

The new performance frontier

Utilities look to align outcomes with value

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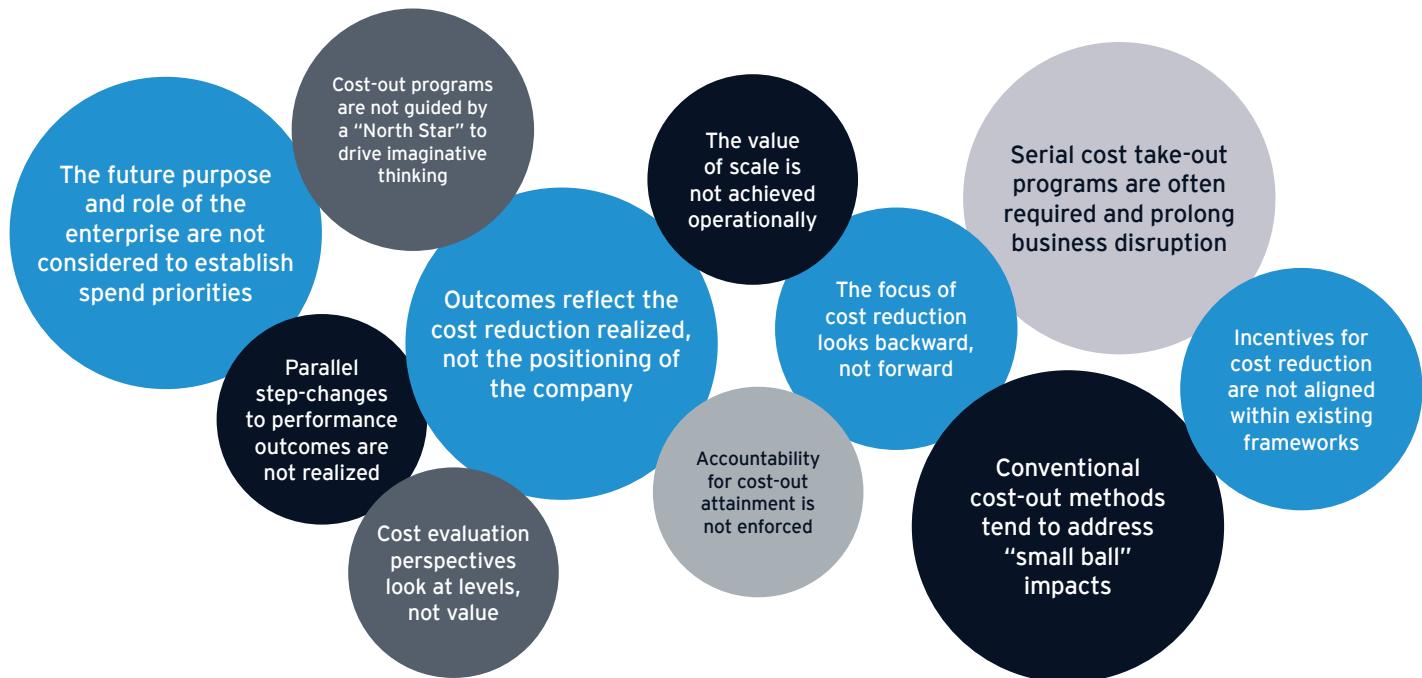
The energy transition is causing an unintended and unwelcome outcome from pursuit of a net-zero emissions goal – prices to customers are rapidly accelerating, and at an increasing trajectory. At the end of December 2021, electric prices were 13.7 cents, but by the end of 2022 grew to 15 cents as inflation, operating/requirements and new capital expenditures combined to place significant pressure on utility industry rate levels.¹

After investing \$1.2t in capital between 2012 and 2022, the utility sector is expected to spend another \$160b in 2023 and continue at elevated levels in succeeding years.² By 2035, utilities could invest more than \$4t in cumulative new investment across fossil supply displacement, new long-haul and intrastate transmission and electrification capital. By 2050 – when targeted climate goals are to be reached – this amount could be far larger.³

This upward trajectory in customer prices suggests conventional ways to think about cost take-out are unsustainable in a capital-intensive and inflationary environment. Couple this challenge with the recognition that managing operating costs driving prices has never been simple for utilities, and executives consistently look for a new approach to eliminate the prior disappointing outcomes they experience.

How traditional cost reduction fails

Industry leadership perspective



Source: EY-Parthenon analysis

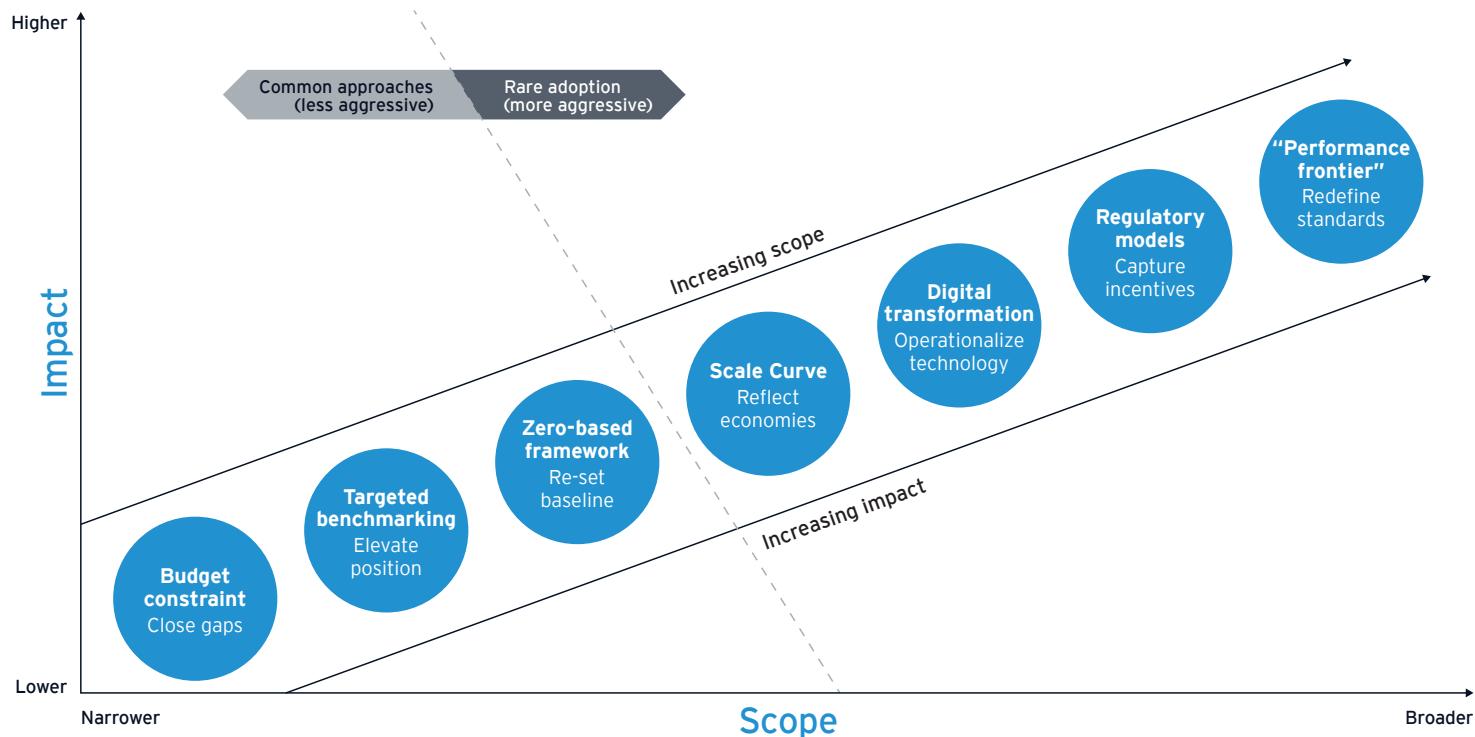
Realizing incremental results is not sustainable when the challenge of managing internal costs and external prices to customers is so significant. Utilities need to think creatively about how to mitigate future cost and price increases and radically about cost purpose, incurrence and outcomes – for the near-term and continuing business evolution.

Most utilities typically adopt conventional approaches, e.g., explicit goals, targeted areas and immediate impact, reflecting

normal executive response. These conventional models include adopting budget “wedges” or shortfalls in earnings, peer benchmarking to close comparative gaps, and/or zero-based budgeting to identify low-value or over-resourced activities. All are simple to conduct and produce near-term results but leave much to be desired in getting at fundamental factor costs, i.e., productivity, third parties and capital, and yield “small ball” impacts.

