

Electric Power & Natural Gas Practice

Power and people: How utilities can adapt to the next normal

With economies and energy demand hit hard by the COVID-19 crisis, European and North American utilities need to rethink their operations to put themselves into position for long-term success.

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Utilities in Europe and North America have done their jobs throughout the coronavirus crisis by keeping the lights on without interruption. But like players in other industries, they are facing challenges. McKinsey has identified five stages that businesses need to go through on the path to the next normal. Along these stages, we have seen utilities addressing a set of key themes (Exhibit 1).

At the beginning of the COVID-19 outbreak, utilities had to *resolve* to meet the immediate issues posed by operating during a pandemic and then build *resilience* to meet immediate operational demands. The priority was to ensure the safety of their people while guaranteeing the security of supplies and addressing risks. Crisis teams had to stabilize supply chains and operations, which were disrupted by physical distancing and on-site restrictions. They also had to cope with the financial impact of the crisis. Lower industrial power demand and rising consumer defaults had hurt cash flows and balance sheets. Hence, it was crucial to stress-test financials and engage customers.

As lockdowns have started easing in many countries, the focus is shifting toward a safe *return*: how to bring more workers back to their jobs and to ramp up operations as demand begins to rise. At the same time, utilities need to think longer term by

recognizing the operational shifts experienced in the sector as they *reimagine* and *reform* their operating environments. The priority will be to understand which of the temporary disruptions they have experienced are likely to persist. Finally, the COVID-19 crisis will have longer-term implications for the industry, and companies should take stock of the regulatory- and competitive-environment shifts to balance their future business footprints.

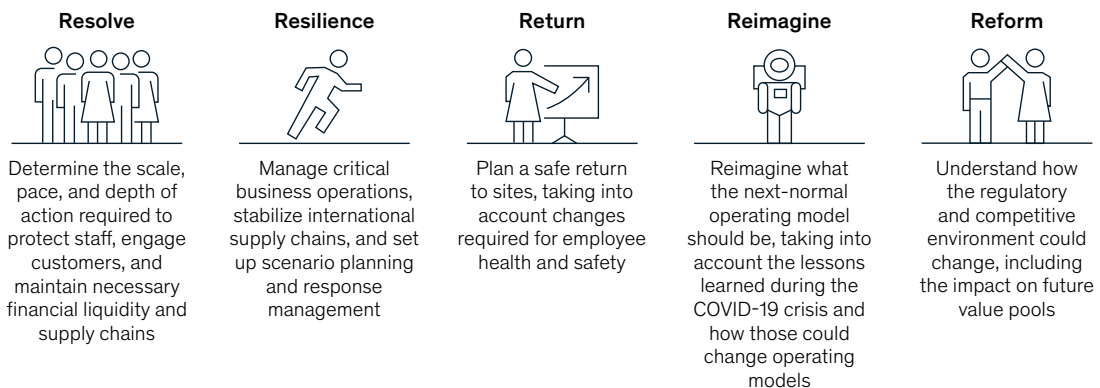
In this article, we describe five themes that are reshaping the utility sector and offer practical suggestions on how leaders can adapt their organizations to meet the needs of the next normal.

Theme 1: Power demand will take time to recover to precrisis levels

In many affected countries, power demand has started to recover. But despite those positive early signs, we are not expecting power demand to recover fully before the end of 2020 (Exhibit 2). McKinsey has developed nine scenarios that describe the possible economic impact of the COVID-19 crisis, depending on the effectiveness of public-health responses and economic policies. Although there is still uncertainty around the future impacts of the COVID-19 pandemic, we consider the most likely scenarios to be virus contained with slow recovery

Exhibit 1

There are five stages for utilities to reach the next normal.



and virus recurrence with muted world recovery. Under those scenarios, the expected economic shock will mean that power demand will not recover until the end of the year—and not to precrisis levels. If that is the case, some generators could be pushed out of the market. Sustained lower demand could also depress electricity prices, leading to lower revenues for unhedged power plants or utilities with coupled rate structures.

