DISRUPT

power and utilities

Deloitte. *on...*

DISRUPTION

in the power and utilities sector

Hindsight is 20/20

Take our electricity—please.

Paying customers to use your product is hardly a sustainable business model. Yet that's precisely what happened in Germany on June 16, 2013. When renewable energy generation soared to 61 percent of electricity output, the wholesale price plummeted to minus €100 per megawatt hour (MWh). The supply of energy so exceeded demand that—yes—utilities were paying others to take their electricity.

The repercussions? Significant value erosion, write-offs, investor backlash, and intense pressure on executives to make tough strategic choices about the future. It also signaled an about-face in the utility sector with the German market becoming increasingly—and irreversibly—dominated by renewables. In July 2015, 78 percent of the nation's power was generated from renewable resources.

Hindsight is 20/20

In hindsight, the shift that occurred on June 16 may have been unprecedented. But it wasn't that surprising. And it didn't happen without warning or provocation. In fact, the conditions for this industry upheaval were years in the making.

A cacophony of forces fueled the disruptive nature of renewables

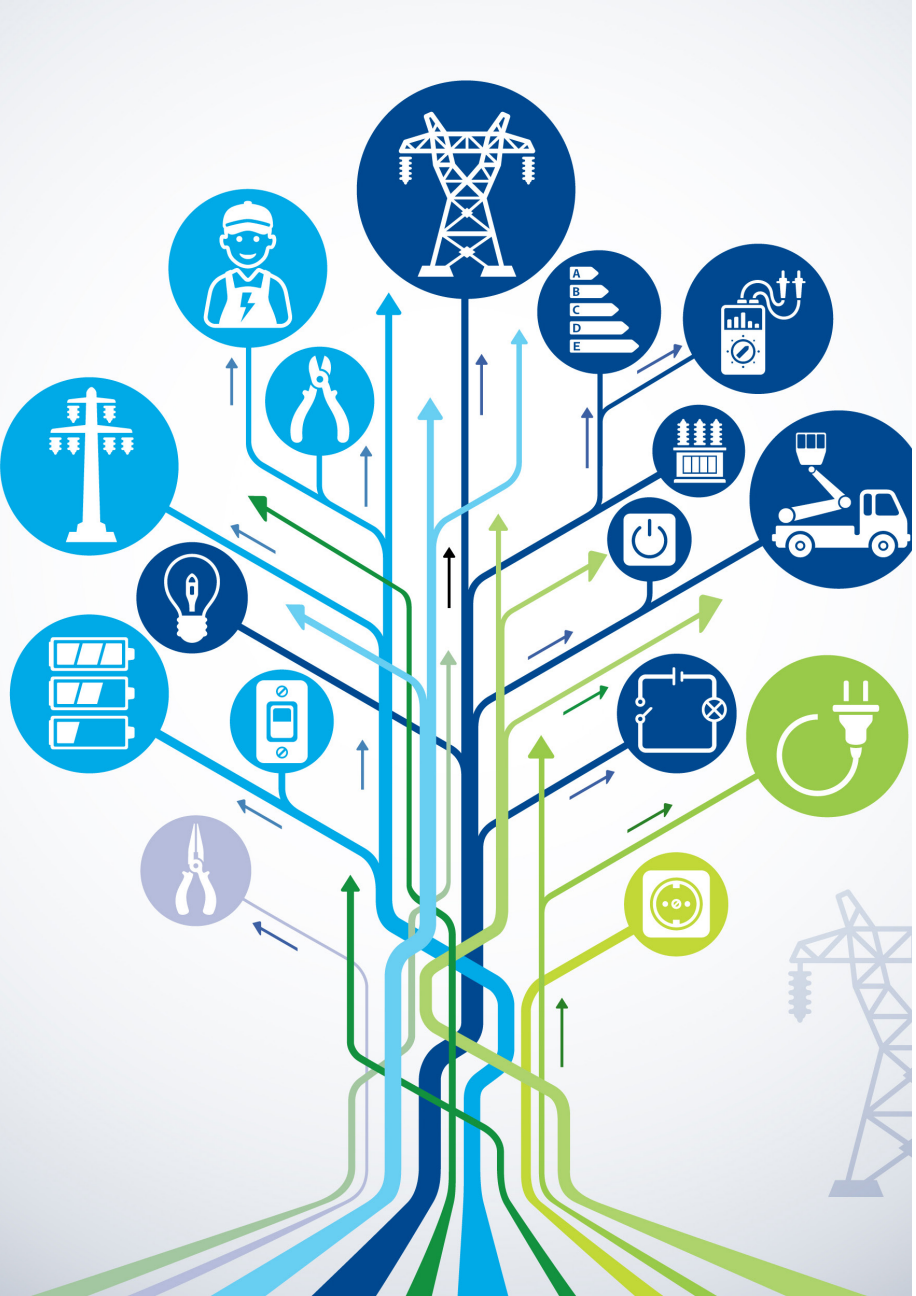
In the decade leading up to that fateful day, German utilities bet heavily on fossil fuels and nuclear energy, with the expectation that energy consumption would continue to rise. Meanwhile, the German government introduced feed-in tariffs to accelerate the investment in wind power, biomass, hydropower, geothermal power and solar, and other new energy technologies.

