

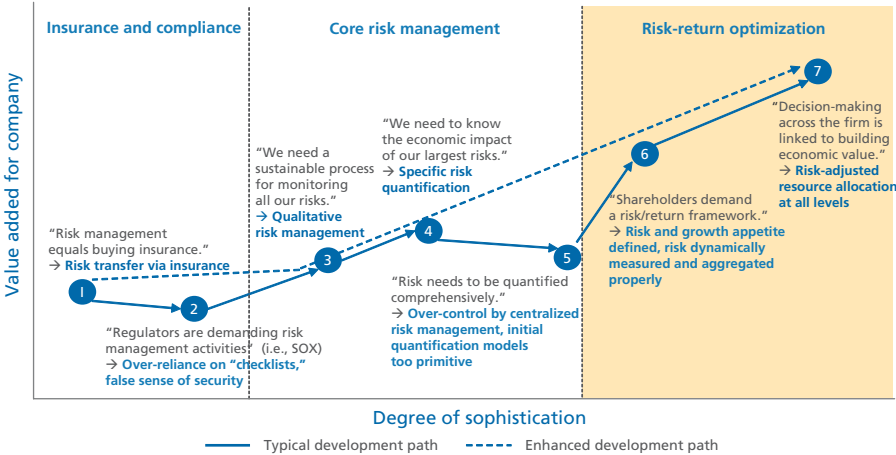
Enhancing Risk-Return Management

To match earnings volatility with risk appetite, improve capital efficiency, and raise the quality of strategic decision-making

Companies in the energy and utility sector face pronounced risks because of their relatively long investment and amortization cycles, exposure to commodities, and dependence on trading success. To ensure long-term value growth, they need to carefully assess whether projected returns from operational and strategic activities warrant taking the associated risks.

Some utilities in North America and Europe are enhancing their risk-return management beyond trading activities, by assessing their risk positions for the overall business and for strategic development options. In Europe, the members of the Union of the Electricity Industry are developing a best-practice Enterprise Risk Management (ERM) framework to improve risk measurement applications. Organizations employing such a rigorous approach benefit from enhanced decision-making transparency and quality. By contrast, businesses with inadequate transparency and controls can find themselves with poor strategic positioning, share price performance, and reputation.

Exhibit 1 A faster learning curve



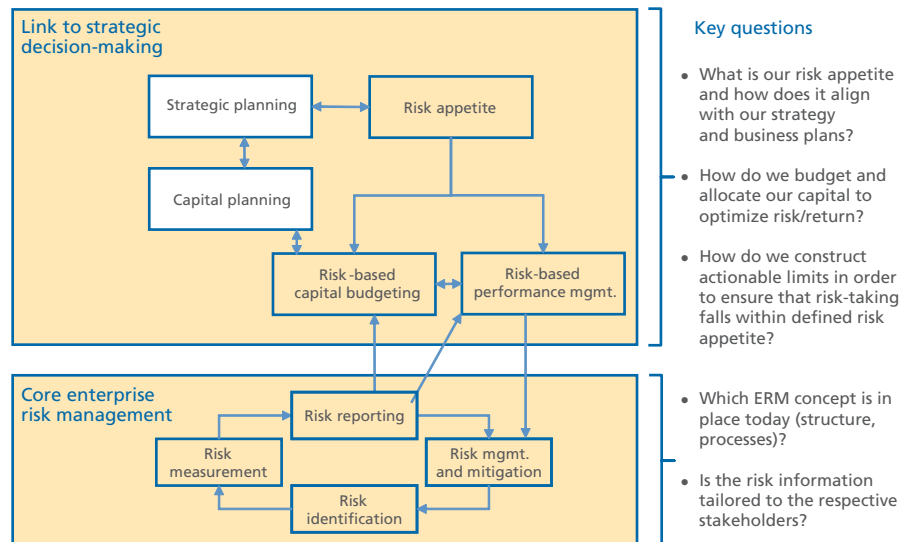
Drivers for Risk-Return Management

By explicitly complementing the standard return dimension with a risk perspective, executives are better able to gauge certain trade-off decisions:

- Does the projected return of any one current activity justify the level of risk the business is exposed to as a result?
- Which activities offer attractive risk-return positions in comparison with the existing business?
- Which combination of activities will enable the company to perform to its financial and strategic objectives?

