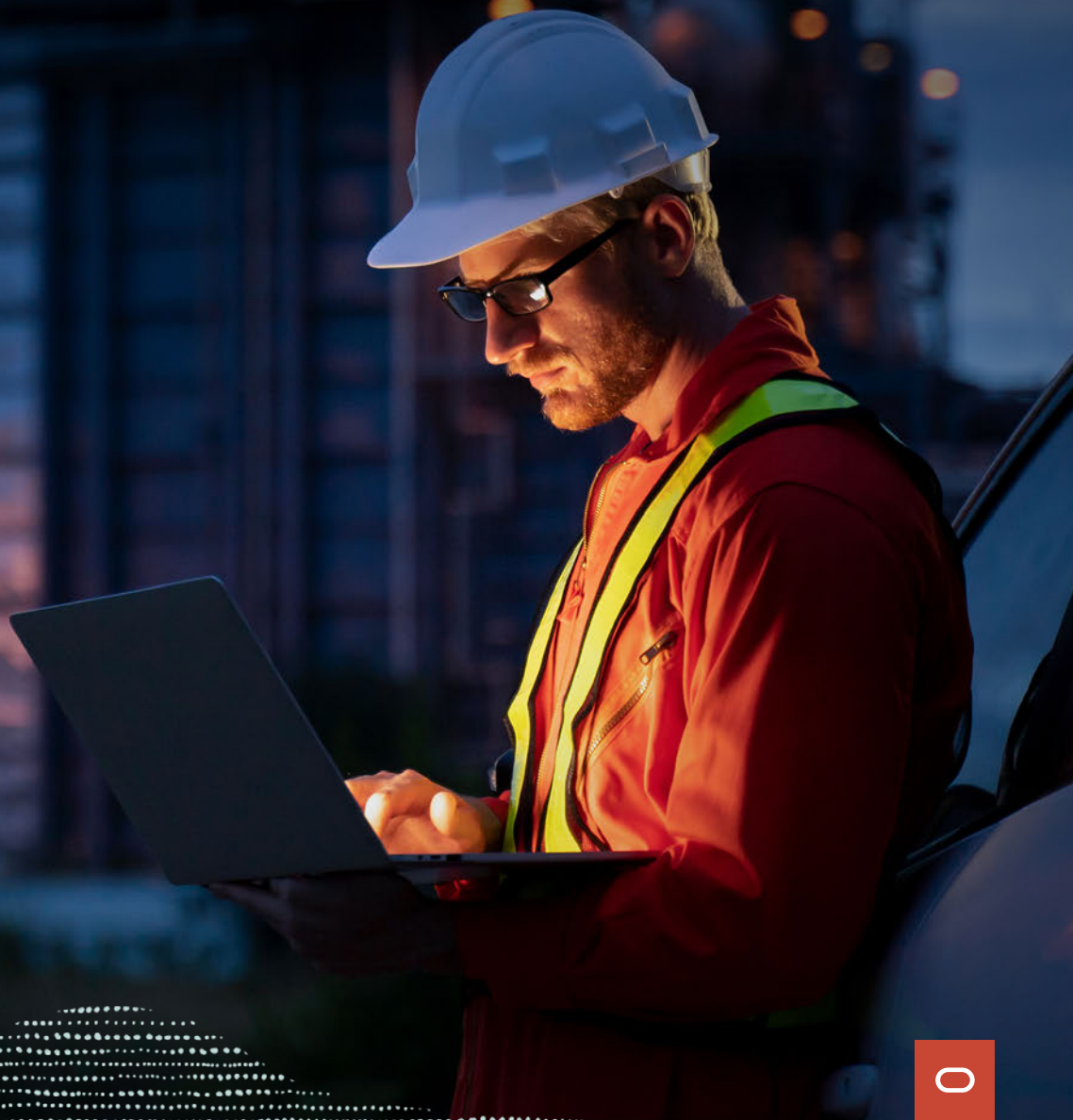


Power through change

How utilities can fuel a more agile,
sustainable future in the cloud





Introduction

Decarbonization and the effects of climate change are fueling fundamental shifts in the ways utilities operate, driving the need to adapt. But many organizations are hampered by their aging IT infrastructure and business applications. While exploring how utilities are powering through change, we frequently found that the leading utilities aren't using traditional legacy systems. Instead, they are innovating with modern cloud infrastructure and business applications.