But energy demand didn't grow as projected, even before the financial crisis. High energy costs—in addition to government subsidies—pushed both industrial and retail consumers toward self-generation. The growth in renewables as a result of additional subsidies, along with the decline in energy demand, began to challenge utilities after 2008. And widespread protests against nuclear energy and the Fukushima disaster prompted the German government to accelerate already-planned closures of its nuclear power plants.

At the same time, the shale gas revolution lowered US gas prices, reduced US coal imports from Europe, and drove down the cost of coal in Germany. As utilities struggled to deal with events that invalidated their fundamental assumptions of doing business, renewables flourished. June 16, 2013, brought these long-term trends forth with surprising force.

The utilities' business model in Germany was changed not by a single event, but by a series of events that generated irreparable disruption

No matter where you sit in the value chain, the message is clear. The lesson isn't simply about the importance of demand and new fuel sources or about regulatory or societal pressures. It's about envisioning different futures and considering the implications for underlying assumptions in the strategy and the business model. And responding accordingly when disruptions have the potential to upend core beliefs and destroy value.



Scratch if. Think *when*, *how fast*, and *how big*

It's unlikely that developments in the US utilities sector will mirror what happened in Germany. But transformative forces are already impacting current US power and utilities business models.

Some of those forces are trends, like slow growth in demand and customers' "purchasing" behavior; others are difficult-to-predict uncertainties, such as the long-term balanced energy mix and changing regulatory environment. As technology evolves, rules change, and stakeholder expectations shift, it's no longer a matter of *if* the fundamental assumptions underlying the classic utility business model will change or become obsolete. Instead, it's about *when*, *how fast*, and *how big* those changes will be.

The pace at which this transformation will occur is uncertain, as are the future roles of various players in the sector. Consider, for example, that some customers have decided to generate their own power, in essence becoming potential future competitors. Technological development may challenge basic assumptions around grid infrastructure and the role of market participants—all at a time when reliability, safety, affordability, profitability, and environmental sustainability still remain critical value propositions for power and utilities companies.

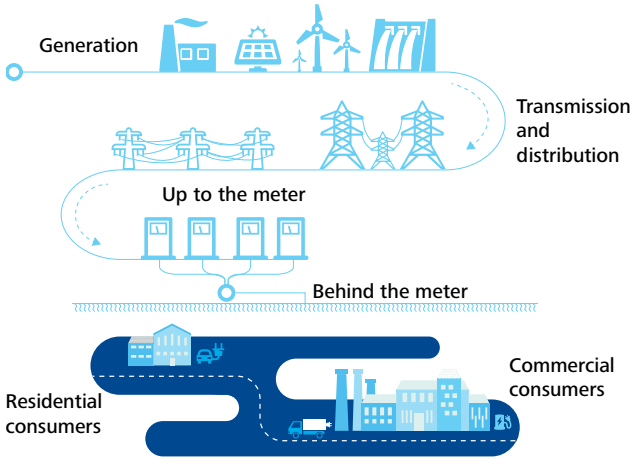
"Customer demand is leading to rapid technology advancements. To adapt, we will need to shift our generation mix and operate our fleet differently so we produce power and meet customer demand in cleaner, more flexible ways—changing our business model to one more tied to value than volume."

