Enterprise-wide risk management

Market and regulatory requirements mean EWRM is fast becoming essential. Now is the time for implementation

Since its inception, risk management has evolved from an insurance-based management solution to a proactive and comprehensive decision-making tool. In today's complex and regulatory charged markets, executives demand enhanced risk detection and risk management solutions.

The solution is enterprise-wide risk management (EWRM). In its simplest form, EWRM represents an organisational commitment to enhanced corporate-wide risk awareness and integration between risk and financial practices. Unlike its risk management predecessor, EWRM involves all aspects of the organisation and places a greater emphasis on risk measurement and organisational design.

The purpose of this article is to assist energy executives to evaluate programme costs and benefits and to provide critical EWRM implementation guidance.

Take action now

There has never been a better time to implement EWRM. A convergence of factors is resulting in increased attention to enterprise-wide risks.

- **Capital market expectations** – Investors expect companies to proactively manage and clearly articulate investment risks. The difficulty is compounded by volatile economic conditions and market intolerance of earnings surprises.
- **Regulatory requirements** – New and proposed regulations require greater accountability from chief executive officers and chief financial officers. In doing so, risk certification of risk control effectiveness has dramatically raised risk awareness and has increased the importance of implementing processes to identify, measure and managing risks. Additionally, organisations are expected to produce risk and control assessments on a standard and timely basis.
- **Improved risk analytics and technology** – While no one system exists to measure, integrate and report enterprise risks, new methods and technologies have significantly improved intangible risk measurement, data availability, and system integration.
- **Decision-making speed** –Volatile market conditions demand quick and relevant decision-making tools. Well-designed EWRM programmes simplify decision-making while providing expanded and concise information to key internal stakeholders including finance, audit, accounting and operating groups .
- **Markets** – With increased information and more accurate risk measurement results, new markets and players have emerged to mitigate previously "uninsurable" risks.

EWRM benefits

While EWRM is not intended to fix a billion dollar stranded investment or eliminate fraud, it does provide management with tools required to balance uncertainty and value, thereby avoiding costly mistakes. EWRM benefits include:

- **Increased risk awareness & improved reporting** – With or without new fiduciary, legal and regulatory requirements, stakeholders such as boards of directors, investors and lenders are likely to have greater confidence in companies that can clearly explain risk exposures and risk strategies. EWRM programmes support corporate risk awareness through broad exposure identification and enhanced risk reporting, ultimately supporting prudent business decisions for competitive advantage and a market equity premium.
- **Hard dollar savings** – Significant savings can result from centralising processes and reducing non-essential hedging practices. Through EWRM, companies are better positioned to independently evaluate risks and to adjust mitigation strategies. For example, EWRM results may lead companies to reduce derivative hedging activity, to negotiate improved insurance premiums, or to reduce insurance activities, commensurate with tangible risk measurement results.
- **Operating savings** – Companies typically achieve significant cost savings through EWRM-driven activities – namely in the areas of risk, functional and staff consolidation and improved process efficiencies. Consolidation areas include corporate governance, business unit market and credit management and insurance functions.
- **Lower cost of capital** – Increased earnings stability and lower financial risk can translate into better bond ratings and lower long-term and short-term interest rates.

Figure 1. Risk ranking

Risk	Functional areas: Business unit 1	Business unit 2	Business unit 3	Business unit 4	Business unit 5	Total average
Governance	3	4	5	5	5	4.4
Legal	3	3	4	5	5	4.0
Operational (process failure)	2	4	5	4	4	3.8
Regulatory and political	2	3	4	5	5	3.8
Credit	3	2	1	3	5	2.8
Strategic/economic	2	3	2	3	4	2.8
Volumetric	1	1	3	4	5	2.8
Operations (asset failure)	2	2	1	4	4	2.6
Reputation	2	1	3	3	3	2.4
Systems	1	1	2	2	5	2.2
Model	1	1	4	1	4	2.2
Market	1	1	1	2	3	1.6
Environmental	2	1	1	3	1	1.6
Health and safety	2	1	1	3	1	1.6
Financial liquidity	1	1	3	1	1	1.4
Human resources	1	1	1	2	1	1.2
Total average	1.8	1.9	2.6	3.1	3.5	2.6

Legend				
1	2	3	4	5
Low		Medium		High

● **Improved controls** – Through improved risk measurement data, companies are better equipped to identify high risk processes and to allocate resources and controls accordingly. In many cases companies improve controls without incremental costs as risk measurement results often highlight over-controlled risks based on lower than expected exposure results. Companies also benefit as disparate and independent risk functions operate under common leadership and policies – thereby reducing inconsistent practices and dangerous cross-functional or process "hand-off" risks.

● **Improved capital efficiency** – Many companies allocate capital using "old fashion" methods – risk allocation based on traditional risk indicators or pure political muscle. Companies following more sophisticated EWRM programmes allocate capital using risk-adjusted performance measurement methods (RAPM), where risk measurement data is converted into capital-at-risk results. While few energy companies have advanced to RAPM, risk-adjusted performance measures provide companies with improved tools and a method to link operations, business planning and the financial statements using a common tool. Critical to RAPM success, however, is the firm's ability to implement programmes to charge business units for risk capital employed, to monitor return on capital employed, and to link results to incentive compensation.