How to adapt: Advance risk-management strategies

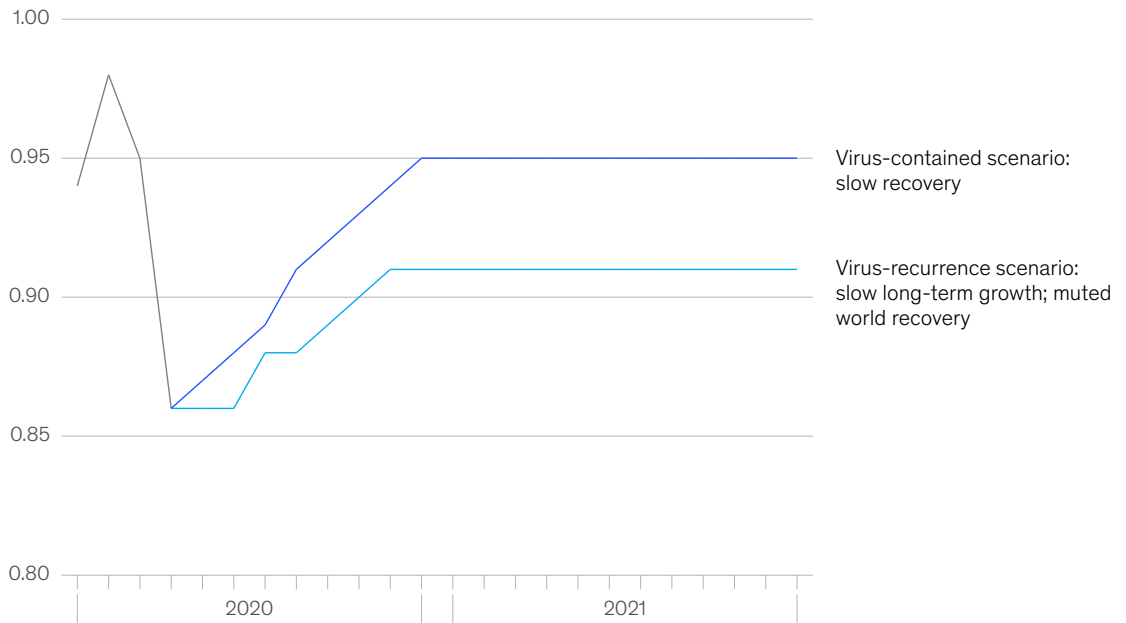
To mitigate the consequences of lower power demand and depressed prices, utilities with a large generation exposure need to reconsider their risk-management strategies. First, they need to update their market-risk governance to ensure that they can make decisions faster. Players will also need to reassess their long-term hedging

strategies, mitigating merchant-price exposure. That will prepare them if the future is volatile, being characterized by demand contraction and commodity-price fluctuations. Utilities may also want to look into reviewing their contract portfolio to move toward more short-term agreements. In particular, there are large volumes of FOB and long-term liquefied-natural-gas contracts across Europe that could be reviewed. Similarly, the changing market fundamentals of pipeline gas create opportunities for shorter contracts priced using hybrid or alternative indices. Taken together, the changes mean that utilities should advance their risk-modeling and forecasting practices. Practical methodologies that could emerge include the more frequent use of market data, extensive stress-testing, risk-limit dashboards, and advanced scenario modeling.

Exhibit 2

Power demand will probably not recover to precrisis levels before the end of the year.

Projected power-demand evolution in Europe, indexed month by month



Note: Scenarios based on analysis in *Safeguarding our lives and our livelihoods: The imperative of our time*, March 2020, McKinsey.com.

Utilities need to be aware of the long-term impact of changing economics on their financials and manage their credit risk carefully.

Theme 2: Economic conditions will put pressure on revenues and increase credit risk

A number of European countries, including France, Germany, Italy, Spain, and the United Kingdom, have allowed households to defer utility payments or have suspended service cuts for defaulting customers. Several state governments and commissions in the United States took similar actions by placing moratoriums on disconnections for nonpayment and, in some cases, suspending late fees. Utilities have also taken steps to help customers in distress. Such actions provide needed help for customers but mean lower revenues for utilities.

Governments may begin to lift some of these customer protections, but the economic hardship of households is likely to persist. According to the International Monetary Fund, the average unemployment rate in advanced economies, which increased from 4.8 percent in 2019 to an estimated 8.3 percent in 2020, could remain as high as 7.2 percent in 2021. Historically there has been a correlation between unemployment rates and arrears on consumer utility bills.