Differing cost take-out approaches

Alternative cost reduction frameworks



To move beyond “small ball” cost take-out, utilities need to lean on more dynamic concepts and strategies to break through existing performance levels. Rather than thinking about performance in traditional budget-reduction terms, executives can reframe their mindset to dramatically elevate future outcomes by viewing outcomes as a critical differentiator to customer value. To translate this mindset shift into practice, utilities can rethink how to position standards and targets to achieve more challenging impacts across key attributes and convert results into enhanced value to customers and shareholders.

Escalatory impacts to fundamental costs require transformative approaches and a more demanding standard be adopted – pursuing the “performance frontier.” The model can establish a new “North Star” to guide performance outcomes built around aggressive views of the “art of the possible” rather than incremental efforts that don’t address fundamental cost causation or deliver real improvements to service levels.

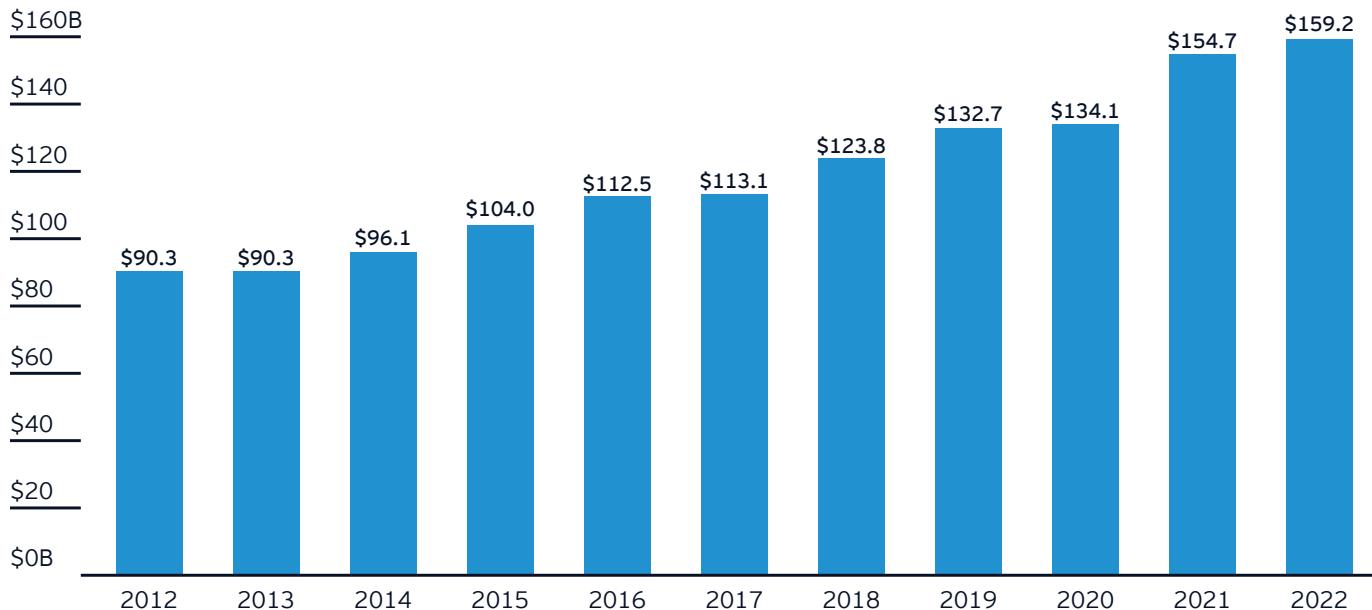
A new set of utilities challenges

With the energy transition as a catalyst, the utilities sector has rapidly grown in scale and significance to the economy. Utilities have an approximate \$1t in market capitalization in early 2023 with a positive market breeze, as other sectors navigate continued high inflation, falling profitability, declining consumer sentiment, high borrowing costs and economic retraction or malaise.⁴

Growth in capital spend of over \$1.2t between 2012 and 2022 shows little sign of abating given the focus on decarbonization and availability of features within the Inflation Reduction Act (IRA). This sustained level of capital investment reflects both non-discretionary and discretionary spend destinations, from fossil supply replacement to grid expansion and upgrading, network resiliency and modernization, and the initial stages of electrification.

Capital investment growth

Recent capital expenditure history (2012-2022)



Source: Edison Electric Institute

Currently, utility capital spend is expected to grow to \$160b for 2023, continuing at elevated levels in succeeding years.⁵ The nature of this capital spend is not highly concentrated but characterized by multiyear programs with low degrees of avoidance. Tomorrow's capital costs reflect smaller decentralized and miniaturized assets, while O&M reflects new high-value sources but sustained growth in low-value elements.

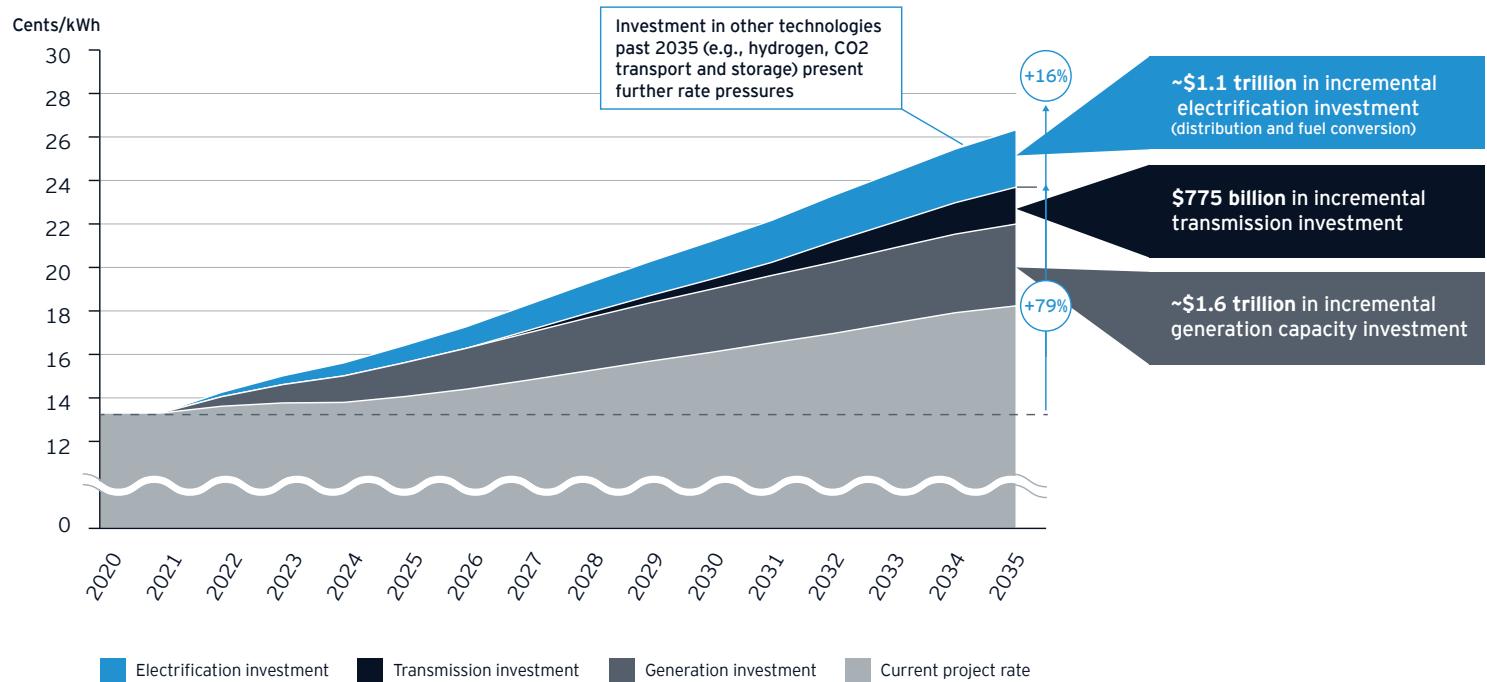
Perhaps the single largest incremental destination for future capital will be electrification, though its expected scale is opaque. Electrification-related spend from internal combustion engine vehicle migration to battery-enabled cars, trucks, buses and all manner of rolling stock and light- and heavy-duty machinery and charging infrastructure will increase. And substitution of electricity for other fuels, including natural gas, propane and heating oil, and building and factory use will significantly contribute.

