

Pulling the plug on inefficiencies

How utilities can modernize operations and optimize spending

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EXECUTIVE SUMMARY

Utilities in the Gulf Cooperation Council countries¹ are facing new challenges as governments push them to modernize and expand their operations to support economic diversification and adapt to the energy transition. To rise to these challenges and adjust to new regulatory requirements, utilities need to eliminate inefficiencies and reallocate resources to strategic investments. These investments include spending to upgrade their infrastructure, enhance digitization, and reskill the workforce for the future.

Common misconceptions exist about utility costs. We outline paths for utilities in GCC countries as they seek to navigate these changing circumstances and reject these myths. Leading practices elsewhere, particularly in Europe, where new regulatory frameworks have enabled utilities to cut operational expenditures and simultaneously improve their service quality, could serve as a guide.

Our analysis suggests that through a combination of short-term tactical actions and longerterm changes to their operating model, utilities in the GCC region could cut operational costs by between 15 and 30 percent. That would translate into savings of as much as US\$22 billion over the next decade²—gains that could position the region's utilities as significant enablers of their respective national economic growth and sustainability goals.

Achieving cost optimization of this magnitude is inevitably challenging. It requires agile governance and strong leadership support, careful alignment of cost savings targets, effective stakeholder engagement and communications, integrated change management, and adequate resources and internal funding. However, acting on costs is a necessity in today's fast-changing world. It also presents opportunities. Making utilities more efficient, agile, and resilient at a time of global energy transition can future-proof utilities and the national economies in which they operate.

PRESSURES FOR CHANGE ON UTILITIES IN GCC COUNTRIES

GCC countries have been putting in place ambitious national emissions reduction programs and other energy-related programs to meet net-zero targets. These include a sharp increase in demand for electricity: In Saudi Arabia alone, electricity demand is estimated to rise to more than 520 terawatt-hours (TWh) in 2030 from about 330 TWh in 2024.³ Utilities have a major role to play in implementing these programs and need to reshape themselves to do so. Increasingly, they have been tasked with implementing advanced technologies such as smart grids, integrating renewable energy at unprecedented scale, and implementing wide-ranging digital transformation programs, all while continuously enhancing reliability and efficiency—elements necessary for GCC countries to meet sustainability goals.

GCC countries have favorable conditions for building utility-scale renewable energy generation capacity. These include the region's meteorological conditions and ample land, easier grid development and operations than exist in other developed markets, and supportive regulations. Together, these conditions ensure that solar power will be a cost-effective means of producing electricity in the region. However, the costs of deploying and integrating renewables in the energy mix will be significant. For instance, Saudi Arabia alone is planning to invest approximately US\$235 billion by 2030 in its energy transition, investments that will generate day-to-day operational costs upon their completion.⁴

Given these challenges, utilities in GCC countries need to boost their efficiency and reduce costs — an imperative on which regulators are already acting. In Saudi Arabia, for instance, the Saudi Electricity Regulatory Authority embedded an annual efficiency factor for utilities' operating expenditures in its regulated revenue requirement methodology. In previous regulatory periods in the United Arab Emirates (UAE), the Department of Energy set operational expenditures' efficiency targets. Its regulated utilities have realized efficiencies of 3 to 4 percent in the past, and they have an additional efficiency target of 0.5 percent in the next regulatory period, which runs until 2026.⁵

These targets are compelling utilities to focus on optimizing their operational expenditures and implementing continuous improvement programs to stay competitive.

The growth objectives demand significant financial investments and the ability to manage largescale projects. The conundrum for these utilities is how to rapidly enhance their operations to meet regulatory efficiency and service quality requirements, while fulfilling national growth mandates. As new assets and expansion projects are integrated into the grid, they risk raising the running costs for utilities, because they will need to improve their personnel's skills to manage advanced technologies; establish more sophisticated control and dispatch operations; increase maintenance efforts related to the new infrastructure; and update and maintain evolving technology systems.

