From risk averse to risk aware

EY risk and cybersecurity services for power and utilities organizations
Are you feeling the disruption squeeze?

Many power and utilities companies are.

In mature markets, energy efficiency and the growth of distributed generation have meant languishing sales. Emerging markets have a different challenge. They can’t meet electricity demand fast enough and must finance infrastructure expansion at levels far exceeding current revenues.

Meanwhile, spend on risk, security, controls and compliance that is often hidden across multiple functions keeps rising. Such hidden costs continue to eat away at margins, leaving power and utilities companies’ balance sheets and credit ratings under increasing pressure.

<table>
<thead>
<tr>
<th>Low carbon agenda</th>
<th>Environmental rules and emissions targets are making compliance more costly.</th>
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<tbody>
<tr>
<td>Aging infrastructure</td>
<td>Power and utilities companies need to make huge investments to replace, maintain and upgrade energy and water infrastructure.</td>
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<tr>
<td>Data privacy and security</td>
<td>Advanced digital technologies, smart meters, big data and analytics present evolving cybersecurity and privacy challenges.</td>
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<td>65% of new generating capacity additions by OECD countries between now and 2040 will be renewables.</td>
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<td>An estimated US$23t in global investment is needed for power and gas distribution infrastructure through 2040.</td>
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<td>Estimates put global annual spend on smart grid cybersecurity systems for power and utilities companies at US$7b by 2020.</td>
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</table>

Then there’s the question of agility.

How quickly are you able to adjust your approach to changes in your risk landscape or significant new disruptive forces?

And what about cybersecurity?

If you experienced a cyber attack today, are you confident that your people, systems and technology could cope? How quickly would you know, and how quickly could you eliminate the threat?

1 Source: International Energy Agency (IEA), World Energy Outlook (WEO) 2015
2 Source: IEA, World Energy Investment Outlook 2014
3 Source: Zpryme, Global Smart Grid Cybersecurity Systems Market Value 2012 to 2020
How much are you overspending on risk and security?

The question isn’t whether you are overspending: it’s by how much. In our experience, companies overspend on risk, security, compliance, control and audit activities by 25% to 30% — despite critical gaps in their coverage.

The lost opportunity costs are staggering: according to one global survey, 90% of organizations that had implemented a more standardized or integrated approach to governance, risk and compliance had realized benefits that either met or exceeded their expectations.⁴

Ineffective operating models, cobbled together over the years through reactive responses and patchwork approaches to risk management have driven up costs. They have also contributed to a risk landscape that is overcontrolled in some areas, while underinvested in others, such as cybersecurity.

A recent global survey⁵ found that:

- Sixty-six percent of energy companies experienced at least one disruptive cybersecurity incident over a recent 12-month period.
- Eighty percent of energy companies have only one person or no one dedicated to control system security.

⁴ Source: OCEG, GRC Maturity Survey 2015
⁵ Source: Ponemon Institute, Critical Infrastructure: Security Preparedness and Maturity 2014

Did you know?

- Only 22% of power and utilities companies say that their risk activities are well-coordinated.⁶
- Forty-eight percent of US and European executives believe that a cyber attack on critical infrastructure, with a potential loss of life, is highly likely or likely within three years.⁷

⁶ Source: EY, There’s no reward without risk: EY’s global governance, risk and compliance survey 2015
⁷ Source: The Aspen Institute, Intel Security, Holding the Line Against Cyber Threats: Critical Infrastructure Readiness Survey 2015
Key questions for your business

We believe that by enhancing your risk strategy, embedding risk management into the rhythm of your business, optimizing risk management functions and improving processes and controls, your power and utilities company today can not only survive but also thrive in an era of increasingly complex landscape and transformational change. Here are four key questions that decision-makers should be asking as they consider a risk-adjusted business model built for the future.

What are the top five risk management priorities for my company?

Given the complexity of today’s risk landscape, how have you prioritized risk management to break down silos, reduce inefficiencies and ultimately reduce the cost of managing risk? Have you:

1. Created a seamless approach to manage risk across the three lines of defense: 1) business operations, which is where most risk lies; 2) risk and control functions that define the operational risk framework; and 3) internal audit, which assures compliance with the operational risk framework?