While decarbonization, resiliency and modernization command high future capital dedication, electrification spend could far surpass conventional utility system sources, as full options for electricity substitution and energy intensity levels are under-recognized given the focus on decarbonization.

By 2035, the utility industry could spend more than \$4t in cumulative new investment across fossil supply displacement, new long-haul and intrastate transmission, and electrification capital. By 2050 – when targeted climate goals are to be reached – this amount could be far larger.⁶

Future capital spend

Potential price impacts*



This capital investment profile is attractive to shareholders but less compelling for customers and attracts high regulatory interest. This multiyear spend level will significantly increase prices to customers, regardless of tax credit provisions in the IRA, which neither sufficiently constrain nor offset future price increases.

But capital investment isn't the only challenge faced by utilities. While utilities have a history of cost constraint, the industry is not as prolific at cost cutting as competitive industries. Creative operating and maintenance expenditure (O&M) reduction extending beyond simple cost constraint and incremental reduction is needed to achieve meaningful cost elimination.

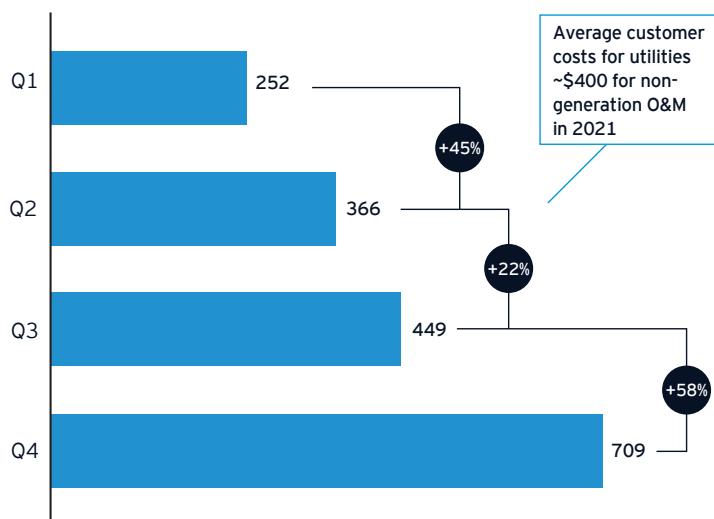
These approaches need to fully consider how to position capital investment and resulting price increases with regulators – which are actively concerned about customer affordability, and less predictable in their reactions and policies.

Substantial variability exists between high and low performers among utilities. Some of this disparity relates to concentrated vs. dispersed geographies, legacy vs. contemporary asset base, centralized vs. distributed operating models, and enterprise scale and business mix differences across the industry. Even with less controllable structural costs, addressable cost levels enable meaningful cost take-out.

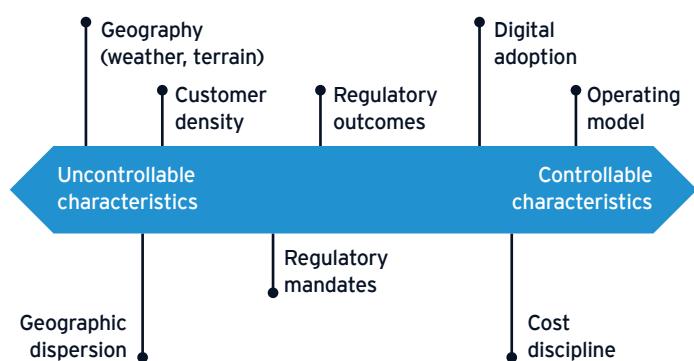
Great disparity exists between quartiles typically establishing the distribution of industry costs across the peer set. Between the first and fourth quartiles for the industry in 2021 (most recent industry information), middle-quartile costs range from \$252 per customer for the top (best) quartile and \$709 per customer for the bottom (worst) quartile. Similarly, between the first quartile and median of the peer set, costs range between \$252 per customer and \$407 per customer.⁷ For the first comparison, potential cost take-out value exceeds \$1b between the two companies in the top and bottom quartiles, while the second comparison translates to \$350m in potential.⁸

Utility cost disparity and causation

Total non-generation O&M per customer (2021)



Cost level influences



Source: S&P Global IQ Pro

The average multiple of capital expenditures to depreciation for the industry in 2021 was 2.2X, with substantial company variability, and the industry is investing in replacing older plant-in-service at a sufficient level to ensure ongoing system reliability.⁹

The relative cost position of utilities has not varied over time for either high- or low-performing companies. For the largest utilities, nine companies have remained in the same cost quartile over the 2000 to 2021 period, with slight movement up and down for certain companies.¹⁰ Utilities don't dramatically deteriorate in quartile rankings once they achieve top quartile position, with two of six companies still in the top quartile today.¹¹

The utility industry's inability to adequately address this lingering cost challenge creates an urgent need to think differently and adopt more thoughtful and rigorous models. While legacy company constructs and profiles are difficult to outgrow or overcome, certain peers have achieved meaningful levels of cost reduction and relative positioning changes by aggressively attacking inherent and structural costs with imagination and discipline.

The industry challenge is to define the right purpose, approach, yardsticks and outcomes to drive significant cost reduction. These models can establish a new North Star to guide performance outcomes built around aggressive views of the art of the possible rather than episodic, incremental efforts that don't address fundamental cost causation and deliver real improvements to service levels.

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Changing the mindset

Utilities have been cutting costs for years, but few can point to sustained yearly reduction, with real (excluding inflation) impacts to costs even harder to realize. To achieve reductions captured to date, most US utilities adopted conventional approaches (e.g., explicit goals, targeted areas, immediate impact) from prior executive experience.

These approaches tend to be simpler and driven by a particular need in response to external causation, e.g., an adverse rate case outcome or a downturn in demand, where impacts need to be available to quickly right the ship. To accomplish intended

outcomes quickly necessitates the approach be more simple than elegant and it deliver against executive need without prolonged analysis. Generally, targeted areas and expectations are likely to be sought from the most controllable areas.

These approaches are inconsistent with producing meaningful outcomes to the operating model and cost structure. To deliver significant results that fundamentally change the business, more attention can be directed at creative models dramatically reshaping the way a utility is designed to operate and the level of cost and service delivery it aspires to achieve.

Transforming the mindset

New performance model

	Current	Future
Uncommon perspectives	Satisfy stakeholder requirements	Purpose and role
	Earn the regulated return	Market premium
	Simplify the operating model	Value of scale
	Execute stand-alone programs	Strategic linkage
	Explore the range of digital to operations	Digital transformations
	Constrain prices and meet standards	Prices and outcomes
Common sources	Use incentives as compensation	Incentive alignment
	Consider impacts to customer delivery	Customer advantage
	Focus on systems infrastructure quality	Technology maturity
	Assess outcomes in limited areas	Enterprise productivity
	Incorporate into operations planning	Operating standards
	Improve execution of work	Activity value

These approaches are not conventional, targeted, simple or quick – but they are powerful, enduring and consequential. For example, thinking about costs the same way as a financial owner (private equity), challenges the purpose and role of the utility and brings emphasis to costs that are avoidable and those de-linked from operations requirements and customer value.

Similarly, previously merged utilities frequently recall the inability to fully capture the value of scale through previous merger transactions. Standing back and ensuring a utility thinks about and is positioned to deliver on scale – something financial investors do – elevates the nature and level of change and cost take-out.

Focusing on costs alone does not sufficiently transform and reposition the future business – both costs and service levels need to be addressed to achieve the level of change and outcomes necessary to fundamentally reshape operations. Focusing on current costs will not address the future business performance model and precludes challenging purpose and underlying priorities. While customers appreciate and value lower prices, impacts to customers are diluted if service levels are not improved in tandem to drive better customer experience and value.