Utilities across the globe face increasingly volatile natural environments. Historic droughts, extreme storms, and record temperatures threaten expensive network and generation assets, increasing the potential for lost revenue and disrupting operations for utilities worldwide. According to an [Accenture survey](#), 90% of utility executives believe extreme weather poses an increased financial risk to their business. By 2050, [McKinsey & Company predicts](#) that just a single utility could face approximately US\$1.7 billion in economic damages from extreme weather events and lost revenues.

The need for utilities to continue to provide safe, reliable, and affordable energy, coupled with the pressing urgency to address climate change, is driving a global trend to operate with sustainability in mind. Specifically, increasing the use of electrical power is viewed as a central part of worldwide decarbonization efforts—putting utilities companies at the center of change. For example, with the rapid growth of plug-in electric vehicles (PEVs), utilities will play a pivotal role in the electrification of the transport industry, which will significantly lower its carbon emissions.

Though the electrification of industries will create new opportunities for utilities, it also creates operational challenges. [According to PwC](#), in a fully PEV environment, utilities can expect to see an estimated 30% increase in peak demand in addition to a rise in household consumption. Clean electrification requires early and sustained investment in R&D to manage the fluctuating supply and demand of sustainable energy sources.

Pandemic accelerates utilities' transformation

COVID-19 brought to the forefront issues the utilities industry has faced for decades, disrupting every facet of operations.



Financial Operations: With curtailed global economic activity and persisting lockdowns, utilities face enormous revenue losses. Utility firms need to strategize and accurately forecast the current and potential future impact on operations, liquidity, and capital resources.



Supply Chain Operations: Supply chain interruptions are becoming widespread due to supplier delays and logistical disruptions. Utilities must monitor their inventory to align with fluctuating demand and prevent any maintenance issues that could lead to downtime.



Hybrid/Remote Workforce: Like most industries, utilities need to minimize in-person contact without decreasing productivity, specifically on complex projects involving cross-functional collaboration. They must also provide secure, remote access and support for an offsite workforce.



Service Continuity: Utilities must remain dependable and consistent as they generate and transmit electricity, natural gas, and water to customers. While keeping their assets online and functional, they must also ensure the health and safety of employees, particularly those whose jobs make it hard to practice social distancing.



Customer Experience: With increased customer hardship and short-staffed customer service teams, utilities need to place a renewed emphasis on a customer-centric approach to business across the entire spectrum of service transactions, including billing, support, and field service.





The emergence of agile utilities

The focus on climate change, decarbonization, and economic development necessitates new requirements to ensure the safe, reliable, affordable, and equitable distribution of electricity, natural gas, and water to homes and businesses. As these requirements grow, emerging cloud-based digital technologies can help reshape the utilities industry, improving the agility of finance and operations teams in three key ways.

Capitalize on data

Utilities will continue to see an explosion in the data surrounding and emitted by modern infrastructure and operations. Devices connected by the Internet of Things are transforming utility networks, providing alerts, and prompting action in real time. Legacy systems were not designed to capitalize on this influx of data. Cloud solutions designed for today's digital landscape are helping companies across industries turn their data into insight to improve decision-making, automate processes, and ultimately drive down cost to serve.

Build resilience and responsiveness

With extreme weather on the rise, resilience investments are urgently needed. [United States Department of Energy research](#) reveals that extreme weather events have the potential to create a gap of as much as 34% between supply and demand. The right tools

can help utilities incorporate distributed energy resources, such as solar panels and electric vehicles, into their networks, tap into intelligent edge devices to optimize operations, avoid service disruptions, and quickly restore service when extreme grid stress events occur.

Lead with growth

With the move toward decarbonization, utilities can lead an unprecedented wave of expansion, both organically and through mergers and acquisitions. [According to PwC](#), the volume of M&A deals in the industry during the first half of 2021 far exceeded that of the same period in 2020. With interest rates at record lows and no shortage of capital for dealmaking, utilities are busy divesting carbon-related assets in favor of carbon-neutral initiatives. Finance executives in utilities are looking at tools to help them spin up new divisions, model the impact of divestitures, and integrate new companies, systems, and employees.