Our experience with energy and utility clients indicates that a clear risk-return perspective greatly enhances a company’s decision-making around investments, capital efficiency, and aligning risk exposure with the firm’s risk appetite.

Exhibit 2 **ERM changes corporate decision-making capabilities**



Current Applications

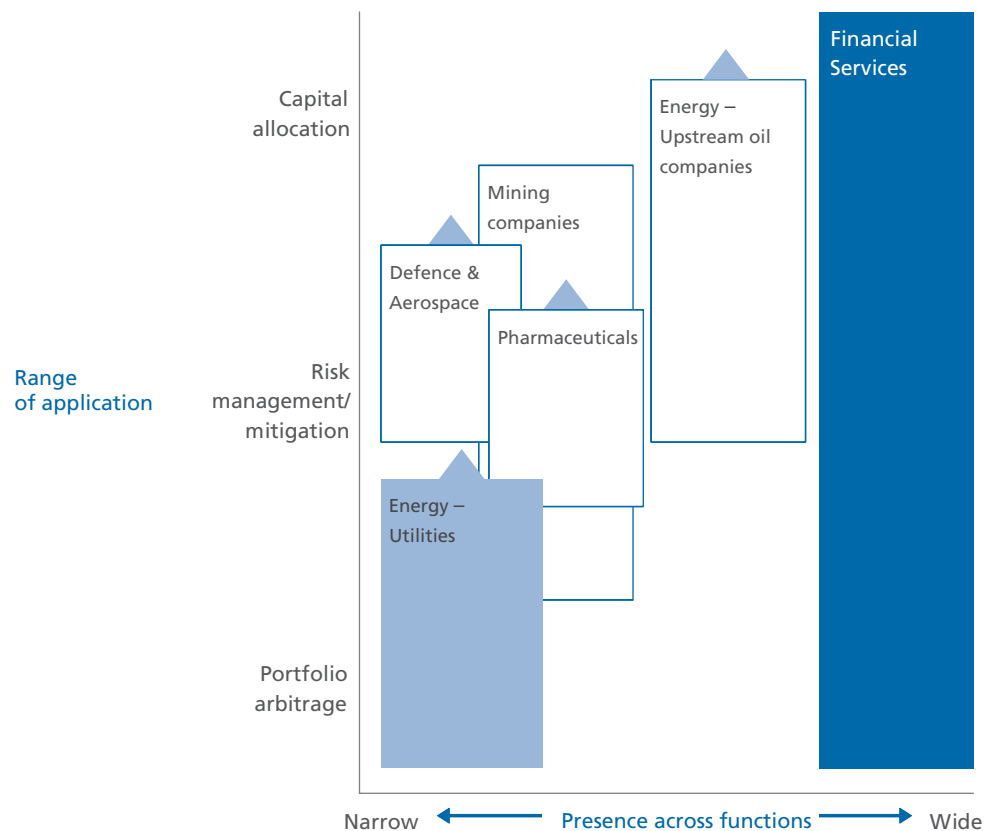
Looking across different industries, the presence of risk-return management varies significantly in regard to applications and functions (Exhibit 3). The financial services industry is the most advanced, since those firms have historically shaped their competitive advantage through risk and portfolio management.

More recently, non-financial companies have become more sophisticated in their risk-return management:

- Upstream oil companies follow an asset portfolio approach driven by the need to diversify exploration- and production-related risks and to deliver on the growth expectations of their shareholders.
- Mining companies benefit from management and mitigation of price and operational risks through the portfolio effects arising from production of multiple commodities.
- Pharmaceutical firms optimize their research and development expenditure as well as success rates along their product pipeline.
- Some defense and aerospace companies balance their overall risk position by choosing product programs with differing risk-return profiles.