In this context, keeping operational expenses under control inherently generates efficiencies. If GCC utilities could keep operational costs constant at today's levels, the decrease of the cost-to-serve as implied by the growth in output would be significant—as much as US\$70 billion over the next decade (*see Exhibit 1*). That alone would enable utilities to bridge a significant gap in their funding requirements in that period.

EXHIBIT 1

GCC utilities can save money by decoupling revenues from growth in operational expenditures (Revenues and total Opex with constant operational costs, US\$)



Note: Opex = Operating expenditure.

Source: Strategy& analysis, GCC utilities' public financial data

BUSTING MYTHS ABOUT UTILITY COSTS

There are three common myths about utility operating costs. First is the belief that utility costs are fixed and unaffected by output or change initiatives. Second is the belief that any reallocation of resources degrades service quality and network performance. Third is the belief among many utilities that their unique conditions, such as network design, climate, and customer distribution, prevent them from adopting practices used elsewhere.

Globally, leading practices suggest that cost efficiency can be a cornerstone of utility regulation. Various models exist that are designed to balance financial sustainability with operational performance. These models push utilities to improve efficiency while ensuring service quality and profitability. They include:

- · A revenue cap that limits earnings while enabling utilities to retain a share of cost savings
- Performance-based regulation, under which utilities can boost their revenue by improving operational efficiency, directly linking performance to financial gain
- "Yardstick competition," which sets tariffs based on the performance of top or average utilities in the market; utilities are thereby incentivized to outperform their peers

Such frameworks in some European markets, for example, have successfully pushed utilities to cut operational expenditures while improving their service quality. European utilities have improved operational performance since 2005 (*see Exhibit 2*).

Globally, leading practices suggest that cost efficiency can be a cornerstone of utility regulation.

EXHIBIT 2

European utilities have improved operational performance through greater efficiencies in operational expenditures

(Data from selected European utilities, 2005=100)¹



Note: TSO = Transmission Service Operator, DSO = Distribution Service Operator, Opex = Operating expenditure, SAIDI = System Average Interruption Duration Index. ¹ Data from 22 companies from Belgium, France, Germany, Italy, the Netherlands, and Spain, of which nine are TSOs and 13 are DSOs.

² SAIDI represents the national system average interruption duration index expressed in minutes per consumer per year, in the same countries. The graph shows the improvement of SAIDI over the period 2005–23, during which the average interruption duration decreased by 33%.

Source: Strategy& analysis, corporate financial statements and annual reports

Utilities in GCC countries are now tasked with managing growth. To meet this change requires them to significantly improve their operational capabilities, including by developing technical expertise in managing complex, modern systems. Among other requirements, this demands robust training and development programs for staff.

Here, too, GCC utilities can take their cue from global counterparts that have successfully balanced modernization with cost control by investing in technologies that lower operational expenses over time. Examples include artificial intelligence (AI)-driven maintenance systems, automated grid management, and advanced data analytics, all of which optimize performance and reduce costs. For instance, U.S. utilities use predictive maintenance powered by AI to monitor equipment health and anticipate failures of their generation fleet. By employing machine learning algorithms and internet of things (IOT, the network of connected devices) sensors, they significantly reduce downtime and maintenance costs while ensuring high service reliability.⁶ In Japan, grid operators have incorporated automated demand response systems, which allow utilities to optimize grid operations during peak periods, reducing the need for costly peaking power plants (which operate solely during high demand) while enhancing service reliability.⁷

Improving operational processes is critical to achieving efficiency. Utilities can improve efficiency by reengineering workflows, adopting best practices from more mature markets, and integrating cutting-edge tools that enhance productivity. By focusing on technological adoption and process improvement, utilities can ensure they are supporting national growth objectives and operating efficiently in the long run.

PATHS FORWARD FOR GCC UTILITIES WANTING TO OPTIMIZE OPERATIONAL EXPENSES

The goal for GCC utilities is to achieve structural savings by implementing enduring improvements to operational practices, resulting in continuous benefits rather than temporary fixes. Optimizing their operational spending sustainably helps utilities address the dual pressures of regulatory compliance and national modernization. As we describe below, actions range from quick wins to longer-term and more fundamental changes, all intended to produce savings in annual operating expenditures that can be as high as 30 percent.