—Stephen Parrish, Enterprise Risk Management, Duke Energy

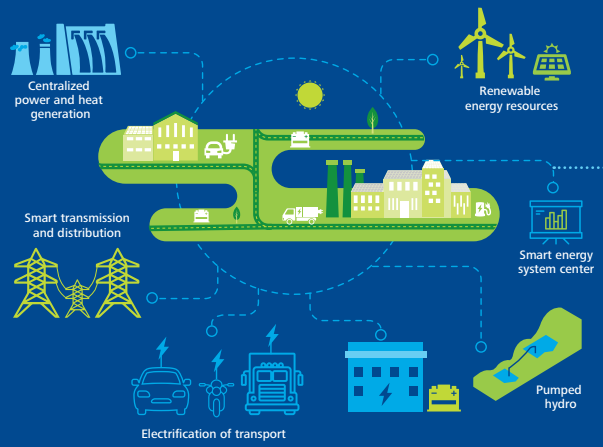
The key lies in identifying, measuring, and monitoring signals that may indicate what may come. Organizations that can continuously recognize critical signals, separate those signals from noise, and understand their impact will be better equipped to adapt, survive, and thrive in the "new order."

Welcome to the new marketplace

THE WORLD
TODAY



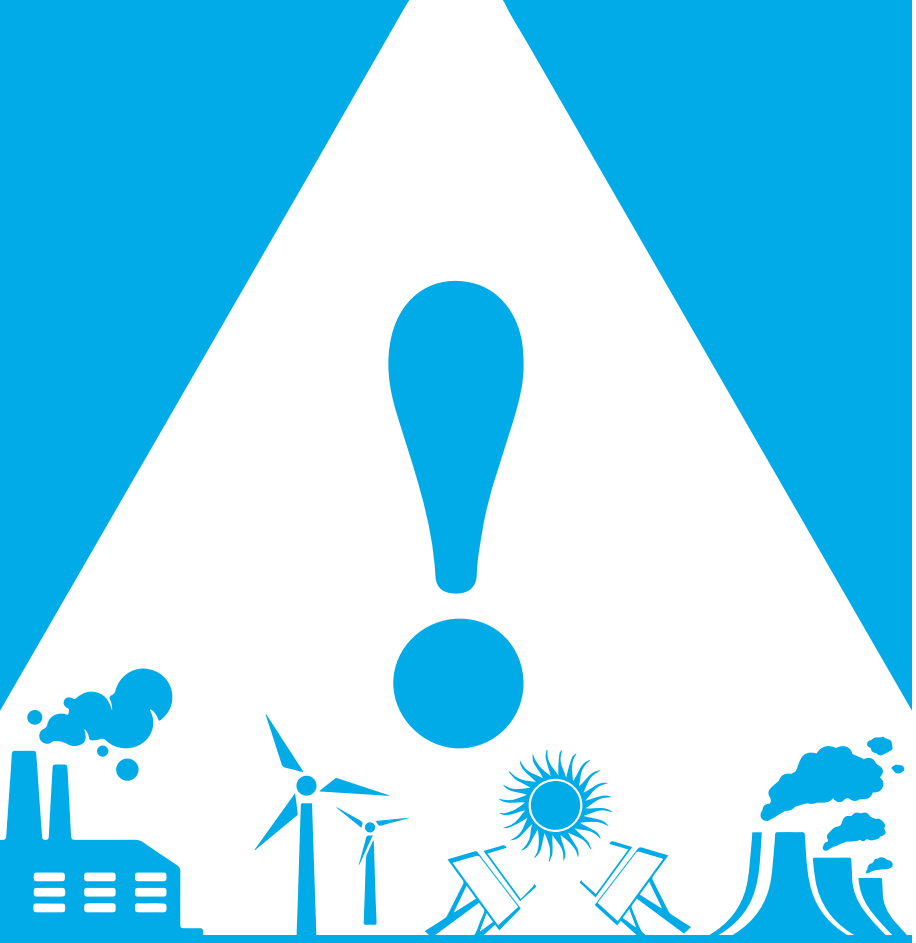
THE WORLD
TOMORROW



These trends are further driving the world of tomorrow[1]