Among utilities, the most common application of risk management lies in the trading arms, supplemented by operational risk management and mitigation in the generation business (operational safety and business continuity aspects).

Exhibit 3 Risk management across selected industries



Rather than merely limiting risk, companies with structured risk-return management procedures explicitly integrate the risk dimension (volatility of cash flow, earnings, and other aspects of performance) with their strategic decision-making. Utilities that are most advanced in this regard seek to secure a competitive advantage through actions in several areas:

- Stronger focus on market/trading risk management resulting from high volatility of commodity prices and subsequent effects on optimization of the generation portfolio in the spot markets
- Increased effort in risk-adjusted, long-term planning, especially for a robust mix of future technologies
- Extended risk-return view on adjacent areas of utilities' traditional value chains, in order to capture additional profit zones and benefit from shifting profit margins

Leaders in these areas have fostered an entire culture of risk-return management, which allows them to continuously reap the benefits of a given risk-return program and thereby create value on a sustained basis.

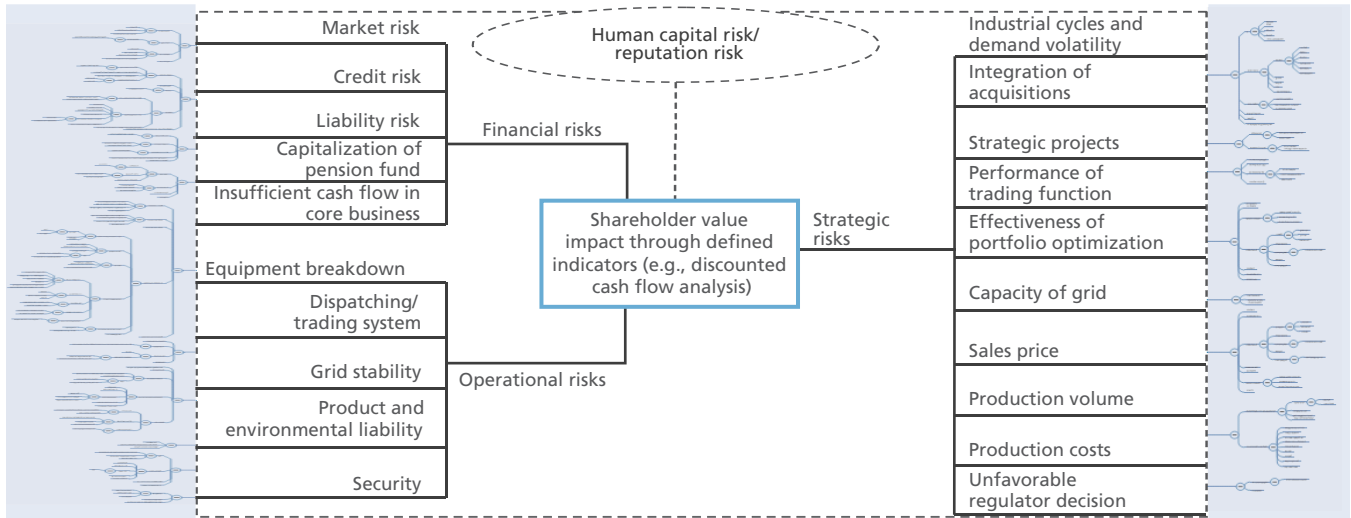
The Case of a Pan-European Utility

Consider the case of an Oliver Wyman client that had grown from a collection of municipal and regional utilities into a major player with a pan-European generation and distribution footprint. With a high level of ongoing M&A activity, continued evaluation of capital-intensive investments, and plans for international expansion, senior management wanted better management risks taken against the promised returns of their strategic plans.