In addition to boosting agility and helping them reach their decarbonization goals, digital technologies will help utilities achieve [approximately US\\$80 billion in cost savings per year from 2016 to 2040](#). By implementing modern cloud software, utilities are becoming better prepared to weather difficult conditions and establishing a strong foundation for the future.

“By 2025, 35% of energy utilities will drive at least 30% of their business via digital platforms based on cloud native technologies, fulfilling the evolving needs of customers and infrastructures.”

—[IDC FutureScape: Worldwide Utilities 2021 Predictions](#)



The four foundations of digital transformation for utilities

1 Automate

Accelerate financial close processes and improve performance monitoring.

Financial precision is the bedrock of responsible business. Delays, inaccuracies, and manual work can slow the process of monitoring and reporting on spending, performance, and risks. Utilities need a new finance operating model that includes the following functionalities:

- A unified source of truth for budgets and actuals
- A complete view of financial performance for P&L owners
- An end-to-end view of financial information for financial planning and analysis
- Corporatewide standards including uniform methods and best practices for mandatory financial and regulatory reporting

Cloud-based solutions featuring machine learning and intelligent process automation are helping utilities close their books faster, respond to change, and boost efficiency—all while reducing IT costs. For example, with its on-premises planning and budgeting applications, Con Edison was spending too much time using manual processes and spreadsheets to gather and analyze data. This led to an end-to-end annual budgeting process that took eight months or longer. After automating its planning processes with Oracle Fusion Cloud Enterprise Performance Management (EPM), the company spends 40% less time creating detailed budgets. “We have reduced our reliance on spreadsheets to enable our finance team to spend more time on strategic and operational analysis,” says Kelly McLaughlin, finance director at Con Edison.

Automate with Oracle

With Oracle Fusion Cloud Enterprise Resource Planning (ERP) and Enterprise Performance Management (EPM), utilities can effectively and efficiently manage the consolidation and close process. For many organizations, managing this process is a burden that consumes time and resources that could be better spent on analysis and decision-making. With Oracle Cloud ERP and EPM, 84% of customers reduced the number of days to close per cycle. At the same time, Oracle Cloud ERP and EPM help ensure that processes are dependable, correct, timely, transparent, streamlined, efficient, compliant, and auditable.

2 Adapt

Prepare and adapt to changing environments with a 360-degree view of your data.

A unified view of information and a connected planning process that spans operational, financial, and strategic planning helps you understand how well all your lines of business are operating at any given moment, supporting more intelligent planning and decision-making. Intelligence dashboards, AI-driven data analysis, and intelligent financial consolidation help provide informed forecasting, modeling, and reporting across your business.

PwC's recent [COVID-19 CFO Pulse Survey](#) reveals that 71% of CFOs are troubled by COVID-19's financial impact, including its effects on operations, future periods, liquidity, and capital resources. Utilities worldwide are investing in cloud applications that deliver benefits across the business to help them make data-driven decisions to combat these effects. For example, Lars Peder Fensli, CFO of Arendals Fossekompani (AFK)—a pioneer in Norwegian hydroelectric power generation—says a cloud-based performance management system gives his team advanced capabilities that “enable [them] to make more data-driven decisions that help them anticipate and adapt to change.”



Adapt with Oracle

Oracle Fusion Cloud Enterprise Performance Management (EPM) helps you model and plan across finance, HR, supply chain, and sales; streamline the financial close process; and drive better decisions. Seamlessly connect finance with every part of your operation, achieving enterprisewide agility, alignment, and insights. Oracle helps you analyze, plan, budget, forecast, and generate reports using embedded intelligence, complete with scenario modeling and built-in, advanced analytics.

3 Operate and Maintain

Achieve end-to-end visibility into your assets with efficient planning, operations, maintenance, and execution.

Capital expenditures are increasing as aging infrastructure needs to be updated or replaced with safer, more reliable, and sustainable equipment. A disciplined, holistic approach to asset management is increasingly important to control costs and maximize return on capital employed on your fixed plant assets.