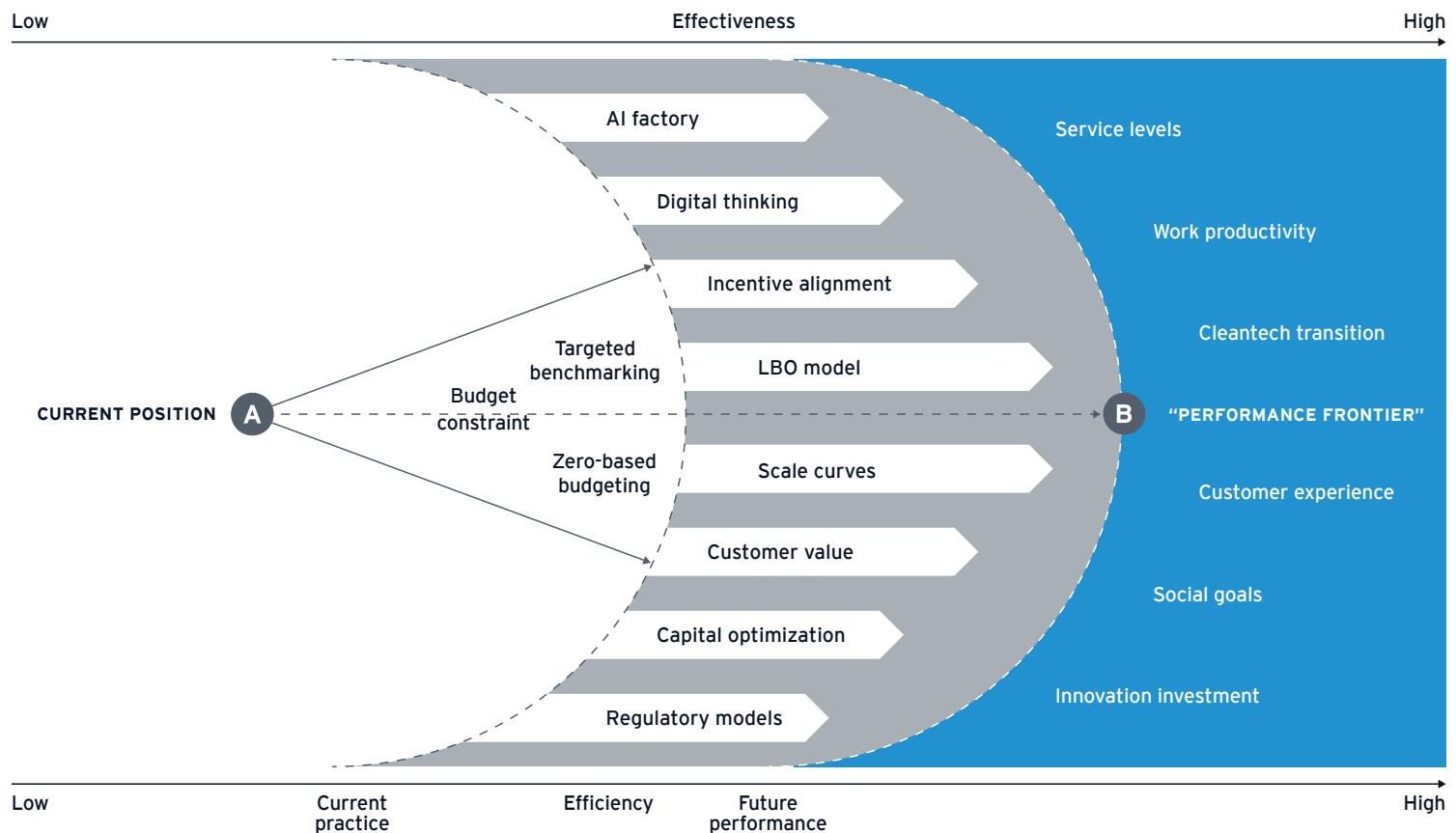
Utilities will be more successful in meaningfully reducing business costs and improving service levels when they adopt an outside-in view and focus on fit-for-purpose processes over activity costs and execution productivity over cost inputs. Thinking through an art of the possible lens challenges utilities to redefine the boundaries of performance in a different

manner – not simply as a cost take-out exercise, but an innovative way to unlock value.

To move beyond historical biases toward small ball cost take-out, utilities can employ aspirational thinking about how to break through existing performance levels. Stretching executive thinking about what is attainable provides the impetus to dramatically elevate future business performance, outcomes and value. This model emphasizes moving beyond typical top quartile positioning toward a performance frontier where its boundary is unknown but provides a North Star to continually enhance execution.

The performance frontier reflects cost and operating levels never believed possible to attain and is a gamechanger for utilities. By definition, it reimagines what a utility could look like with rigorous commitment to operating excellence, given the right mix of standards, targets and incentives.

Achieving the art of the possible The performance frontier



The bases for performance improvement need to be articulated to guide where and how executive focus may be directed. While specific improvement areas can differ jurisdictionally and by utility, critical attributes typically include system performance, customer response, capital efficiency, energy transition, innovative thinking, mandate conformance and other areas where regulators are looking for better execution, lower input costs, smarter investment and/or price restraint.

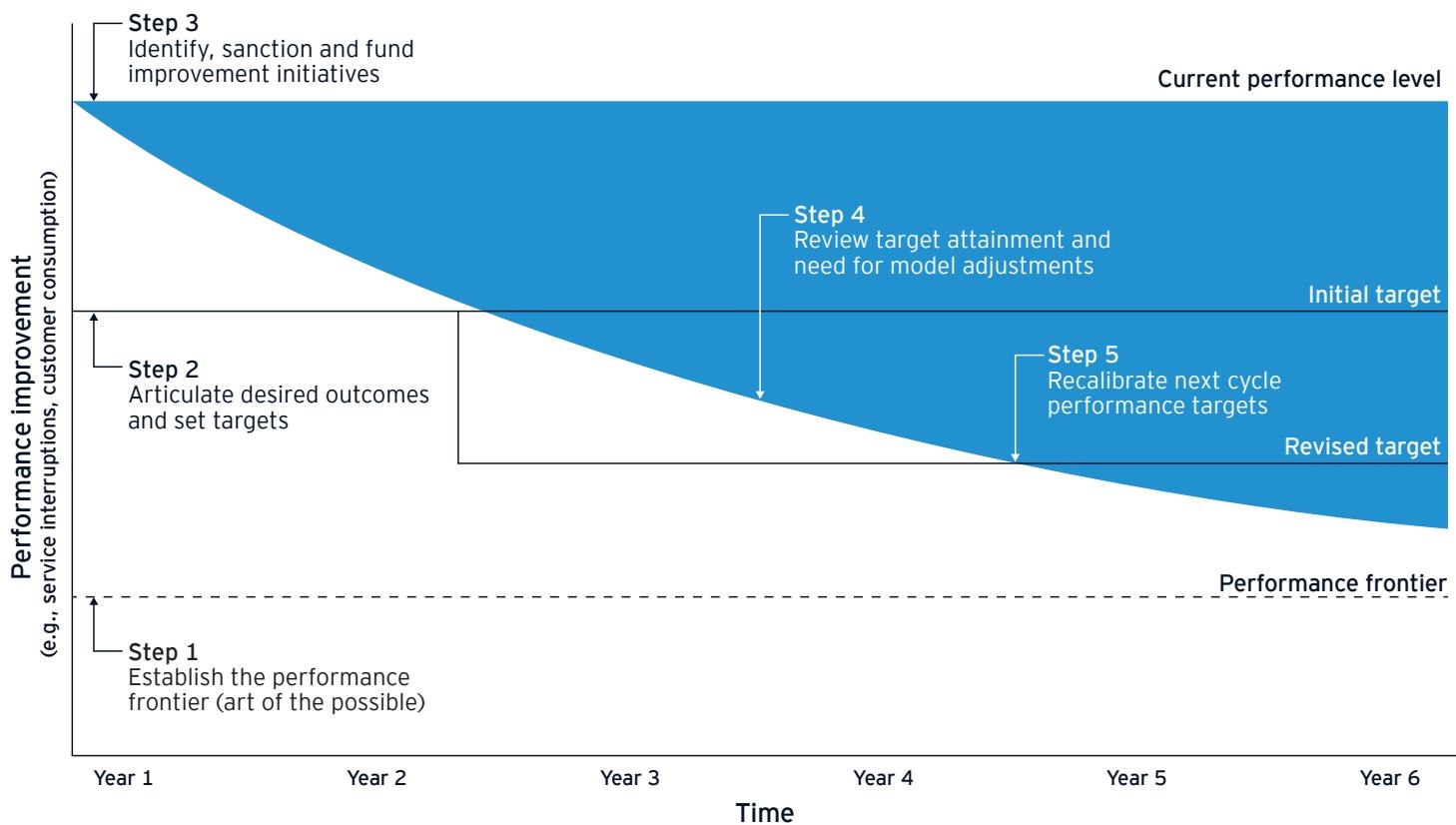
Just defining attributes comprising a “performance frontier” focus is incomplete without specifying specific, tangible standards for performance. A utility or a regulator needs to establish a current performance baseline, then define a higher

level of desired performance target based on other comparators, domestically or internationally. These data points inform an initial gap to be pursued, improvement window targets and direction of travel for succeeding target levels.