- Technology is enabling consumer empowerment and forcing utilities to rethink their value proposition and their brand
- Consumer preferences are being shaped by social, economic, and technological changes, and brand innovation is required to meet a host of consumer and future workforce needs
- Customer re-prioritization is transforming the power and utilities value proposition, with a renewed focus on total cost of electricity (e.g., environmental sustainability, renewable integration) rather than just generation and delivery cost
- Increasing intervention from federal and state regulators is transforming the market landscape
- Continuous decrease in electricity demand and reshaping of the generation portfolio (e.g., nuclear/coal vs. gas/renewables) is changing market dynamics

The interaction of these trends is putting immense pressure on the classic power and utility value proposition. Individually, each trend can present new risks (e.g., operational, financial, reputational/public trust) and also influence changes to existing risks. But when presented in combination, they have the potential to create *strategic risks*—which are risks to the fundamental business model.



Strategic risks attack the basis for competitive advantage, challenge the logic of strategic choices, threaten an organization's competitive position, and can undermine a company's ability to achieve or maintain exceptional performance

Strategic risks are a priority

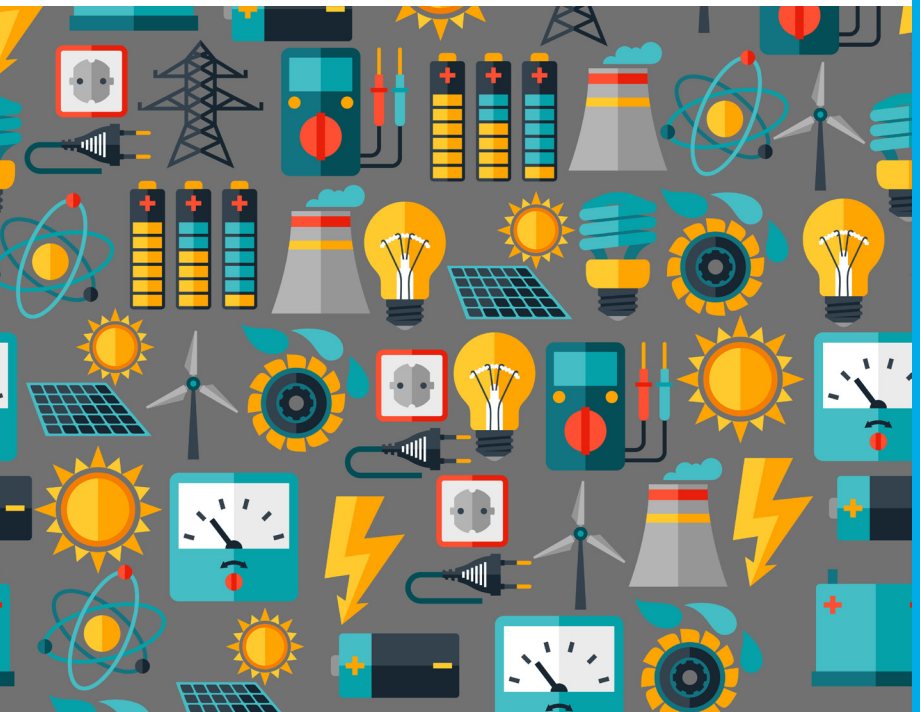
At the heart of the traditional approach to strategy lies an important assumption that, by leveraging a set of powerful analytic tools, executives can place informed bets on the future. Conventional wisdom suggests that applying this approach to any business can allow leaders to choose a clear strategic direction and then execute on it relentlessly.

But this approach may no longer be valid, and organizations may find themselves caught by surprise when their bets don't play out as imagined. This can result from a number of missteps, including underestimating or failing to identify emerging risks, over-dependence on historical data, non-linear advances in technologies and customers' expectations, falling into patterns of groupthink, heavy reliance on the status quo, or insufficient focus on risk discussions.