Comprehensive operational spending programs reallocate resources from lower-impact areas to high-return projects, using advanced tools such as data analytics and real-time monitoring to ensure that all cost efficiency efforts are aligned. By establishing a unified framework that integrates and tracks cost efficiency across the organization, these programs enable all efforts to be aligned and transparent.

Reducing spending on legacy operations allows GCC utilities to redirect resources toward growth targets and new mandates. Ultimately, these optimization programs allow utilities to credibly embrace their role as champions of the national transformation agenda by better addressing several emerging areas. These include:

- Digital transformation: making investments in smart grid technology, automated grid management, and advanced data analytics to streamline operations and improve service reliability
- Smart metering: further enhancing smart metering infrastructure and data use cases, improving billing accuracy and customer satisfaction
- Cybersecurity: strengthening digital security to prevent cyber threats and safeguard critical infrastructure
- Customer experience: improving digital customer interfaces and support systems to enhance user satisfaction and optimize customer care processes
- Workforce skills improvement: creating the training and development programs necessary to equip personnel with the skills needed to manage modernized systems and advanced technologies
- Cultural transformation: promoting a cost-conscious, innovation-driven culture that embeds
 operational excellence and customer-centricity at all organizational layers

Wall-to-wall operating model analysis

The starting point for utilities to optimize spending is a comprehensive, wall-to-wall analysis of their entire operating model. That analysis involves examining nine critical areas of optimization that cover the full spectrum of utility operations (*see Exhibit 3*). Looking at these areas reveals inefficiencies and opportunities for cost savings across all functions, including asset reliability and maintenance, IT optimization, customer service transformation, and more.

EXHIBIT 3 Wall-to-wall operating expenditure optimization



6 Indicates optimization potential of respective addressable spend

Note: AI = Artificial Intelligence, O&M = Operations and Maintenance, SLA = Service-Level Agreement, T&D = Transmission and Distribution. Source: Strategy&

The goal of this thorough evaluation is to ensure that no part of the operating model is overlooked, providing utilities with the insights they need to make use of their resources effectively. By systematically addressing each area, utilities can achieve the short-term savings required to build momentum and position themselves for sustained efficiency improvements. That allows them to reallocate resources toward future growth initiatives. This structured, holistic analysis serves as the foundation for long-term success in cost optimization and operational excellence.

Building momentum with quick wins

Utilities in the GCC tend to be vertically integrated. That makes ownership and accountability of operational budgets, which are often distributed across multiple management layers, opaque to those working in the central governance and control functions. Intricate interdependencies between business units also can slow change, since alteration in one unit may have unforeseen or hard-to-assess impacts on others. Given the high stakes (wrong moves could lead to national power outages), it is perhaps not surprising that utilities tend to be relatively risk averse.

Quick wins can help overcome these challenges. These are targeted actions that swiftly demonstrate value and build the program's credibility. These initial steps focus on topdown, incremental policy improvements or tactical initiatives that do not require fundamental changes in day-to-day operations. Nonetheless, they yield substantial savings in operational expenditures (*see Exhibit 4*).

EXHIBIT 4

Short-term and long-term optimization actions



Source: Strategy&

Quick wins can bring about substantial savings without requiring extensive buy-in from multiple stakeholders. For example, fine-tuning operating expenditure capitalization policies, optimizing vehicle policies and fleet size, or adjusting overtime policies are all relatively straightforward to implement but can be quite effective.

Strategically planning and executing these quick wins enabled one utility in the GCC region to realize savings of 8 to 15 percent of its operating expenditure base over three years.

Activating long-term potential

The success of these quick wins paves the way for longer-term initiatives, which involve more extensive organizational restructuring, process improvement, or digital transformation. These longer-term and more strategic moves can capture an additional 7 to 15 percent of the potential gains from operating expenditure optimization. They are more likely to be accepted, and integrated, by the organization once initial successes are demonstrated.