Standards and targets define the goals and outcomes to be delivered, reflecting a cascading improvement level over time. At the outset, the performance frontier end-state is not truly known; a directional heading may be visible, but the frontier is truly calibrated once several attainment stages are realized. Since pursuing the performance frontier is a multiyear journey toward optimal execution, near-term standards and targets represent increasing stages of future performance levels.

Target setting and recalibration

Defining the performance frontier



To successfully adopt the performance frontier model, internal collaboration takes place during the planning and budgeting process, with an intense multiyear focus, hard-wired to financial plans and directly linked to outcomes and internal incentives.

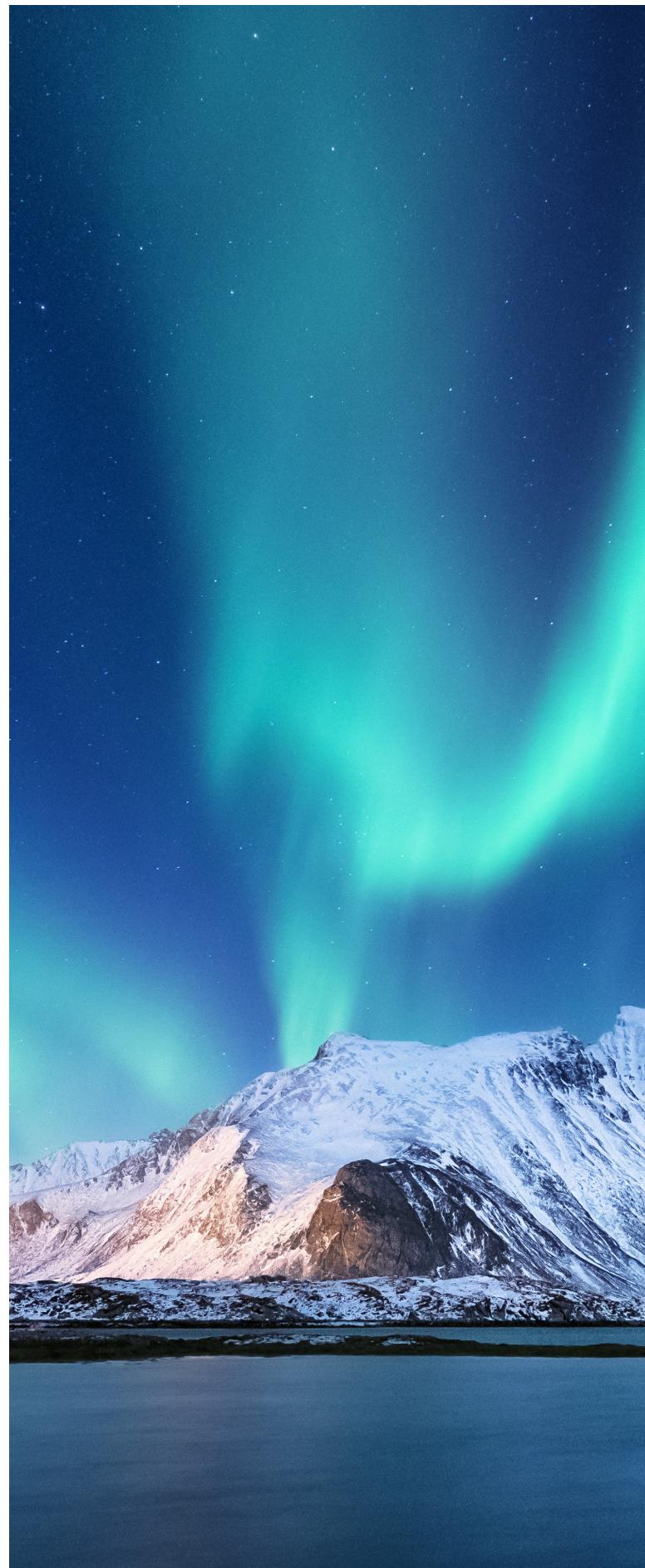
For example, if a 20% reduction in service interruptions is desired, the planning process embeds this target as a multiyear priority with increasing annual targets, e.g., first year – 5%; second year – 10%). Related initiatives could include modifying engineering design, improving materials strength or “hardening” asset structures. As the 20% target is reached, it is recalibrated to push performance expectations beyond initial limits, e.g., to 40%, requiring more innovative initiatives to push toward the performance frontier.

Standards or targets need to be clear, as does the process for integrating them into annual and multiyear planning. These elements do not exist outside traditional plans and budgets; they form the basis for these processes and how priorities for execution, spend for technology, resources for work assignment and capital for deployment are developed.

Adopting a performance frontier model is not a “paint-by-numbers” undertaking with selection of one approach over another. It is a mindset shift with complete reframing of business expectations, from incorporating multiple complementary techniques and methods to dramatically redefining desired priorities and outcomes.

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The UK experience

While pursuing the performance frontier is a new and demanding challenge for US utilities, similar models exist elsewhere in the world. The seminal model for performance-based utility regulation was developed in the United Kingdom (UK) in 1983 by Professor Steven Littlechild for application to British Telecom. It framed a unique basis of regulation, incorporating several principles: independence, forward-looking incentive regulation, focus on consumers and their welfare, an emphasis on competition, private ownership, strong legal processes and well-defined appeal rights, and “light-handed” regulation.¹²

The Office of Electricity Regulation (Offer) was charged with implementing new post-privatization regulation for its Regional Electric Companies (RECs). The centerpiece of this model was RPI - X (Retail Price Index minus Productivity), moving from a cap on revenues to price cap-based regulation.

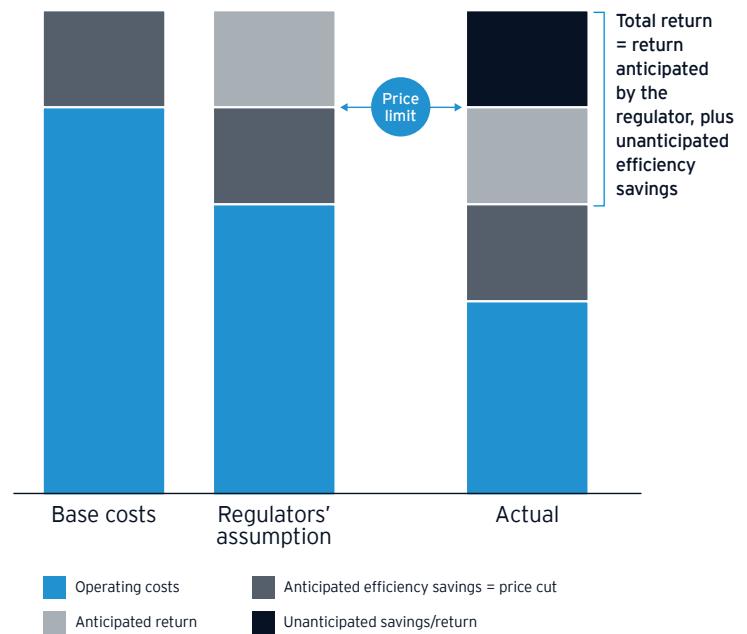
At its heart, RPI - X was structured to recognize necessary costs and escalation and create a model to encourage RECs to constrain cost growth below annual inflation. The RPI - X model incorporated price controls and incentives as means to achieve operating performance improvement. Customer price levels were set to recover operating expenses, capital consumption, financing costs and taxes. Operating attributes (e.g., service quality, line losses, connection) provided standards or targets to illustrate expectations for performance improvement and linked to the application or earn-out of incentives.

The X in the formula would reflect capital performance, productivity and specific requirements related to regulatory mandates.¹³ Determination of X involved benchmarking exercises utilizing bottom-up and regression-based methodologies on an individual company basis.¹⁴ The benchmarking analysis utilized operating expenditures as a basis for comparison across the 14 RECs as the peer group and sectorwide productivity for specific evaluation periods. These outputs provided the bases for Offer to incorporate empirical assessment, coupled with input from the RECS, leading to judgement on necessary service and cost levels, financeability and earned returns to the RECs.

To provide incentives, higher than expected cost savings could be spread into future years if not incorporated up front. This model was perceived as incentive-based rate of return regulation applied to the regulated asset base to derive future price levels and returns.