We worked with the utility to build a solid risk-return management framework through three steps:

- **Risk identification and mapping:** We identified relevant risks across all the business activities for inclusion in a risk "register." Exhibit 4 shows conceptually how the various risks are identified and mapped along major categories. The underlying drivers are also identified, mapped, and arrayed in a root-cause pyramid. This array eliminates double counting of risks.

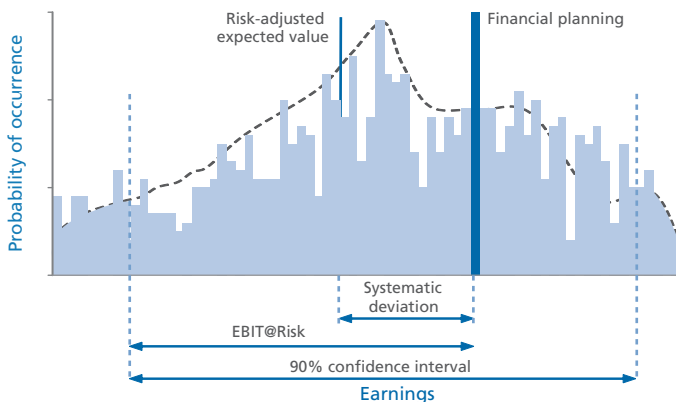
Exhibit 4 **The foundation of a risk assessment is root-cause analysis**



- Risk quantification:** Rather than quantifying the impact of risks directly, it's more effective to assess and quantify the risk drivers; this yields better results in terms of accuracy and understanding of risk mechanics. Assess the drivers to understand the particular mechanism through which a risk might manifest itself. Mean impacts and degrees of variation can be extracted from historical data, supplemented by expert judgment. Through simulation, you can produce a sufficient number of financial results to form the basis for statistically significant conclusions. The impact of quantified risks on the financial baseline can be aggregated through different organizational levels. Simulations can be set up to evaluate the impacts of all risks quantified (Exhibit 5) or of individual risks on different levels of the organization (Exhibit 6).