McKinsey's latest COVID-19 Global Consumer Pulse Survey found that 11 percent (Denmark) to 28 percent (Portugal) of European households and 17 percent of US households expect the negative impact on their finances to persist for longer than a year. The effect on utility financials and credit risk could be significant, depending on the market and customer characteristics. Moreover, regulators that want to protect consumers might choose to

keep prices low for the foreseeable future—again depressing revenues.

How to adapt: Engage customers and manage credit risk

Utilities need to be aware of the long-term impact of changing economics on their financials and manage their credit risk carefully. Methods such as advanced analytics can help segment customers precisely and predict delinquency rates. In addition, they can improve the collection process, minimize default risks, and even identify customers who may require extra help. To help those who are struggling, utilities need to demonstrate understanding and provide personalized solutions. For instance, they could offer special support programs, new payment plans, and tariff adjustments. They could also work with financial institutions to offer flexible payment plans. Customers have individual needs; utilities need to acknowledge them with targeted communications and solutions.

How to adapt: Improve B2C digital channels

Utilities also need to enhance their digital customer engagement to stay connected to customers. When the crisis hit, utilities had to change how they typically interacted with their customers. With payment offices closed and customers staying at home, digital channels became much more important. There is a general trend of customers moving online, with some online activities growing more than 40 percent.¹

The most obvious action to take is to digitize all payment and communication channels. But that is

¹ "Survey: US consumer sentiment during the coronavirus crisis," June 2020, McKinsey.com.

only the start: a digital-focused consumer strategy needs to go deeper. Utilities in Spain and the United Kingdom are using online performance marketing to acquire new customers. In Germany and the United Kingdom, utilities have launched new online campaigns to demonstrate care and support for customers and to reposition their brands.

Theme 3: Operations will continue to be disrupted

The crisis has delayed many operations and maintenance (O&M) and capital projects. Renewable projects, in particular, were hit by supply-chain and on-site restrictions. Utilities and developers need to expect that some of these restrictions will remain in place. Measures that have already been put in place, such as requiring prequarantines for workers embarking on offshore wind vessels and limiting vehicle sharing, might need to be expanded. But limiting crew sizes and other physical-distancing measures could slow down ventures that require close physical contact.

Ongoing safety measures could also affect customer-service operations, such as meter replacement and installation of rooftop solar panels. Especially in the United States, residential solar-panel installations will continue to be disrupted by physical-distancing measures. And, of course, if there is a resurgence of the virus, stricter restrictions may be imposed. Another operational challenge is the distressed financial condition of external contractors: if they go bankrupt, utilities will find it difficult to ramp up operations. Some European grid operators, for example, rely on external services for more than half of their maintenance activities.

How to adapt: Double down on safety

European and North American utilities have instilled a culture of safety among their field and operations workforces and generally have strong safety records. Dealing with the COVID-19 crisis,

however, means that they now have to go the extra mile. Some leaders are having “red teams” perform walk-throughs to identify areas in which new safety techniques need to be instituted or strengthened.

Another approach is to implement a safety-management system (SMS), a comprehensive effort to identify, prevent, and fix safety hazards. Aviation and other high-hazard industries often use this approach, and it is now spreading into the utility space. In 2019, for example, the American Gas Association recommended that its members implement SMSs for their pipelines.

Doubling down on safety can also improve both resiliency and efficiency. For example, a typical utility sees the most worker injuries from vehicle accidents. Identifying methods for accomplishing work with smaller crew sizes and performing more work remotely reduces windshield time, thus increasing overall worker safety and improving efficiency.

How to adapt: Expand digital operations and channels

Utilities that started digital programs before the crisis have been more resilient. In the post-COVID-19 world, many will need to reconsider their technology priorities. For example, they might be able to reduce O&M costs by using analytics to create risk profiles that generate better asset-maintenance cycles. Using remote supervision could help grid operators minimize the risk for their workforces while simplifying operations.