Conceptual view of RPI - X

Efficiency gains and returns under the UK model



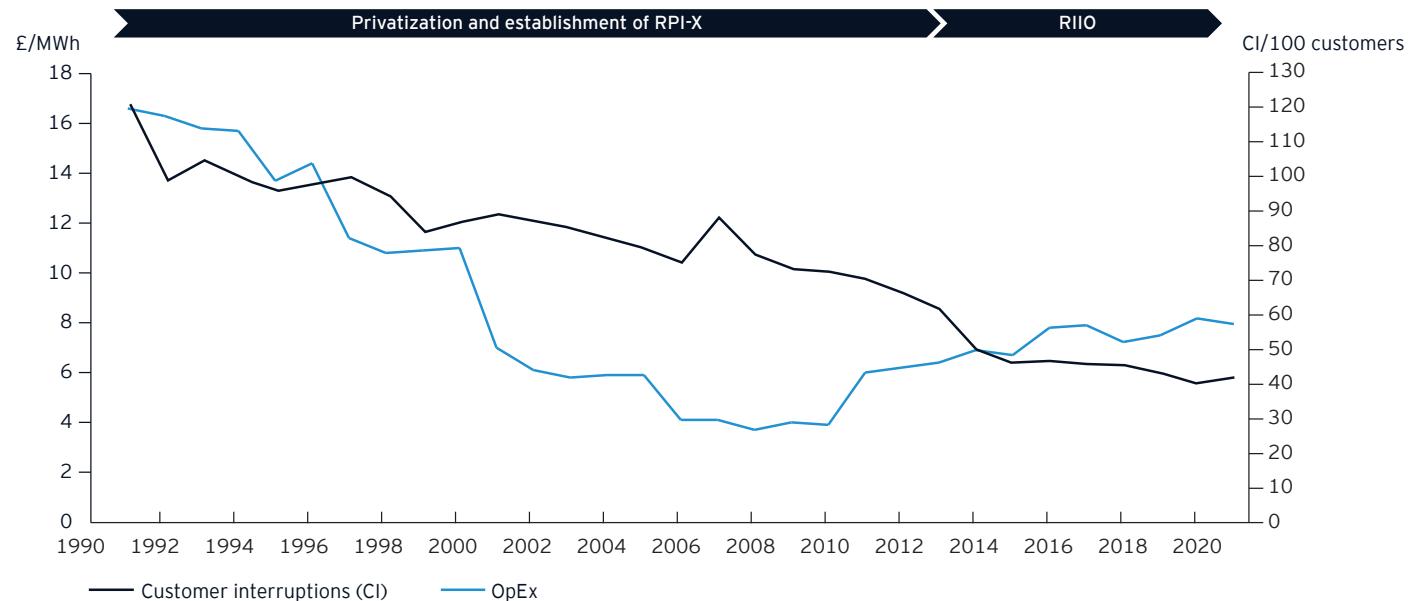
Source: National Audit Office - *Pipes and Wires*

While utilities often view unconventional models with skepticism, they are not unproven and without meaningful impacts. Performance standards were established for forward-looking five-year periods to allow RECs time to reshape themselves post-privatization and achieve proscribed targets and related incentives. The RECs produced continuing capital and O&M savings, with distribution charges halved between 1990 and 2010 and operating costs reduced by 7.7% over annum between 1992 and 2003, with 3% to 9% annual efficiency gains in succeeding years.^{15, 16}

Utilities also improved service quality and reliability, increasing return potential under the RPI - X regime. A 30% decline in the average number of customer interruptions, as well as improved operating efficiency, with 5.5% and 3.1% reductions, respectively, achieved per annum between 1990 and 2006.¹⁷ The RECs also increased capital investment by 37% between the baseline of 1986 to 1990 and 1990 to 2004.¹⁸

Selected RPI - X experience

UK electricity: operating expenditures and customer interruptions (CI), 1991-2021



Source: DUKES, BEIS, National Infrastructure Commission, Ofgem filings

While the starting point reflected pre-privatization performance which was poor, operating outcomes were not just improved, but sustained for an extended period. Customers benefitted from lower costs and improved service, with RECs able to substitute capital for O&M and modernize the system to eliminate or substantially reduce system failures. Importantly, the RECs learned how to work within parameters of RPI - X and actually earn above authorized return levels.

Developing focus on sustainability and energy security created a need to adjust or extend model incentives, compounding its complexity. In 2002, an incentive mechanism was set to tie supply continuity to financial outcomes. An improvement of 11% in the number of interruptions and 26% in duration of interruptions followed from 2002 to 2008.¹⁹ However, improvements to resiliency did not see notable impact across the RECs, with fluctuations due to extreme weather over 1992 to 2008. The additional complexity these incremental incentives created illustrate some of the factors that drove reassessment of RPI - X and its suitability for concerns about sustainability and energy security in 2008.

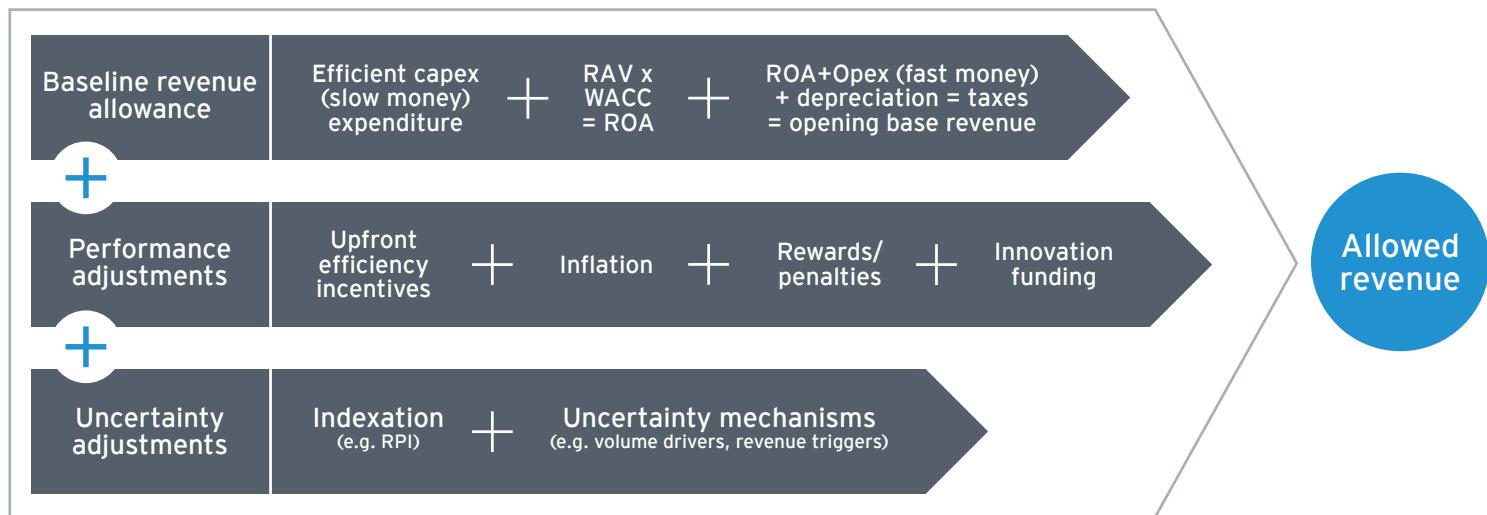
Offer migrated into the Office of Gas and Electric Markets (Ofgem) in 2000, with RPI - X replaced by a new formula - Revenues = Innovation + Investment + Outputs (RIIO) - to focus on sustainability, long-term improvements and customer engagement, while considering REC performance, external market forces, government policy and formula design biases. Desired outcomes broadened, incentives restructured and innovation introduced as a tangible factor to be encouraged and funded – creating value for money.