Operational technology lays the foundation for asset management. With the increase in connected infrastructure, utilities can continuously monitor asset performance and implement preventative (rather than reactive) maintenance. According to a [Deloitte study](#), on average, predictive maintenance can increase equipment uptime by up to 20%, increase productivity by 25%, reduce breakdowns by 70%, and lower maintenance costs by 25%.

Strategic management of assets lets utility companies realize maximum value from their capital expenditures while minimizing TCO. Take Louisville Water Company for example, which manages more than a billion dollars' worth of assets. After investing in technology to completely reinvent their asset management program, Obe Everett, director, program management and business systems support, says they now “have the data and visibility needed to forecast asset cost, perform predictive maintenance before failure incidents, and ultimately extend the life of [their] assets.”

Operate and Maintain with Oracle

With Oracle Fusion Cloud Enterprise Resource Planning (ERP) and Supply Chain and Manufacturing (SCM), utilities define and manage an array of assets from acquisition through disposal—including all construction, maintenance, repair, and inspection activities. Oracle Cloud ERP and SCM enable utilities to

- Complete projects while ensuring the availability of labor and components to build and fill project orders
- Use connected machines to provide continuous performance monitoring and enable the optimal timing of maintenance intervals and procedures
- Assemble a unified asset repository (including asset identification, parts lists, and history) to streamline and improve maintenance operations and reduce costs



4 Connect

Accelerate insights and boost collaboration with connected operations.

Today's finance, HR, and operations professionals need full visibility into data from across the company to make critical decisions fast and boost performance. Transparency, collaborative planning, speed, and accuracy are all crucial elements of a connected back office.

Unfortunately, siloed HR and finance systems create mismatched data, making it difficult to analyze workforce costs, assess the impact of potential changes, and scale the workforce up or down in response to business needs. Connected cloud applications can liberate finance, HR, and operations personnel from error-prone tasks, yielding measurable time savings and improved reliability. For example, a large Canadian utility found that with a single view of the business, decision-making became easy and timely across functions. With a shared service model, the utility improved value and efficiency with common global processes and reporting. This example highlights how integrated cloud applications can strengthen alignment between different lines of business so all units can realize better outcomes through shared data.

Connect with Oracle

Oracle Fusion Cloud Enterprise Resource Planning (ERP) and Human Capital Management (HCM) run on a common data platform. This means there is a single data record for all transactions that connects to a complete series of workflows for everything you need for both finance and HR to run seamlessly. A unified solution for finance and HR enables real-time visibility into employee and corporate performance, driving more-strategic workforce planning.



A security-first approach

As utility companies adopt modern technology to streamline processes, vulnerabilities are exposed. Intelligent grid edge devices and other operational technology (OT) can be a double-edged sword; they drive innovation and improve operations but can also provide a large attack surface for nefarious actors to exploit. In a recent [West Monroe survey](#), 67% of utility leaders cited cybersecurity as their top concern about their OT network. They are justified in their concern. As one example, Colonial Pipeline Co., a major supplier of gasoline, was forced to [halt operations for days due to a ransomware attack](#), causing fuel shortages and price spikes across the eastern United States.

Oracle's cloud applications use a single data model so that teams across finance, HR, supply chain, and other lines of business view the same data. This integrated approach simplifies data management and makes it easier to protect sensitive information, even as business needs change and evolve. Oracle Cloud Applications, powered by Oracle Cloud Infrastructure (OCI), are built using a security-first architecture that gives utilities the stringent security standards they need to protect their data and meet NERC CIP standards.






Tying it all together

Decarbonization initiatives coupled with increasingly volatile environmental events expose utilities to challenges related to mission-critical asset performance, real-time control and operations, and data rationalization. Utilities are finding that now, more than ever, investing in agile business operations is the key to thriving, whether maximizing grid uptime during storms, addressing sustainable investments, or automating processes to ensure safe and reliable operations. A big part of agility is recognizing how to use digital technology to drive innovation and support continued success in an ever-changing environment. Moving out of silos and creating an operation that has digital transformation at its center will enable utilities to power a flexible operating model and fuel a more sustainable future.

We're helping utilities power through change.

Learn how



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