Exhibit 5 **Risk quantification and aggregation**

Earnings risk profile for a selected planning year



Risk-adjusted, long-term planning

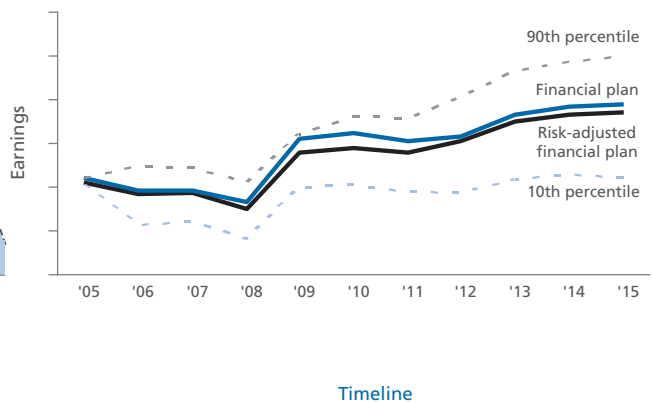
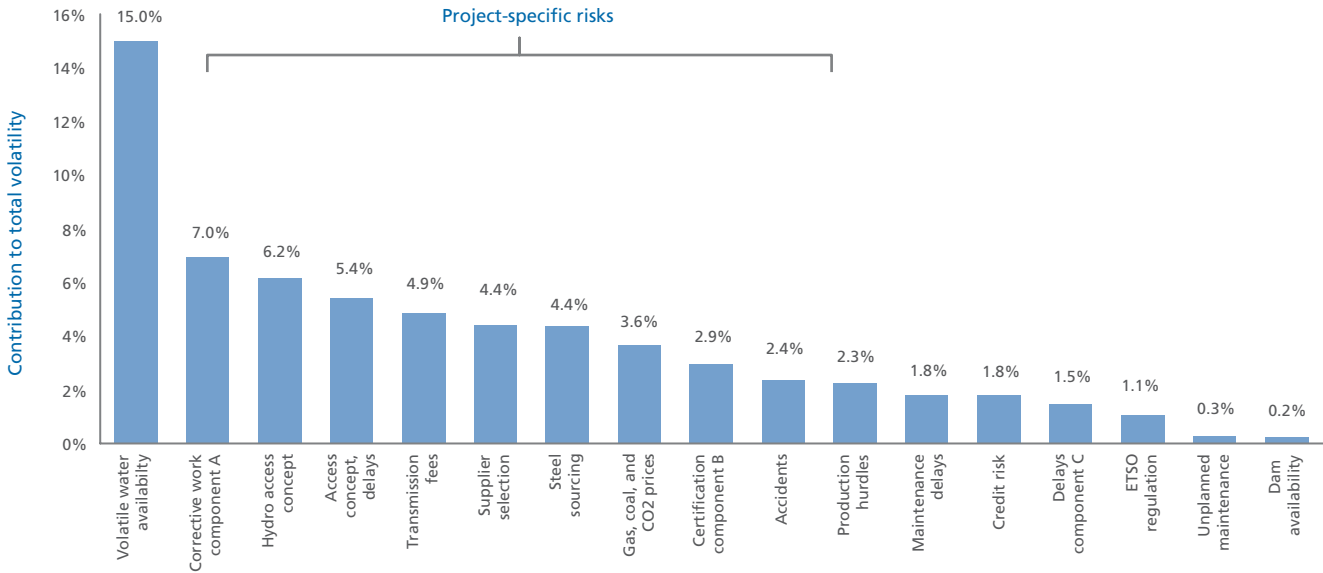
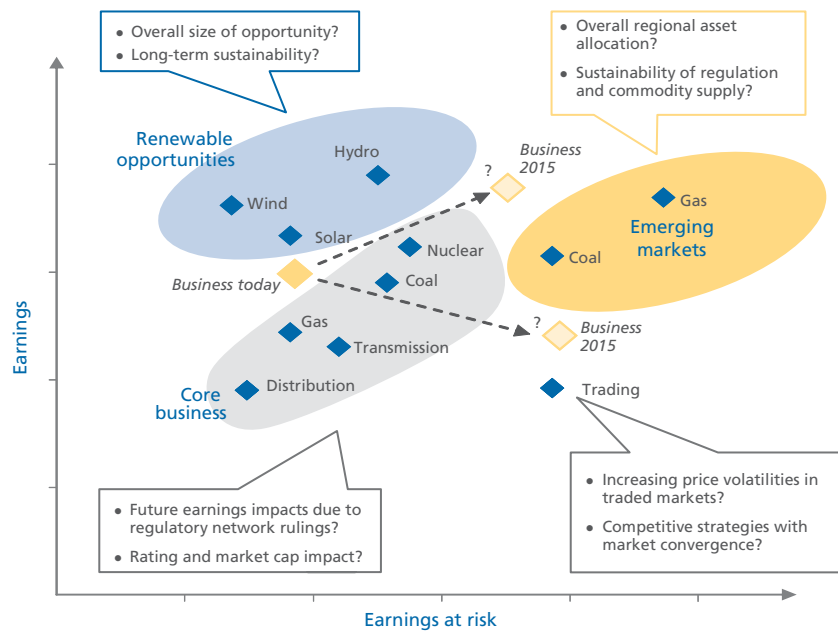


Exhibit 6 Analysis of risk contribution helps to focus management attention



■ **Link into strategic decision-making:** Results from the risk quantification get linked into the organization’s strategic decision-making process (Exhibit 7) via risk-reporting interfaces, updated in regular cycles within the corporate calendar. For one potential application, risk-return-based capital allocation decisions would be supported by modeling of the organization’s asset portfolio. Individual risk-return positions of each of the assets would be defined by the quantification of return on capital, risk and growth.