In some cases, the speed of new disruptions may simply outpace risk management capacity.

"We are enhancing our risk management capabilities to transition to a more dynamic and strategic process that would allow us to keep up with quickening pace of new developments."

—Amir Angha, Enterprise Risk Management, Southern California Edison



To understand what these strategic risks mean to you, ask yourself these questions:

- What assumptions are you making about the future of the sector? Which assumptions are already being challenged?
- How will you navigate if the industry looks completely different tomorrow? Will you be ready to compete in new ways and with new players?
- How can a 100-year-old company change its business model, culture, and value proposition?
- How much time do you need to change your organization? How much time do you have?
- How can you proactively monitor potential shifts within your fundamental business model assumptions?

Case in point: Marrying ERM and strategic planning

In the wake of the financial crisis, utilities felt the pain of tightening credit markets and an unexpected drop in consumption. For one company, this was a wake-up call that greater focus was needed on planning for significant and unexpected external events. The result? What the company calls "ERM 2.0"—a marriage between enterprise risk management and corporate strategy to create a Strategic Enterprise Risk Management program.

The company's ERM 2.0 efforts identify and act on strategic risks and opportunities by constantly scanning the utility's environment, regularly reviewing other industries and geographies, and persistently questioning the assumptions that underlie its current strategic direction. Traditional strategic planning tools help crystallize insights about the future. And scenario planning helps bound the range of possibilities while also preventing against groupthink.

Time spent with the board is focused on forces (such as technology advancements, changing consumer preferences, increasing competitive pressure, and federal and state regulations) that play the greatest role in shaping the future for the company and the industry. A deep dive into each of these broad risk areas is done each year and supplemented with ongoing and regular updates.

But understanding the risks and opportunities is only half the challenge. Insight into the company's capacity to respond to risks, in both the near- and long-term, is also important. The creation of actionable plans is critical as well. Together, these form the basis of the organization's strategic direction and plan. Ultimately, the utility's strategic-oriented ERM program allows for both a risk-informed strategy and a strategic view of the risk landscape.

Contributed by Sabrina Greinel, Senior Program Manager, Enterprise Strategy and Risk at PNM Resources

There are two sides to uncertainty: opportunities and risks, both of which should be incorporated into an organization's strategy. Unfortunately, some strategy professionals concentrate their efforts on opportunities, giving short shrift to risks. As a consequence, they might underestimate how much risk actually factors into the development of their strategies.

The good news: Organizations can effectively manage uncertainty by incorporating and enhancing strategic risk initiatives within their risk identification, prioritization, management, and monitoring practices. Incorporating an active strategic risk management perspective within the risk function allows organizations to recognize imminent risks. It also enhances the organization's risk culture and introduces a new paradigm where risks, when spotted early and handled well, can form the basis for game-changing moves that reorder the field and create advantage.

"Our CEO and the board are completely engaged in the risk management process, challenging us to not only get embedded in the decision-making process but also to ensure that NYPA is able to clearly articulate its risk-reward tradeoffs of the strategic decisions, including those to address disruptive technology risk."

—Soubhagya Parija, Chief Risk Officer, New York Power Authority

The inclusion of risk *during* strategy development, rather than as a means to validate strategy after the fact, can help leaders face industry shifts head on and gain the confidence to navigate challenges.

Preparing for multiple outcomes will mean the difference between being the disruptor and being disrupted

While it might be difficult to predict exactly how uncertainties will evolve in the future, it is certain that the current utility business model must evolve in order to remain relevant. This evolution will require a major cultural shift, along with technological and business changes. By no means will it be easy or familiar. But such a transformation is possible.

Case in point: Preparing for uncertainty takes practice

For most of its existence, the US Army has engaged in conventional warfare against nation states. But threats have increasingly come from distributed, non-state actors with access to dangerous weapons and unconventional ideologies. To adapt, the Army moved from a "centralized command and control" structure to a "command and intent" model.