● **Improved shareholder value** – While difficult to measure, companies gain shareholder value through improved risk awareness and risk-based external communications – ultimately driving improved market perception and a positive equity premium. Said differently, enhanced internal risk capabilities allow energy companies to influence investor perception regarding management's ability to ability to identify critical business risks, mitigate unnecessary losses, and protect shareholder capital. Additional value can result from improved market-based product development and pricing, and the improved ability to use more sophisticated risk management tools.

● **Reduced governance risk** – EWRM, through improved risk measurement and reporting, assists boards of directors and senior executives to satisfy legal and fiduciary responsibilities related to risk sufficient awareness and enterprise risk management. To this point, executives generally agree, traditional point-in time and subjective risk-based reports will not support increased regulatory requirements and may contribute to increased personal liability.

Typical implementation barriers

As previously stated, key EWRM implementation barriers often reside at the senior management level. In particular, the executive team typically lacks:

● Concrete and relevant risk measurement results and tangible programme benefits sufficient to evaluate ERWM merits.

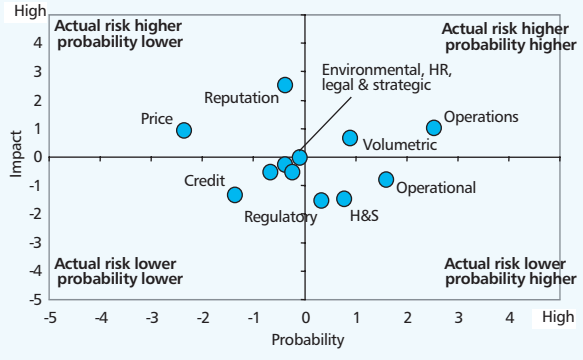
● Familiarity with critical risk management concepts – ultimately stalling ERWM progress and benefits.

● Faith in management's ability to communicate risk results to external stakeholders and analysts.

Other less formidable barriers include:

● **Insufficient risk measurement and systems** – Many risks, even those that are well understood, remain unmeasured due to lack of analyt-

Figure 2. Actual/perceived risk ranking:
actual results less perceived results



ical models, data, staffing and systems integration limitations.

● **Insufficient data** – While data is often abundant, information is typically not available in a form supporting risk-based decisions. More frequently, critical data is buried in document or assumption details such as regulatory rate cases, gathered from inconsistent sources such as strategic plans and trading documentation, or discarded after use in the case of market information such as spot prices and credit payments.

● **Insufficient risk based culture** – The skills required for EWRM (finance, audit, accounting, operations, trading, insurance) don't exist together in most organisations and the culture and organisational linkage to bring them together take time to develop.

Additional EWRM business case tools include:

Perceived versus actual risk results – Company executives and business process owners are surveyed to define perceived corporate and process-specific risks. Results are then graphically evaluated against quantified or estimated risks (See figure 1). Results typically show limited consensus with respect to risk severity, risk materiality and risk measurement methods. Often times, results demonstrate an executive focus with recent adverse risks rather than likely future events.

Industry benchmarking - Industry benchmarks may add legitimacy to certain business case recommendations. Benchmarks to consider include risk organisation structures (for example, CRO, risk reporting lines), risk headcount, system solutions and EWRM peer group implementation progress.

Analyst interaction – At the most fundamental level, EWRM is only as relevant as the value given by equity analysts. As such, early analyst discussions may provide valuable guidance relative to the EWRM implementation decision process.

Implementation guidance

In an effort to minimise implementation barriers, companies should follow four key steps:

● **Educate management** – Prior to project initiation, management should fully understand the need for, and benefits resulting from EWRM. One common approach is to develop a EWRM business case for senior management review and approval. The package typically includes a) estimated risk measurement results – both tangible and intangible; b) estimated hard dollar savings achieved through centralisation and consolidation; c) estimate costs including hard dollars and internal resource support; and e) project timing and minimum program requirements (define according to short, middle and long-term term according to EWRM objectives).

Additional executive education involves more technical sessions. Internal courses should focus on risk modelling and aggregation concepts – including value-at-risk and probability, risk results interpretation and mitigation strategies, and general market and derivatives sessions. Educational materials should address risk tolerance levels, aggregated risk results, related limit setting process and board review and approval requirements.