Robust program governance is needed, with teams identifying and prioritizing optimization initiatives across a multiyear program time line. In parallel with the quick wins, utilities should consider five areas for longer-term optimization (*see Exhibit 5*).

EXHIBIT 5 Five longer-term operating expenditure optimization initiatives



Note: O&M = Operations and Maintenance. Source: Strategy&

For example, for grid operators, asset management and operations and maintenance (O&M) models are a key part of the spending base. To define coherent initiatives linked to this, a clear baseline of these operating models is required. Utilities need to assess relevant organizational structures and operational process flows. From this baseline, utilities can develop optimization initiatives for implementation across the program's time line, such as improving the efficiency of their spending on maintenance contracts, improving field processes, instilling operational excellence, or streamlining the organization of O&M units.

KEYS TO A SUCCESSFUL UTILITY OPTIMIZATION PROGRAM

The ability to optimize operational spending depends on a combination of strong leadership that sets a clear direction, setting targets that enable success, talking early and talking often, making changes stick, and spending on what matters. These actions work together to create an environment in which cost efficiency becomes ingrained in the organizational culture, driving sustainable improvements.

Strong leadership sets a clear direction



Big moves need strong backing. A top leader must own the effort, clear roadblocks, and keep teams focused. A tight-knit core team should steer the work, keeping every part of the business in sync. Without this, even the best plans stall.

Set targets that enable success



Target setting is essential. Aligning cost savings targets at all levels ensures accountability and motivates people to contribute to the success of the program. Executive management should approve targets and cascade them to business units so that the respective teams have shared goals. Also, companies can incentivize collaboration by linking annual bonuses to the realization key performance indicators for operational spending optimization.

Talk early, talk often



People back what they help build. Gather input, share wins, and keep updates flowing. Tailor messages to the audience—what matters to leaders is not what frontline teams need. Clear, steady communication turns skeptics into supporters.

Make changes stick



New habits need more than memos. Use every channel—screens, emails, meetings—to reinforce the message. Train people, support them, and make the change part of daily work. When the culture shifts, savings will follow.

Spend on what matters



Big cost optimization goals need the right tools. Set a budget for tech, training, and tracking progress. Give teams what they need to drive change, then adjust as you go. A well-funded plan delivers results.

CONCLUSION

In today's environment, optimizing operational expenditures is both a necessity and an opportunity. Optimizing operating expenditures does more than cut costs—it reshapes the operational landscape to make utilities more efficient, agile, and resilient. For utilities, leadership in executing these strategies will determine whether they can meet today's challenges and thrive as key enablers of their national economic and sustainability goals. Now is the time to build a future-ready utility that is equipped to navigate complexity while driving sustainable growth.

ENDNOTES

- 1. The GCC countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.
- 2. Strategy& analysis based on GCC utilities' public data, projections of electricity demand evolution, and experience in similar projects.
- 3. Strategy& estimate of electricity demand based on an estimated GDP increase and gigaprojects commissioning.
- 4. Strategy& estimate based on announced renewable energy plants, required transmission and distribution infrastructure upgrades, and additional transmission capacity.
- "Review of Regulatory Controls for 2023 Onwards: RC2 First Consultation Paper," UAE Department of Energy, March 31, 2021 (https://www.doe.gov.ae/-/media/Project/DOE/ Department-Of-Energy/Price-Controls/RC2-First-consultation-paper.pdf).
- 6. Aveva, "Duke Energy Predictive Analytic Success Story" (https://www.aveva.com/en/perspectives/success-stories/duke-energy/).
- Hideo Ishii, "Japan Demand Response Market Overview," OpenADR Alliance Webinar on OpenADR in Asia Pacific Market, Waseda University, November 7, 2019 (https://www.openadr.org/assets/20191008%20OpenADR%20Webinar_Ishii_Waseda.pdf).



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