The specific outcome attributes that incentivized included: system reliability, safety, environmental outcomes, customer connections, customer satisfaction, energy efficiency and societal objectives. Standards or targets were established with rewards or penalties at +/-250 basis points against the authorized return levels. Ofgem tweaked the formula to address performance against targets with adjustment mechanisms for unpredictable costs and events, e.g., economic downturns, weather and force majeure.²⁰

Beyond incentivizing innovation and elevating the narrative on sustainability, RIIO addressed the quality of information related to Distribution Network Operator (DNO) spend. TotEx (CapEx and OpEx) considerations were prioritized to recognize spend trade-offs RECs previously made and improve estimate accuracy. An Information Quality Incentive (IQI) was adopted to reward or penalize RECs related to target accuracy compared to Ofgem estimates.²¹

Current RIIO framework

Decomposing revenue components



Source: Ofgem

RIIO initially adopted an eight-year (2015 to 2023) measurement period and Ofgem has begun its initial performance review. Observations to date include a general underspending in innovation, total expenses (capital and O&M) expected to be 5% less than targets, and DNOs earning incentives and earning 300 basis points above allowed returns.²² In the first two years of RIIO, DNOs improved network reliability by 11% and network innovation is increasing, with 100 projects approved for £19.5m in 2016, with £14m spent in the first year.²³

As RIIO-1 advances to RIIO-2, new adjustments have been outlined for this iteration. Although quality of service targets were exceeded, pricing control improvement is desired with consumers believed to be paying more than required, as DNOs consistently outperform financial targets. Changes for RIIO-2 include: reducing the period from 8 to 5 years, linking funding to

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output delivery, adding incentives for delivery out-performance, creating funding flexibility through uncertainty mechanisms, increasing efficiency targets, lowering incentive rates, indexing input prices and metrics, reducing the cost of equity allowance, adding an “outperformance wedge” of 25 basis points, and normalizing mechanisms if companies significantly underperform or outperform ROEs.²⁴

Either an RPI - X or RIIO model would be difficult to wholly transfer to the U.S. environment given the state-by-state regulatory structure, number of multistate utilities, starting performance baseline and uneven statutory authority to implement these types of mechanisms. Nonetheless, the underlying objectives, principles and incentives are relevant and can be incorporated through fit-for-purpose constructs to preserve the ability to produce intended outcomes.

The path to the performance frontier

The performance frontier is clearly a differently conceived and designed approach to drive costs out of the business, while high-grading the purpose of execution within the business. This approach is built on the concept of reimagining priorities, spend, execution, outcomes and value to define a price cap. Executing a mindset shift requires executives to fundamentally recalibrate their view of what good looks like to drive a complete reset of expected performance. Incremental thinking gives way to more radical perspectives that challenge foundational aspects of the business.

In articulating this mindset, painting a clear and compelling view of what is being asked, and how it is attained is foundational. To embed this mindset shift, messaging to employees needs to enable visualization of the art of the possible and the difference between spending money for typical results, and prioritizing capital and O&M to achieve differentiated levels of performance. To embed the performance frontier model in day-to-day execution, employees need coaching on how to think differently about system planning, design, execution and operation, with emphasis on specific outcomes and results.

The performance frontier model dictates that if customer and shareholder value cannot be demonstrated, related capital or O&M should not be spent where observed value is elusive. This starts with painting a clear and compelling view of what is being asked, and how it will be attained from adoption through continuous application.

To be successful in pursuing the performance frontier, executives need clarity on purpose, progress, continuity, evolution, reporting and linkage to other internal and external mechanisms. Thus, adopting this model follows a straightforward progression from framing intent to translating results into rewards:

- ▶ Develop a **case for change** to establish the need for radical rethinking of the purpose of cost take-out and service delivery improvement
- ▶ Identify **attributes** reasonably direct to measurable results, e.g., system reliability, project delivery, productivity improvement, customer connection and business innovation

- ▶ Specify overall **standards** of performance to be realized within the attributes and the expectations for operating execution and improvement
- ▶ Establish explicit **targets** to be utilized to measure period-to-period improvement and any considerations to adjust for externalities
- ▶ Define the expected **outcomes** to be realized, the metrics used, and bases for measurement across applicable time periods
- ▶ Translate outcomes into tangible **value** created for customers and shareholders through the focus on cost elimination, service level enhancement and product introduction
- ▶ Align outcomes with internal **incentives** to recognize elevated returns, improved performance and enhanced execution with business and employee rewards

Inputs to O&M costs are easy to identify and operating outcomes reasonably direct to observe and measure when specific metrics, e.g., system reliability, project delivery, productivity improvement, customer connection and customer products, are involved. Capital spend enables levels of expected outcomes to be produced when deployed where it makes a difference operationally, e.g., modernization and enhancement, while other non-discretionary tranches, such as growth and reliability, deliver outcomes affecting system capability and operating continuity.

In both cases – O&M and capital – linking spend to customer outcomes requires a demonstration of impacts (e.g., fewer interruptions, easier engagement and increased access) and illustration of tangible value received (e.g., product offerings, faster connection and lower unit costs).

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Executing a mindset shift requires executives to fundamentally recalibrate their view of what good looks like to drive a complete reset of expected performance.

Performance frontier building blocks

Performance frontier adoption



To produce intended results, outcomes need to be specified, measured and aligned with internal company incentive mechanisms – how executives, businesses and employees are affected by accomplishments. For the business, specific outcomes may deliver elevated returns, incremental capital, or improved system metrics, and be aligned with existing incentive programs to provide recognition of executive and employee contributions to outcomes.

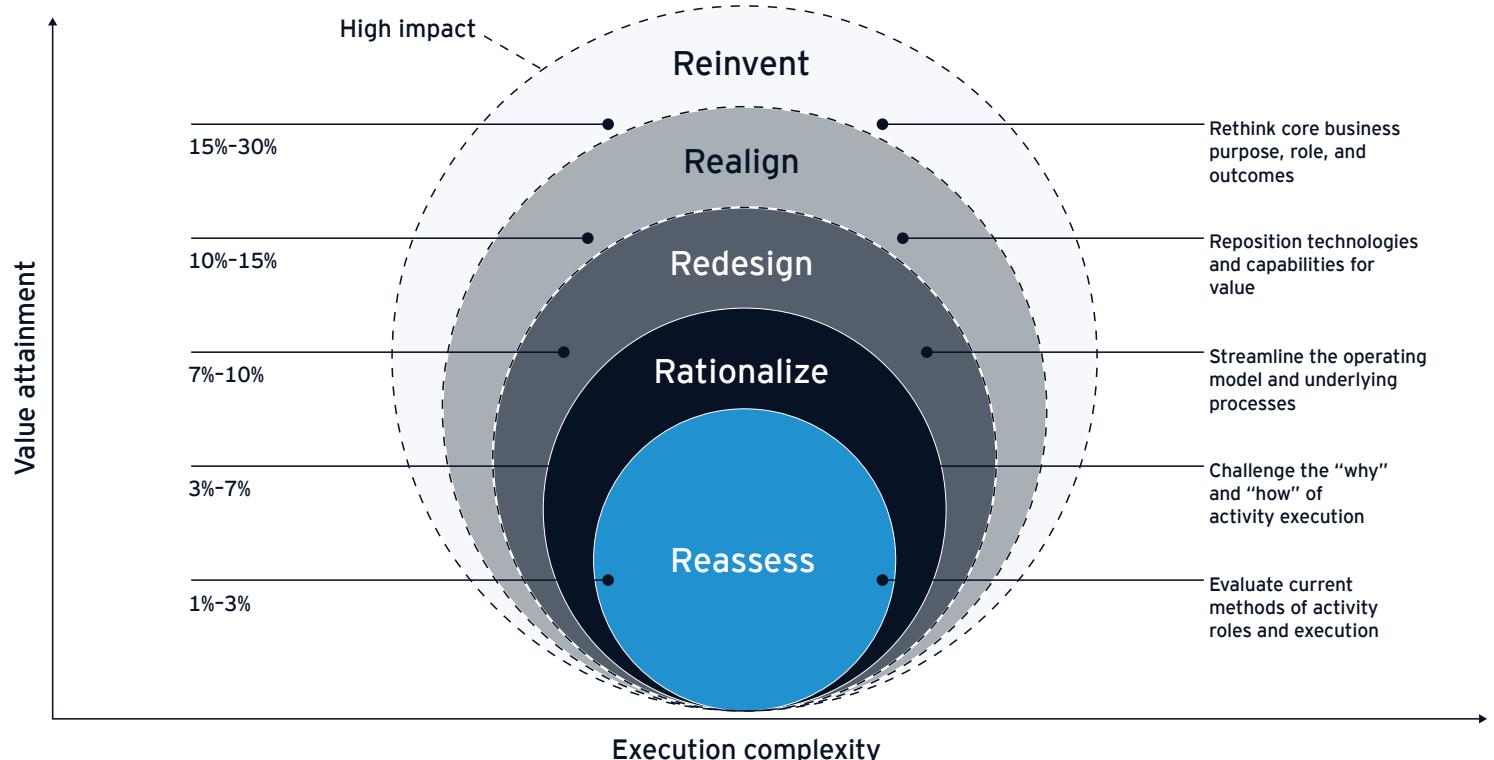
Customers directly experience outcomes to costs, service levels, and products and value produced. Shareholders see results in additional value captured through greater allowed capital investment, approved innovation funding and/or higher earned returns through adopted incentive mechanisms. The

performance frontier model reflects the premise that if customer and shareholder value cannot be demonstrated, then the related capital or O&M should not be spent and deployed where direct value is clear.