2. Developed an agile and resilient enterprise-wide risk management strategy that includes review and adoption of leading practices against evolving threats?

3. Recognized that the emergence of cybersecurity risks needs to be treated not only as an IT-related concern but as a whole enterprise priority?

4. Created a risk aware culture across the entire enterprise?

5. Optimized the operating model by finding the right balance between managing risks in house and outsourcing or co-sourcing?

In an ever-changing power and utilities sector, how “future proof” is my risk and cybersecurity management program?

- Having an industry-leading risk management program requires doing more than meeting standards. Companies have to respond in a more agile and resilient way to an ever-changing world where new policies and regulations introduce compliance challenges across the entire power and utilities value chain.

- Decision-makers across the entire C-suite should understand that cybersecurity needs to form an integral part of an overarching security operating model that encompasses both cyber and physical risks to the IT and operational technology (OT) environments.

- Ultimately, cybersecurity needs to become more than just an IT issue. It needs to become everyone’s business.
How do we manage risks related to major capital program investments?

- Given the squeeze that power and utilities companies are feeling as revenues drop while costs continue to rise, how do you find innovative ways of funding much needed capital projects – addressing both aging infrastructure and the need for new energy and distribution sources? Do you have access to tools and resources that can help raise, invest, optimize and preserve capital – capital that will allow you to unlock the value and address the key challenges of securing a diverse energy supply, affordability and sustainability?

How do we manage the regulatory process to recover the costs of capital investments in emerging areas?

- Most power and utilities companies are beholden to the rate-setting mechanism as a way to earn acceptable returns on investment. Investment in emerging areas, such as energy efficiency and demand response, requires that companies take on additional risk without a guarantee that they can recover the costs through the traditional rate base. Have you built rate cases that can withstand regulatory scrutiny, while best serving the interests of both shareholders and customers?
Here’s where EY can help

A more holistic and integrated governance, risk and compliance approach can realize new benefits for power and utilities companies - from less duplication of activities and processes, to greater human and financial capital efficiency.

We can help you tackle your most pressing priorities. With a more sustainable and cost-effective approach to risk and security, you can gain the agility to adapt to risks and threats, as well as the resilience to respond.

Here’s how.

Using rapid diagnostics, we quickly challenge what gets done, where it gets done and who does it, identifying high-value areas to provide significant savings by:

- Improving your controls framework to focus on the risks that matter and eliminate redundant controls
- Centralizing risk monitoring to reduce costs and improve quality and efficiencies
- Shifting resources and leveraging technology to automate controls where it makes good business sense

We can help design, implement and even manage an agile and resilient operating model for managing risk in a more efficient and effective manner. Our proven approach to build more risk-aware organizations advances strategic thinking, improves functions and processes, and embeds value-added approaches.
EY brings significant value to power and utilities organizations across six key areas:

1. Risk operating model
2. Security operating model
3. Major program risk and cost mitigation
4. Energy procurement hedging and trading
5. Enterprise regulatory compliance
6. Regulatory recovery support
## Customized services designed to build risk-aware organizations