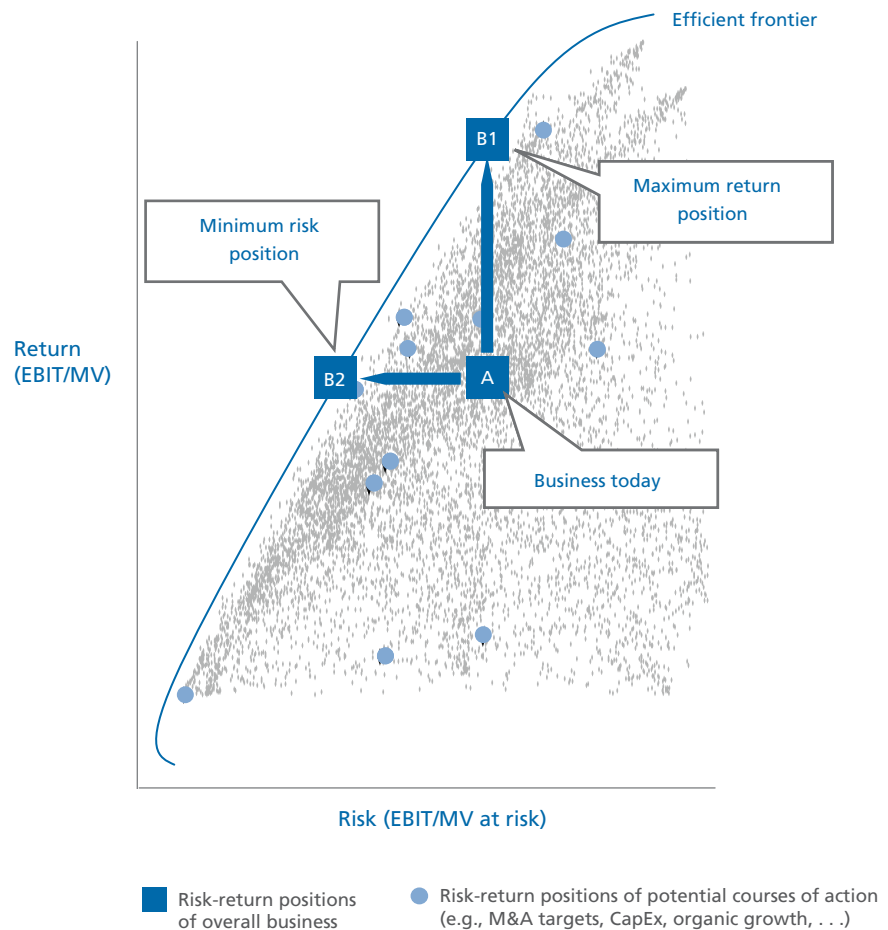
Exhibit 7 Risk-return positioning of existing business and potential growth options



Portfolio modeling allows the user to calculate the current position in the risk-return space and evaluate how the position would change as a consequence of new investments or acquisitions (Exhibit 8). To maximize long-term value creation, you seek to maximize return for an acceptable level of risk or minimize risk for a level of target profitability, by combining development activities with the adequate mix of risk and return.

Exhibit 8 **Risk-return portfolio modeling gives visibility to efficient capital allocation**

Risk-return profile



Our pan-European client now accounts for the risks within each business unit and activity. The firm complements performance management and capital budgeting with an explicit risk dimension. Decisions flow from alignment of risk with strategic objective, and the firm updates and reports its risk information at regular cycles.