Adopting a performance frontier model turns traditional views of cost and service improvement on its head and assesses structural levers enabling outsized impacts, e.g., 15% to 30%, rather than focusing on quick, simple items, such as incurred costs, that struggle with 5% to 7% impacts. Executives can open the operations aperture wider to focus on value levers producing more dramatic operating changes and determine whether to pull those levers based on outcome objectives and associated risk tolerance levels.

The value of thinking differently

Cost management approaches



Pursuing the performance frontier questions traditional operating priorities, activities and entrenched cost pools to drive identification of alternative models to deliver capabilities to produce exceptional outcomes. It addresses whether certain capabilities are needed at all, analyzing the value produced for costs incurred and identifying alternative performance enablers such as digital thinking. More importantly, it challenges traditional utility operating norms, particularly decisions on where and how to invest, based on analysis of service levels,

adoption of technology and digitalization, and the level of operating risk tolerance.

Since efforts to prioritize and improve core capabilities naturally challenge established norms, decisions on where and how to invest need to be challenged at the source. Fundamental areas where investment is analyzed include risk tolerance, service levels, adoption of technology, and digitalization and reassessment of capabilities.

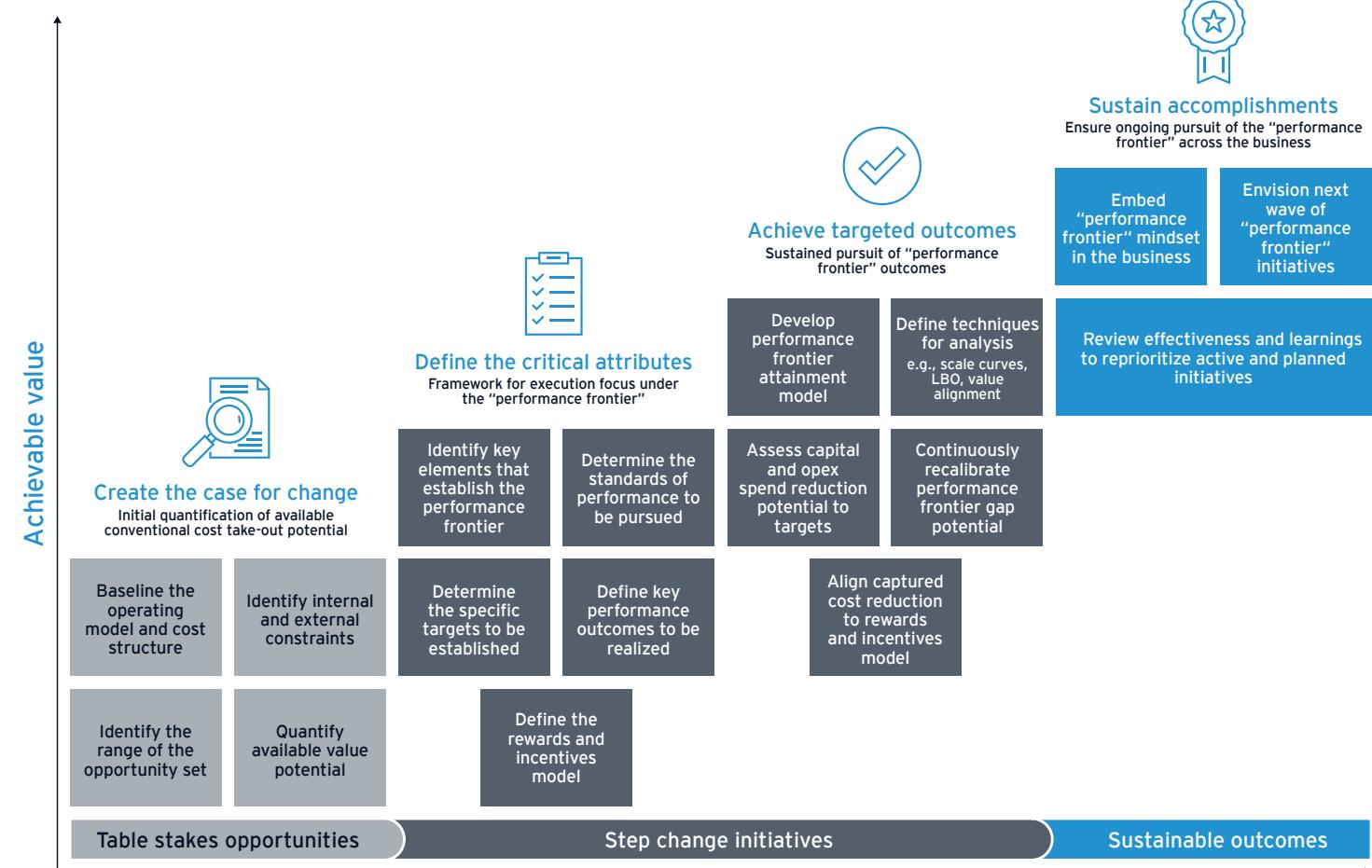
An enterprise journey

The option taken to achieve significant cost reduction matters: Simple approaches produce incremental results, while more imaginative models deliver transformational outcomes. With the energy transition creating continuous pressure on cost levels, creativity underpins outcome realization of meaningful effects on customer affordability and service levels.

Engaging the full enterprise in adoption of the performance frontier value journey needs visible and sustained executive leadership. No effort of this breadth occurs without clear strategy and intent because the journey is perpetual, not finite. Thus, the North Star has to be clear, visible, compelling and future-oriented.

Taking the journey

The roadmap to success



To successfully implement the performance frontier, a well-conceived case for change needs to set the strategic tone and operating course for the utility. The case for change develops new performance boundaries, defines standards, describes outcomes, frames operating changes, aligns outcomes and value, and links incentives.

If future customer price increases are to be effectively constrained, and value to customers and shareholders consistently delivered, creative and aggressive action needs adoption across the industry – continuing the status quo constrains its development and heightens risks to securing customer affordability.

Endnotes:

- ¹ U.S. Department of Energy, Energy Information Administration, "Electric Power Monthly," January 2023
- ² Edison Electric Institute, "Capital Expenditures," September 2022
- ³ EY-Parthenon analysis
- ⁴ S&P Global Capital IQ Pro
- ⁵ Edison Electric Institute
- ⁶ EY-Parthenon analysis
- ^{7, 8, 9} S&P Global
- ¹⁰ EY-Parthenon analysis
- ¹¹ EY-Parthenon analysis
- ¹² National Audit Office, United Kingdom, *Pipes and Wires*, "Report of the Comptroller and Auditor General," HC 723 Session 2001-2002: 10 April 2002
- ^{13, 14} National Audit Office, *Pipes and Wires*
- ¹⁵ Littlechild, Stephen, Network: A publication of the Australian Competition and Consumer Commission for the Utility Regulators Forum, "RPI-X Regulation: Ofgem's RPI - X@20 Review and the Scope for More Customer Involvement," December 2009
- ¹⁶ Buchanan, Alistair, Chief Executive Officer, Ofgem, Beesley Lecture, "Is RPI - X Still Fit For Purpose After 20 Years," October 2, 2008
- ¹⁷ Ofgem, "Regulating Energy Networks for the Future RPI - X @20, Performance of the Energy Networks Under RPI - X," February 27, 2009
- ¹⁸ Littlechild, Stephen, Network
- ¹⁹ Ofgem, "Regulating Energy Networks"
- ²⁰ Ofgem, "RIO: A new way to regulate energy networks," Final decision, October 2010
- ²¹ Ofgem, "Handbook for implementing the RIO model"
- ²² Advanced Energy United, "RIO Case Study Final"
- ²³ DEStech Transactions on Engineering and Technology Research, "A comprehensive review on the evolution of Ofgem RIO-ED1 Electricity Distribution Price Control Framework in United Kingdom," May 2019
- ²⁴ Competition and Markets Authority, "Cadent Gas Limited, National Grid Electricity Transmission plc, National Grid Gas plc, Northern Gas Networks Limited, Scottish Hydro Electric Transmission plc, Southern Gas Networks plc and Scotland Gas Networks plc, SP Transmission plc, Wales & West Utilities Limited vs. the gas and electricity markets authority Final determination, Volume 1," October 2021

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