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<tr>
<th>Risk operating model</th>
<th>Security operating model</th>
<th>Major program risk and cost mitigation</th>
<th>Energy procurement hedging and trading</th>
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<tr>
<td><strong>Issue</strong></td>
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<tr>
<td>Implementing a patchwork response without set procedures creates a higher cost, less effective operating model for mitigating risk.</td>
<td>Treating cybersecurity as an IT risk rather than as a business risk duplicates effort and results in higher costs in some areas and underspend in others.</td>
<td>Replacing aging assets and upgrading IT systems challenge companies’ abilities to manage their capital agenda.</td>
<td>Managing complexity of wholesale and retail markets given the rise in demand response resources and advanced energy storage solutions is increasingly arduous.</td>
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<tr>
<td><strong>Response</strong></td>
<td></td>
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<tr>
<td>Rationalize control activities and harmonize lines of defense.</td>
<td>Converge IT and OT, physical and logical security, and integrate cyber threat management elements.</td>
<td>Improve portfolio management and risk adjusted return on capital.</td>
<td>Implement energy trading risk management software and provide “on-call” support for derivative accounting.</td>
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<tr>
<td><strong>Outcome</strong></td>
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<td>- Improved controls framework</td>
<td>- Highly mature detection and response capability to address the digital grid’s increasing vulnerability to sophisticated cyber attacks</td>
<td>- Improved coordination of capital and project management activities</td>
<td>- Realignment of hedging activities with energy procurement team</td>
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<td>- Technology leveraged for control automation</td>
<td>- Rationalized security monitoring tools, technologies and procedures</td>
<td>- Rationalized security programs</td>
<td>- Realignment of front-to-back business processes</td>
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<td>- Elimination of redundant controls</td>
<td>- Reduced costs</td>
<td>- Better cost efficiency</td>
<td>- Responsive to derivative trading team</td>
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<td>- Integrated compliance program</td>
<td>- Redundancy removed</td>
<td>- Improved corporate risk management</td>
<td>- Tailored training in hedge accounting</td>
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<tr>
<td>- Governance reporting and review established</td>
<td>- Integrated security monitoring, incident response and threat intelligence</td>
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<th>Enterprise regulatory compliance</th>
<th>Regulatory recovery support</th>
<th>Value provided with EY</th>
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<td><strong>Issue</strong></td>
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<td><strong>Helping to manage cybersecurity risk at lower cost for large North American utility</strong></td>
</tr>
<tr>
<td>Navigating compliance obligations in complex and evolving policy and regulatory environments is onerous at global, regional and local levels.</td>
<td>Managing issues that impact rates and recovery such as cost allocation; affiliate relationships; capital versus operational spend; waste, fraud and abuse is challenging.</td>
<td></td>
</tr>
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<td><strong>Response</strong></td>
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<td><strong>Transforming processes and controls for performance improvement at an emerging markets utility</strong></td>
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<td>Create and operate frameworks for managing or overseeing compliance.</td>
<td>Streamline rate case filings and cost recovery through shared services and technology tools and platforms.</td>
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</tr>
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<td><strong>Outcome</strong></td>
<td><strong>Outcome</strong></td>
<td><strong>Helping to create new energy trading framework for a large global power and gas organization</strong></td>
</tr>
<tr>
<td>• Rigorous compliance framework</td>
<td>• Adoption of leading industry accounting and analytics practices</td>
<td>• Developed an end-to-end process and control architecture using EY's leading practice energy trading capability model</td>
</tr>
<tr>
<td>• Consistent with regulatory standards and leading practices</td>
<td>• Increased efficiencies</td>
<td>• Designed an integrated business and IT road map covering process, control, technology and organizational designs</td>
</tr>
<tr>
<td>• Enhanced business integrity</td>
<td>• Standardized response processes</td>
<td>• Identified and assessed the technology solution options required to meet the advanced option, spread and structured trading</td>
</tr>
<tr>
<td>• Prevention, detection and response to potential compliance risks</td>
<td>• Dedicated regulatory support and investigation services</td>
<td>• Provided high-quality risk data for decision-making</td>
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- Elimination of redundant controls
- Integrated compliance program
- Governance reporting and review established

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- Rationalized security programs
- Better cost efficiency
- Improved corporate risk management

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Risk and cybersecurity: improving agility and resilience for our clients

We can mobilize our people quickly and allocate them to projects in the right place, at the right time and without delay.
As power and utilities companies continue to be challenged by downward pressures on revenues, spending on risk management and compliance is escalating. EY can help you to clarify “what gets done,” “where it gets done” and “who does it” in your organization. On the basis of this knowledge, we can help to design, implement and operate systems that help manage risks and strengthen security in the most efficient, effective way.
About EY
EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

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About EY's Global Power & Utilities Sector
In a world of uncertainty, changing regulatory frameworks and environmental challenges, utility companies need to maintain a secure and reliable supply, while anticipating change and reacting to it quickly. EY's Global Power & Utilities Sector brings together a worldwide team of professionals to help you succeed – a team with deep technical experience in providing assurance, tax, transaction and advisory services. The Sector works to anticipate market trends, identify the implications and develop points of view on relevant sector issues. Ultimately it enables us to help you meet your goals and compete more effectively.

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