Small Cap Model, Private Firm Model, or Z-score Model;
- Automates data collection of key financial data and ratios;
- Suggests credit limits based on credit score; and,
- Provides auditable record of credit scoring decisions.

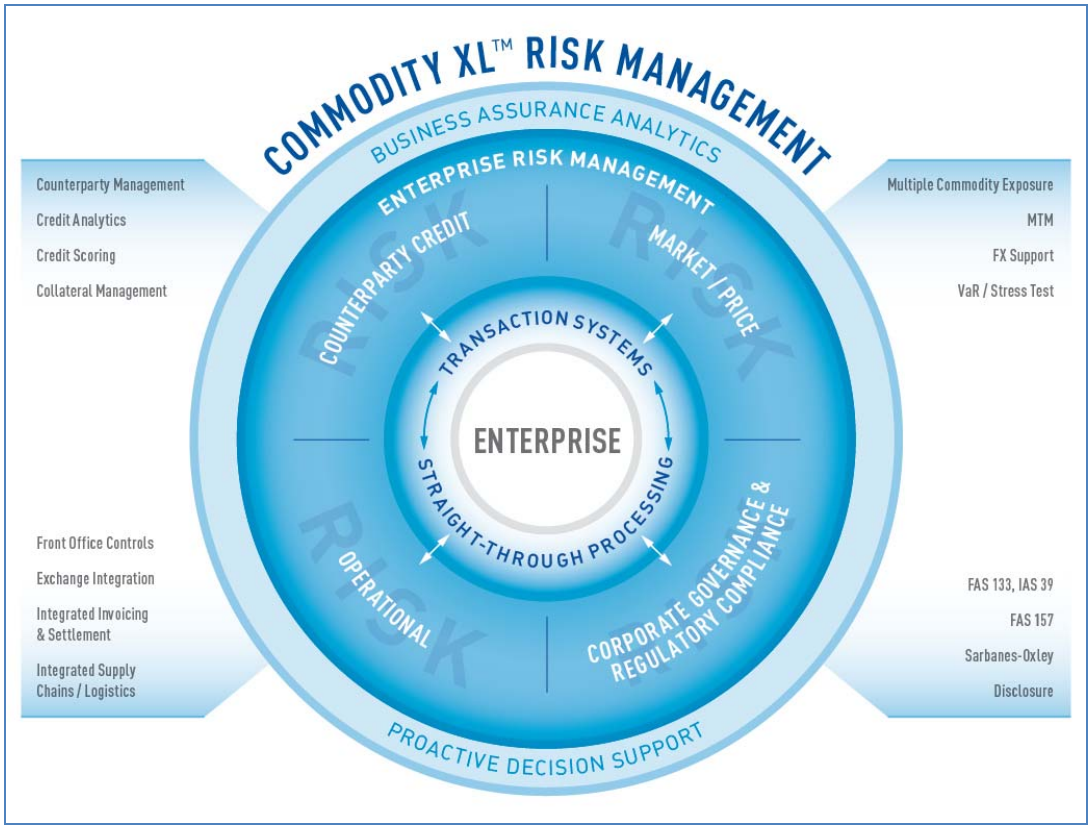
The suite helps to provide trading companies with a number of key benefits that include reduced financial risk, improved efficiency, better enterprise-wide integration and increased transparency.

Conclusion

While both Triple point's Credit Risk and Treasury Management and Regulatory Compliance Solution Suite are fully integrated with Commodity XL (Figure 1), they remain available as stand-alone, best-in-class modules and can readily be integrated with any ETRM software suite from any vendor. This allows buyers to adopt a single supplier solution or their perception of a best-of-breed solution that also facilitates integration.

Triple Point's acquisitions have afforded them, unlike any other ETRM software supplier, the ability to offer comprehensive and integrated support for market price risk, counterparty credit risk, operational risk and regulatory risk for commodity traders, both now and in the future. In today's highly unpredictable and volatile markets, it is the deployment of this type of integrated solution that could make the difference between a viable business and failure.

Figure 1: Triple Point's Commodity XL Risk Management Solution



About UtiliPoint International, Inc.

UtiliPoint is a leader in providing analysis and consulting services to the energy and utility industry. Our 76-year history and over 500 clients worldwide have led us to currently operate as an energy and utility consulting and issues analysis firm. Our staff is comprised of leading utility and energy experts with diverse backgrounds in utility generation, transmission & distribution, retail markets, mergers and acquisitions, new technologies, investment capital, information technology, outsourcing, renewable energy, regulatory affairs, and international issues. www.utilipoint.com

About the Author

Gary M. Vasey, Ph.D.
General Manager, UtiliPoint Europe

Dr. Gary M. Vasey is an energy industry expert noted for his analysis, consulting, marketing and branding skills. Gary currently manages UtiliPoint's European practice from our office in the Czech Republic. With over 22-years experience in the energy and utilities industry, Gary has experienced the industry's volatility as a geologist, consultant, software developer, analyst and marketing practitioner providing him with unique insights, not just into the entire energy value chain, but also into how to position, brand and deliver products and services to the industry. He is a noted expert on the energy trading, transaction and risk management software industry and an accomplished industry analyst and thought leader.

Gary has published more than 200 articles on energy and utility industry trends in a variety of publications, is a regular speaker at industry conferences and the co-editor of the UtiliPoint book *Trends in Energy Trading, Transaction and Risk Management Software - A Primer*. Most recently he contributed the two chapters to *The Professional Risk Managers' Guide to Energy and Environmental Markets* published by PRMIA and two chapters, co-written with Peter C. Fusaro, to *Weather, Energy and Environmental Hedging - An Introduction* (ICFAI University Press, 2007) edited by Amando F C Da Silva.

Gary is also the co-founder of the Energy Hedge Fund Center (www.energyhedgefunds.com) and the co-author of *Energy & Environmental Hedge Funds - The New Investment Paradigm* (Wiley, 2006) with Peter C. Fusaro and of many trade press articles on hedge funds in the energy industry. He and Mr. Fusaro are also the joint editors of **Energy*Hedge***, an electronic newsletter published by the Energy Hedge Fund Center.

Gary holds a B.Sc. (Hons.) degree in Geological Sciences from the University of Aston in Birmingham, England and a Ph.D. in Geology from the University of Strathclyde, Scotland.

