

What will the Middle East power industry look like in 2030?

The business model for providing safe, reliable, and affordable power has undergone very little change since it was first developed in the early 1900s. Over the decades, the power utility became a by-word for stuffy stability. No longer. The global utilities industry, which has a market capitalization of US\$2.1 trillion, has entered a period of sweeping change. As a result, the industry in the Middle East and elsewhere will look radically different in 2030, creating an opportunity for forward-thinking power companies to develop new business models and seize the initiative.

Zero-marginal-cost energy sources will lead to fixed-price billing

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Grids will become decentralized

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Business models will become more customer-focused

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This opportunity is driven by profound changes in utility economics, grid designs, and customer interfaces.

1. Zero-marginal-cost energy sources will lead to fixed-price billing

The share of renewable energy sources in the power generation mix keeps growing. Advances in battery technology, green hydrogen, and big data analytics for forecasting all promise to make renewable energy more economically feasible. Solar and wind, the most scalable types of renewable technologies, have almost zero marginal costs. We may soon see electricity that costs almost nothing to produce after the plant is built.

This is a major shift, and it upends a key assumption about electricity pricing. In liberalized electricity markets, the cost of generating power varies based on technology and fuel source. Capital-intensive monopolies are assured of recovering their costs, including a fair return set by the regulator, for any prudent investments that are necessary to fulfil their mission. A shift to renewable sources, which do not consume any fuel to generate power, will push electricity systems worldwide away from the current, liberalized electricity market model. Instead, it could require a single buyer model in which one entity buys the electricity and then sells it to end-users, or it could enable a peer-to-peer market model in which producers of all sizes trade with each other.

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Furthermore, as the share of renewable energy in the generation mix increases, incremental consumption in essence becomes free. This has an important effect on pricing, ending the current approach in which end-users pay primarily based on how much they consume. Instead, what will matter more will be other factors such as an end-user's power consumption profile, maximum electricity demand, and reliability requirements.

Given these shifts, electricity system economics in 2030 will become more like the economics of telecommunication networks, and pricing schemes will transition to fixed monthly payment plans based on end-user consumption profiles and service requirements.

2. Grids will become decentralized

The industry has witnessed dramatic growth in the number of distributed generators connecting to the grid. This surge creates a growing need to rethink the role and function of the electric grid. As the cost of electricity depends less on the amount of electrical energy consumed, it will become tougher to recover the investment cost required to build and maintain power grids. Simultaneously, distributed generation, under the appropriate regulatory framework, offers potential benefits by reducing peak load on the grid, providing ancillary services, and improving power quality.

Under the right business model, a decentralized "grid-of-microgrids" can create significant savings across an entire power system. Over the coming decade, we will see the electric grid become more of a physical platform for exchange between consumers, producers, and consumers who also produce (the so-called prosumers such as those generating electricity from solar panels on their houses). This will unlock and share savings.

3. Business models will become more customer-focused

In the past, power utilities invested in technology to increase reliability and decrease cost, and business models were based on meters, not customers. The imperative facing the industry today is to build on a utility's most valuable asset, its customers, by creating products and services that reinforce relationships and deepen profitability pools. In that way, power utilities will shift from providers of electrical energy to providers of peace-of-mind and convenience.

In addition, sustainability will become a major component of a power utility's selling proposition to large commercial and industrial customers. This goes beyond merely sourcing renewable energy and covers the entire scope of a power utility's business activity, through the application of circular design concepts, zero-waste, and closer integration between a utility and the industries it serves. As pressure mounts on all industries globally to become green, the ability of a utility to enable circular economic models that reduce waste will become a powerful selling proposition to attract industrial customers.

Given the scope of changes coming between now and 2030, Middle East power utilities cannot wait and see. They must understand the transformation occurring in their industry, analyze the impact on their strategies and operating models, and make the necessary changes. Those companies that are agile and resilient will create and capture significant value. Those that don't will fall behind.