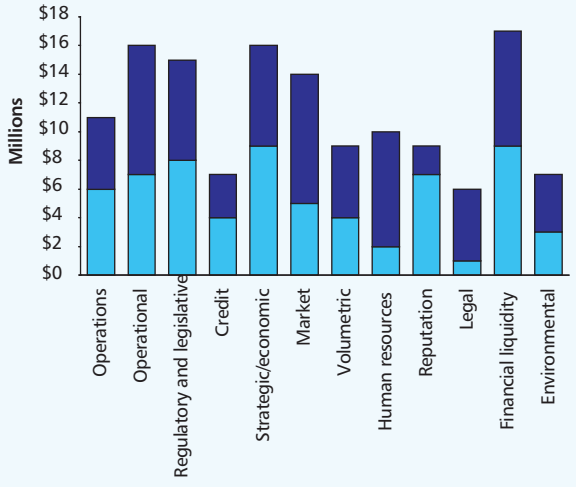
● **Design the enterprise risk function** – A clearly defined risk organisation is the cornerstone of an EWRM programme. Risk organisations should define roles and responsibilities including scope differentiation relative to internal audit, business unit risk management, risk compliance and corporate governance. As a starting point, the EWRM organisation should be designed to supply the board, senior management and the risk management committee with information required to meet internal governance and legal responsibilities (risk awareness, limit setting and reasonableness review). Secondary responsibilities should address desired benefits such as risk aggregation, risk centralisation, improved controls and cost savings.

● **Implement EWRM in phases** – Organisations often identify one function, process or risk-type to implement as test pilot. In doing so, the organisation alleviates political opposition, reduces short-term dollar and resource commitment and applies lessons learned to larger scale program me implementation efforts. Common entry points for this type of approach include operations risk or trading (emphasis on front- to back-office integration issues).

● **Leverage Sarbanes–Oxley and other internal risk efforts** – Successful organisations leverage internal risk efforts as a platform for more comprehensive enterprise risk activities. Sarbanes-Oxley projects, for example, offer critical risk and control data required to prioritise risk measurement and EWRM implementation activities. While these and other internal efforts generally fall short of a quantified result and provide limited earnings guidance, they do support EWRM project scoping, organisational awareness and most important, reduce initiative costs.

● **Emphasise risk measurement** – EWRM programmes should address a broad array of risks, encompassing both traditional financial risks and less quantitative risks such as strategic, operational, legal and regulatory issues. To fulfil this objective, organisations must develop models and methods to evaluate risk in terms of risk occurrence probability, severity

Figure 3. Audit style: gross and net risks

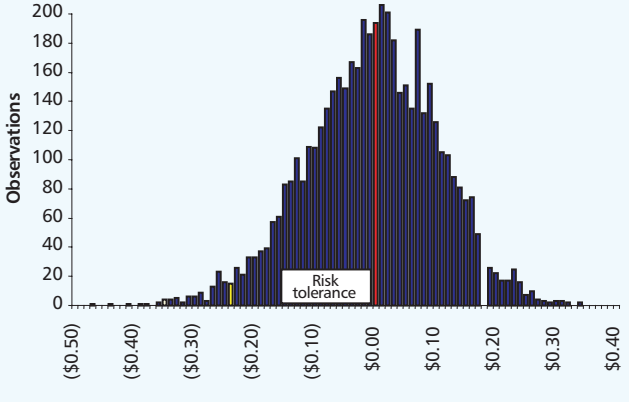


and timing. These models can be highly quantitative or more subjective based on management's desire for statistical and data availability. Risk modelling sophistication is also driven by pre-defined EWRM objectives. For example, risk awareness may be improved using more subjective results whereas risk adjusted performance measures require extensive modelling and assumption review and approval.

- **Improve risk reporting and integrate with existing financial processes** – Organisations that convert EWRM results into improved board and senior management reports, premised on quantified results, tend to gain organisational approval and provide value-added results.

As an example, many companies are moving away from traditional audit-style reports (see figure 2 – red light, yellow light, green light). The popular red-yellow-green risk maps may supply adequate audit or compliance results, but it significantly lacks detail for senior management, operations, and corporate finance personnel. After all, managers hedge quantifiable risk exposures, not red lights.

Figure 4. Distribution: current year EPS comparison to plan simulation outcomes



Successful EWRM programmes quickly shift focus from the "gut feel" approach to meaningful, earnings based results, applicable to financial, operations and risk applications.

Figure 3 demonstrates a typical audit-style report, where risk exposures are shown gross (without risk mitigation) and net (with risk mitigation). Figure 4 demonstrates typical risk simulation results where the distribution of potential outcomes is compared to risk tolerance. Results allow users to:

- Evaluate results against earnings forecast;
- Identify contributing risk characteristics;
- Simulate events and hedging strategies to define "what if" results
- Remove or add risks (for example, remove weather risk based on systematic risk characteristics or limited peer group hedging);
- Pinpoint unacceptable risks;
- Utilise data to quickly communicate issues and take action, using quantified or EPS-based terms;
- Communicate results internally to prioritise risk strategy, enhance risk awareness and allocate resources.
- **Collect data** – Inadequate data or unusable data may impede EWRM implementation. As such, companies should establish a data retention policy addressing required data, data formats and data owners. With respect to operations risk, companies accumulate data supporting operational asset failures including loss type (for example, pipeline, storage facility) and event duration and loss severity (for example, dollar impact). Collecting critical EWRM data early typically reduces implementation costs, as purchased data is generally expensive and not readily available.

Conclusion – take action now

While tempting in concept, EWRM implementation continues to challenge energy executives based on inadequate risk measurement, inconsistent senior management support and limited implementation guidance. Despite these and other barriers, energy executives should evaluate EWRM as an enhanced risk measurement, management, and regulatory compliance tool. CS

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