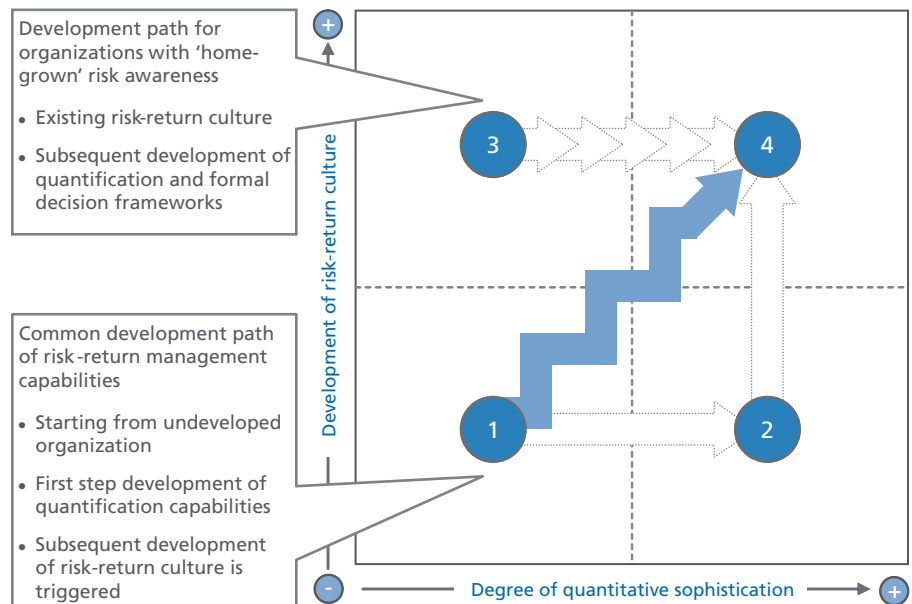
Instilling the Culture

Solid analytics, metrics, and frameworks are not sufficient; to manage risk effectively requires a risk-return culture that instills a risk-ownership mentality throughout the organization.

Depending on your company’s existing risk-return management capabilities you will likely have to focus on complementing skills. We see businesses in one of four different positions of risk quantification capabilities and culture (Exhibit 9):

1. Most utilities have basic capabilities.
2. Some utilities have initiated development of more advanced quantitative capabilities, which can catalyze a stronger culture and embed the ownership mentality.
3. A number of utilities have cultures containing the soft elements of risk management. Frequently, these cultures depend on the intuition of decision-makers about risk assessment. They need more rigorous analytical frameworks and formalized decision support, which can be developed step-by-step within the scope of planning processes or strategic projects (e.g., acquisitions, growth initiatives).
4. A few utilities define today’s frontier of risk-return management by embedding solid analytical frameworks into a culture of risk-return-based decision-making.

Exhibit 9 **Development of risk-return management in utility companies**



Most utilities still need to integrate risk-return management into their strategic decision-making processes. Rather than developing the quantitative and cultural dimensions separately, it may make sense to take incremental steps in an integrated approach. Senior management defines clear risk-return management frameworks and pushes the organization to provide solid analytics into decision-making. Managers gradually embed a risk-return culture by tailoring corresponding processes and responsibilities to their organization.

In our experience, much of the information and expertise required to integrate risk-return management into strategic decision-making is already available within an organization. What's needed is for management to understand and continually evaluate the risk-return position of both assets and new investment opportunities.❖

About Oliver Wyman

With more than 2,900 professionals in over 40 cities around the globe, Oliver Wyman is the leading management consulting firm that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, organizational transformation, and leadership development. The firm helps clients optimize their businesses, improve their operations and risk profile, and accelerate their organizational performance to seize the most attractive opportunities. Oliver Wyman is part of Marsh & McLennan Companies [NYSE: MMC]. For more information, visit www.oliverwyman.com.

Oliver Wyman's Energy Practice

Our dedicated consultants have significant experience in the energy and utilities sector. Previous clients include more than 75 electric and natural gas utilities in North America and Europe, as well as a range of unregulated service providers to energy companies and utilities.

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improvement

Organization
transformation
and restructuring

Mergers and
acquisitions

Oliver Wyman's Corporate Risk Consulting Practice

We have worked extensively with large corporations to support the development and enhancement of more sophisticated risk- and value-management techniques. Based on our functional knowledge and experience in the utility industry, we tailor our work to a client's unique needs, risk profile, and risk management goals, with the goal of optimizing value creation. We recognize that each organization is at a different stage of risk management development and faces unique challenges.

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