At a time when every truck roll matters, digital technologies could also improve field operations. Digitally enabling field workforces could help utilities reduce crew sizes, improving both safety and efficiency. Remote troubleshooting could do the same. And given the possibility of ongoing travel restrictions, remote supervision could play a bigger role in the construction of new sites too.

Utilities need to be aware of their new market environment and reconsider the strategic orientation of their portfolios.

Theme 4: The strategic reshaping of the sector will be accelerated

The market valuation for the electric-power and natural-gas (EPNG) sector was down 15 percent at the end of March but has already begun to recover. Moreover, many utilities had relatively healthy balance sheets heading into the crisis. So while the number of M&A dropped in the first quarter of 2020 (global power industry deals dropped by 15.1 percent, from 906 in the first quarter of 2019 to 769 in the first quarter of 2020),² activity could pick up quickly, reshaping the sector.

Precrisis trends, such as strategic portfolio reshaping of utilities and investment by new market entrants, are already resuming and could accelerate. Many utilities will expand their renewables and new downstream activities while disposing of other assets to free up liquidity. Funds and oil and gas (O&G) companies will probably update their portfolio strategies too.

Infrastructure funds, like utilities, could be more likely to prioritize investments in renewables. There has been disruption of renewables operations, but the sector has demonstrated market resilience and stability. Market capitalization of renewables players has recovered faster than in other archetypes, not least because of priority dispatch and contracted revenues. That being the case, funds may be willing to take higher risks and show increasing interest in merchant projects. They will have the required resources: infrastructure fundraising reached a record high of \$98 billion in 2019, with available dry powder of \$212 billion at the end of year.³ Other players in the EPNG space, such as O&G companies,

might increase their efforts as well—although they may have their hands full managing the financial impact of much lower oil prices.

How to adapt: Reconsider the portfolio strategy

Utilities need to be aware of their new market environment and reconsider the strategic orientation of their portfolios. For some players, there will be opportunities to start financial partnerships, while others will take the chance to sell assets that no longer fit with their core strategies. With the possibility of more competition from new entrants, utilities need to be able to act nimbly.

Theme 5: Operating models have changed, with more remote working and more flexible structures

When the COVID-19 crisis erupted, many utilities formed crisis teams that had the mandate to make quick decisions. It was not at all unusual for operational decisions that previously took three weeks to finish to be completed in three days. Organizations shifted toward a flatter, more agile model in which teams collaborated remotely across business functions and geographies—and often found this process to be more productive than physical meetings were. Changes took place along all segments of the value chain; we have seen cases in which engineers and project designers worked more productively remotely than when they were physically together. In other instances, executives were able to discover new talent to keep operations running, such as with multiskilled workers in power plants.

² GlobalData, globaldata.com.

³ Preqin, preqin.com.

How to adapt: Implement hybrid operating models

As lockdowns ease, utilities will want to maintain organizational agility and prioritize remote capability building: almost three-quarters of CFOs surveyed across industries plan to move to remote working.⁴ In our own discussions with utility executives, they indicate growing interest in hybrid working models. They will need to plan carefully because different roles and teams have different virtualization potential. Leaders will therefore need to embed remote working in their organizational cultures. One way to do so is to work remotely themselves; another is to involve employees in the planning process. Remote working also opens new possibilities: utilities can hire talent in different geographies, possibly enhancing both their diversity and their resiliency. It will also be an opportunity to build the right set of skills for the future. With a hybrid working model, an agile, digital, collaborative, and cross-skilled workforce will provide a competitive edge.

The potential to adapt should not stop with hybrid working and new skill sets. Utilities can also adopt digital tools to set up centralized expert hubs to enhance remote troubleshooting capabilities and create agility. Maintaining the accelerated decision-making structures created during the crisis will require taking specific actions, such as segmenting and delegating noncritical decisions and cutting out unnecessary process steps. In short, utilities need change their organizational mindsets—and fast, before there is a drift back to the precrisis status quo.

If utilities recognize how the post-COVID-19 world is changing and implement the right strategies to adapt, they will be more likely to survive—and maybe even emerge stronger. The future, by definition, is unpredictable, but the need for resiliency is certain.

⁴ "Gartner CFO Survey reveals 74% intend to shift some employees to remote work permanently," Gartner, April 3, 2020, gartner.com.

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