This new model allows troops on the ground to better manage uncertainty by granting them more autonomy and decision-making authority based on intent shared by senior commanders.

To help troops and commanders practice their decision-making skills, the Army has ramped up efforts to include analytics and gamification in its training.

While there are multiple agencies involved in intelligence gathering and analyses, the Army often can't afford to wait for perfect intelligence to reach the battlefield. Well-honed decision-making skills can help troops and commanders make the most of available information, perform rapid adjustments as needed, and respond more effectively to challenges and conflicts.

This transition illustrates the Army's recognition that the nature of warfare has undergone a fundamental evolution. It also underscores the Army's understanding that, as wars are fought differently, military doctrine must adapt accordingly.

Just as the Army is adapting to an evolving battlefield, power and utility companies can gain advantage (or insight) by adopting non-linear techniques to scan, discover, evaluate, and prepare for alternative futures. It might be difficult or near impossible to predict the future. But asking such basic questions as "Are we questioning our strategy enough?", "What will make our business model obsolete?", and "Which of our fundamental business model assumptions may be or is already being challenged?" can be a good first step.

Giving outside opinions a seat at the table

The ability to recognize the need for change is as crucial as the ability to embrace and implement it. For several years, utilities have followed the same business model of centralized power generation, transmission, and distribution. They have operated in an environment where energy use has only increased. And their interests have been safeguarded by a friendly policy and regulatory regime, supported by an investment community, provided market protection, and benefited from seemingly mature technology.

A new environment is taking shape, however, and power and utilities companies should reevaluate their business plans, question their fundamental reason for existing, and explore new alternatives and business practices. Some are already doing just that.

"Our industry is being impacted by unprecedented technological advancements and new competitors. I can't conceive of anything more dangerous than for us to think we are protected from competition; to do so will be at our peril. Our success lies in a new era, not in the past."

—Ted Craver, CEO, Edison International[2]

Industry disruption is driving a new perspective on the need to address strategic risks

A critical factor in effectively embracing change is the inclusion of outside perspectives that challenge long-held beliefs. This process can be liberating and exciting for some and extremely uncomfortable for others.

As the industry transitions from regions of self-sufficient monopolies to (in all likelihood) an ecosystem, the monoliths of the sector must overcome aversion to loss if they are to reap future gains. It's still unclear which strategies will succeed. But all options must be considered and evaluated for potential risks and opportunities.

What smart companies will do

The challenge for power and utilities executives is to find new ways to adapt to rapidly changing conditions, quickly identify potential threats to their business models and strategy, and spot opportunities as they arise. Fortunately, the tools to help companies survive in a changing world do exist, and risk functions within organizations are well-positioned to support this challenge.

Smart organizations should develop a system to deal with unexpected changes that threaten their business models and the fundamental assumptions behind their strategic initiatives.

This system includes people, processes, and capabilities to:

Accelerate discovery. Today's power and utilities companies must create regular, systematic mechanisms to accelerate the pace at which they discover sources of surprise.

Scan ruthlessly. Potential sources of change don't come with a big sign that says "historical market shift." Performing trend analysis and future scanning can reveal small, subtle indicators of change across a range of industries and domains that could, over time, produce a tipping point.

Confront biases. "That will never happen" is the most dangerous phrase in today's C-suite. No matter how experienced, no leader or institution is immune to biases. Once you admit to those biases, you can begin to step outside yourself to observe them.

Prepare for surprise. When an emergent risk turns into a strategic threat, it's too late to study the problem. You must respond with confidence, clarity, and precision.

What smart companies will do

Discover. Scan. Confront. Prepare. Do it with the best knowledge you can find—about the world, your organization, and your team. Great companies recognize that it's the events they can rarely predict that will reshape their businesses. Standing still is not an option.

Interested? Plug into the conversation

In person

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Endnotes

[1] Gov2020. A journey into the future of government, Deloitte University Press, 2015. http://government-2020.dupress.com/

[2] Edison CEO Ted Craver Says Innovation Key to Growth, January 2016, http://insideedison.com/stories/edison-ceo-ted-craver-says-innovation-key-to-growth

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