



# BEACON

NORTH HIGHLAND / 2018

an **ENERGY AND UTILITIES** industry guide  
to thinking forward for the year ahead

# Energy and Utilities Find Parallel Paths to Prosperity: Adaptation, Transformation, and Digitization

86 Percent of Industry Respondents say Cyber Security is the Top Imperative

**NORTH HIGHLAND INSIGHTS:** Survey data that helps guide business decisions.



To explore business leader mindset, North Highland surveyed more than 600 senior level employees in energy, financial services, healthcare, retail, and media, entertainment, and telecom at companies with 2016 revenues in excess of \$1 billion and operations across the globe. This report draws on input from energy and utilities leaders from October 2017.

Optimism is widespread in the energy and utilities sector with 50 percent saying they are excited and others calling themselves energized, inspired, proud, and confident.

In the oil and gas industry, this buoyant outlook is due in part to the increase in U.S. crude oil and natural gas production. People are also energized about using digital capabilities like robotics and unmanned platforms to retool the future. For electric utilities, the positive sentiment most likely comes from possibilities of electrification with consumer electronics and electric cars.

### KEY INSIGHT

Digitization and transformation are increasing priorities for 2018 along with a continued focus on cyber security. Competition, industry dynamics, and people resources are barriers to achieving these strategic priorities. **Overall, respondents do not feel prepared to handle the pressure.**

Still, there are storms to weather:

- Fossil fuel demand is expected to shrink long-term, oil prices are likely to stay relatively low, and renewable sources like solar are coming on strong. For some time, the industry has been waiting for the price of oil to move upward. Some companies downsized their workforce to a third of their original size.
- For utilities, sales have been flat for 10 years. On the supply side, there is a change in the way that power is being generated. There is a steady decline in traditional coal-powered generation, while renewables like wind and solar are growing sources of energy, and becoming more affordable. The recent adoption of large-scale energy storage batteries is a game changer as it makes intermittent resources like wind and solar even more compelling. Simply put, there is more competition. These variable resources also allow consumers to take more control of their power usage and production (e.g. rooftop solar), making grid management more challenging for utilities.

A few key imperatives ring true across the energy and utilities sector: adapt, innovate, and transform to compete.

### HIGHLIGHTS AND INSIGHTS

**Cyber security**—was called out as the utmost strategic priority with 56 percent of respondents rating it a very high priority.

There is no question that cyber security is fundamental in the modern era. It is top of mind in oil and gas because leaders are concerned about refineries being hacked. If someone can get inside the network, it could wreak havoc on operations and cost millions. In the utility sector, Internet overlays on a distributed smart grid and news of potential grid attacks drives security concerns. With new connected devices and smart water heaters, for example, there is more exposure to Internet-based attacks. Given new regulatory requirements in energy as it pertains to cyber security, it was a surprise that more than a third feel very prepared (42 percent) with current protective measures in place.

**Digital capabilities**—59 percent of respondents said digital is much more of a priority for 2018, although it is called out as a costly imperative. Of energy leaders we surveyed, 55 percent said they are very prepared for digital.

It is surprising that oil and gas leaders said they are very prepared as digital is still at the early stages in this sector. In energy and many other fields, companies are behind here, as leaders are still determining what digital means for their business.

Overall, energy companies need to look at digital from many angles, and outside of IT. What does the organization need to look like going forward? How do you bring in digital and automation to support core business processes? Real digitization requires a cultural shift and organization-wide collaboration to get to a new way of working. The reality is that businesses have to take risks and move forward in a more nimble way.

**Transforming to be more efficient**—66 percent called transformation a definite competitive advantage, but 55 percent did not feel prepared to address it.

### CHANGING CUSTOMER NEEDS



**86%** 86 percent of industry respondents say cyber security is the top imperative

### CYBER SECURITY

Cyber security was called out as the utmost strategic priority with 56 percent of respondents rating it a very high priority



more than a third feel very prepared with current protective measures in place

### DIGITAL CAPABILITIES

**59%** overall priority

**55%** very prepared to address it

### TRANSFORMATION

definite competitive advantage **66%**

not prepared to address it **55%**

### BIG DATA, INTERNET OF THINGS, AND ARTIFICIAL INTELLIGENCE

**2018** **55%**



respondents cited AI as much more important than last year

Transformation goes hand in hand with digitization. Energy is waiting to see what the next play is simply because they are more risk-averse, yet, energy must transform to compete. Adding more agility as a way of working will derive success. Electric utilities are reinventing themselves. Organizational design and change is needed to go from large plants with central control to service via a diffused grid and to handle additional competition from wind, solar, and battery and to become customer-centric. Delivering true transformation and managing strategic change will take adding agility to derive success.

**Employee engagement**—came in a close sixth with 33 percent calling it a very high priority.

Employee engagement should come up in the priority list for organizations. Across the energy and utilities sector, companies are facing an aging workforce. At the same time, there is a need for new skills in terms of big data, AI, cyber security, and internet of things (IoT). Organizations must find ways to recruit new talent, and once on board, engage them through growth, reward, recognition, and connection.

**Big data, internet of things, and artificial intelligence** ranked in the lower third as priorities yet all indexed as definite competitive advantages for 62 to 65 percent of respondents. For 2018, 55 percent of respondents cited AI as much more important than last year.

Leveraging big data is not a new issue. Leaders are asking what to do with all the data they have collected. Companies must allow data to help them make better business decisions as a foundational strategy before they move forward.

IoT is more important for utilities than oil and gas, but AI is coming on strong as it relates to unmanned platforms and automated processes. AI requires the build out of infrastructure and will be costly, but its safety and financial potential make it worth adding the necessary resources.

IoT such as smart meters, batteries, and electric vehicles provide utilities with an opportunity. Utilities have incumbent advantages. They have legacy relationships with customers, have access to data, have investments in grid network platforms, and have the “wires” that bring the electricity to the customer, so they are in a good position to pull IoT devices together. Because of the proliferation of data across the grid, from sources such as smart meters, utilities will need to begin setting strategies for managing big data.

Energy and utilities companies are well-positioned for an evolving landscape. For oil and gas organizations, those who can take advantage of transformation along with digitization, through a more agile way of working, are more likely to flourish. Utilities who are poised to prosper in this evolved landscape are those that are laser-focused on putting their customers first, elevating their use of data and technology, and advancing their workforces.

For more information, visit [northhighland.com](http://northhighland.com) or contact:



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