

NOW FOR THE HARD PART: GROWING YOUR UTILITY WITHOUT THE TRIPLE-2 TAILWINDS

U.S. utilities have enjoyed a decade of capital investment that is delivering greater reliability and efficiency for customers, strong returns for shareholders, and lower environmental impacts for all. Looking ahead, the industry faces a generational investment opportunity in a transitioning energy world, but in our view, execution risk is rising. Why?

The average U.S. electricity price increased over 10% in 2022, according to the Energy Information Administration. Supply-constrained regions such as New England are warning that prices on the supply side of electricity could rise 50% in 2023, translating into 25% increases in overall customer bills. Regulators may understand this, but politicians will call out the company whose name is on the bill—and the news media will follow.

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The past decade's growth leaned heavily on the 2-2-2 tailwinds: $2.00 natural gas, 2% interest rates, and 2% inflation. That trifecta allowed utilities to invest cheap capital into their rate base, driving unprecedented earnings growth with everything from smart meters to transmission to renewable generation. Much of the time, those investments drove lower costs for customers. Replacing a 40-year-old coal plant with renewables and natural gas not only lowered operating and maintenance (O&M) and fuel costs, but also aligned with climate and environmental, social, and governance (ESG) goals. Customers benefited from lower costs and better reliability as technology improved utilities' response time to more frequent weather and other events.

But parties weren't meant to last. U.S. natural gas cost just over $2.50/MMBtu at the end of 2020, rising above $3.50 at the end of 2021. Henry Hub natural gas prices spiked to $10.00 last summer and finished 2022 over $5.00. Prices have become much more volatile as U.S. liquefied natural gas (LNG) exports have linked our market to Europe, a scenario that few were contemplating 18 months ago. Yet here we are. What happened to the 2-2-2 tailwinds?

» **$2.00 NATURAL GAS.** These low prices sprang from the bounty of shale production that became the dominant source of U.S. electricity supply, displacing coal. The abundance and flexibility of natural gas generation also facilitated the rapid penetration of renewables as China-dependent commercialization lowered the cost of wind generation by around 60% and solar by almost 90% in a decade, according to Lazard's levelized cost of energy (LCOE) study. While energy storage is making strides, incumbency and fast ramping capability have positioned natural gas to remain the go-to resource balancing the inherent variability of renewables.

Meanwhile, many energy consumers believe that fossil fuels have already followed the dinosaur's extinction, free energy from the sun is replacing gasoline, and power plants are now mere rooftop accessories. Some version of that may happen, but multiple winter storms have challenged the notion of fossil fuel independence. A recent polar vortex (a.k.a. cold snap) also highlighted multiple points of real and potential failure, including New England's vulnerable reliance on natural gas and oil to keep the lights on. Both of those politically unpopular fuels compete with space heating and are further constrained by inadequate delivery infrastructure that nobody in the region wants to expand. Few consumers in Boston or Hartford would have guessed that their 2022 holiday lights mostly ran on oil, delivered by wire.

$2.00 natural gas appears to be a thing of the past. A combination of LNG exports to Europe, a shift in energy sector capital discipline away from "drill, baby, drill" to focus on shareholder returns, and ongoing popular opposition to fossil fuels of all kinds point to peak-centric gas demand, a muted supply response, overworked gas infrastructure, and more volatile and likely higher average prices. Combined, these factors all add to customer bill inflation.

» **2% INTEREST RATES.** The second 2-2-2 tailwind pushed utility capital investment and rate base, earnings, and dividend growth. Investment was facilitated by historically low financing costs—both equity thanks to strong earnings growth and debt thanks to low interest rates. Capital investment needs aren't going away—indeed, investment is urgently needed in transmission and distribution (T&D) to electrify, accommodate renewables, and harden the grid in the face of growing cyber and physical threats.

Storm outages used to be concentrated in places prone to extreme weather, but that pretty much describes the whole country today. System hardening and AI-aided T&D network surveillance have vastly improved recovery times, but increased storm frequency and severity pose not only financial challenges but also regulatory, political, and reputational risks as storm recovery costs pile up.

System security has faced cyber threats since the internet was invented, but now we must add bad actors with high-powered rifles manifesting a new and unpredictable physical threat. The industry is expected to harden and secure the system; those expenditures won't grow the customer base or sales volumes, but these investments must still be made and recovered.

» **2% INFLATION.** Much of the past decade's spending has substituted capital for O&M, where a $1.00 reduction in the cost of service could justify roughly $7.00 of investment earning around 10% after-tax

returns—as long as customer bills grew at or below the consumer price index (CPI). While the CPI bar has been raised, the sharp upward trajectory in commodity prices brought the impact of energy costs on not just the consumer but the broader economy back into focus.

While investments in smart grid technology, transmission, and efficient generation may help offset rising O&M costs, those capital investments themselves are experiencing not only inflationary pressure, but supply issues as well—the current shortage of transformers and associated spike in costs is a good example. Bottom line: utility bills are being pressured by not only rising energy and labor costs, but also higher material costs and the cost to finance them.

Stakeholders are responding. FERC's transmission incentives may be challenged by state public utility commissions (PUCs) as overly burdensome to consumers. PUCs are increasingly eyeing the trajectory of customer bills, while consumers large and small are being pitched lower-cost "alteratives" that could relegate the utility to a backup role, with stranded investment and maybe irrelevance.

Clean energy is a generational **opportunity.** Utilities must develop **solutions** that earn a larger share of the customer's wallet.

The electrification trend is a generational opportunity for electric utilities, but one that increasingly needs justification to draw a larger share of the consumer's wallet and to sustain investor returns that underpin continued investment. The last decade's growth benefited from the 2-2-2 tailwinds. Those days are over, and for success in the coming decade, utility management will have to develop strategies to address many, often competing, issues. Urgent challenges include:

1) **Managing costs, both operating and capital,** will be critical to mitigating commodity volatility, customer bill pressure, and associated regulatory and political challenges. Expenditures need to be evaluated to drive cost-effective customer benefits, not simply rate base growth.

2) **Justifying a greater share of customer energy spend** (e.g., electric vehicles) requires creating value for the consumer in economic, reliability, and experiential terms—in other words, providing solutions, not just kilowatt-hours.

3) **Proactive communication** is needed to keep customers and regulators informed about new products and services as well as factors driving the cost of energy delivered. Management should break internal silos to encourage interaction, innovation, and optimal solutions.

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For further information, please contact:

Sam Brothwell
VP, Strategic and Financial Advisory
203-331-7391 • sbrothwell@mcr-group.com