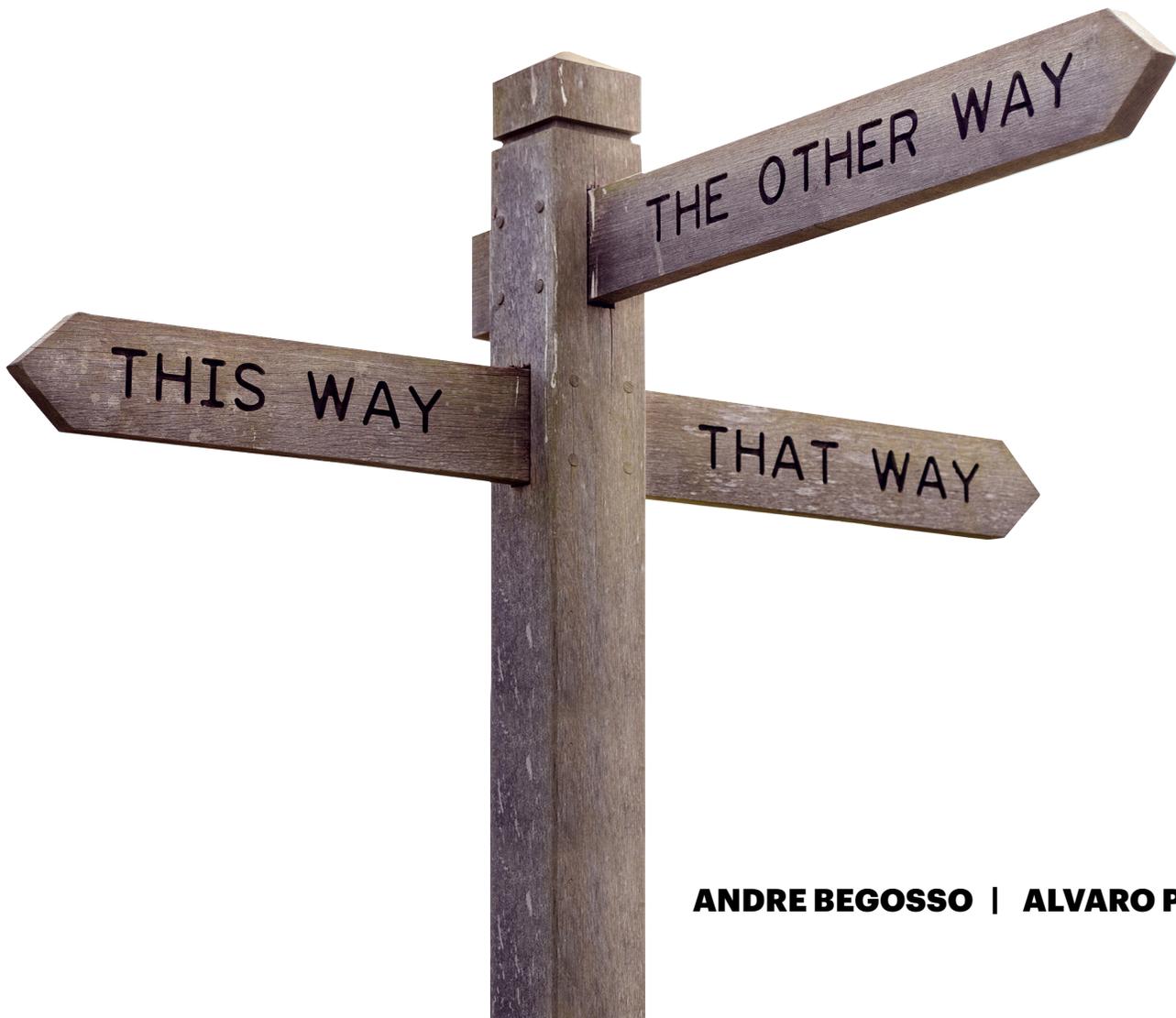




UTILITIES AT A CROSSROADS

Die in the past or conquer the future



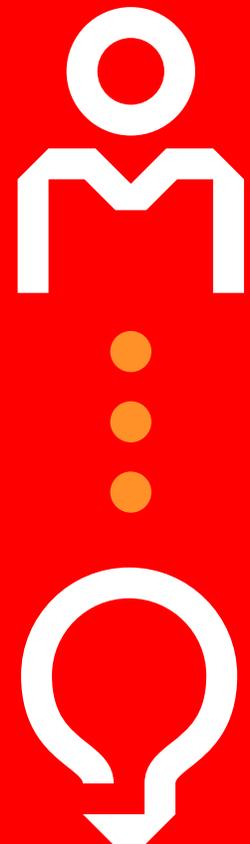
Electric utilities are on the brink of disintermediation.

Instead of being the provider of choice, they are quickly becoming the provider of last resort. The rise of self-generating and other energy efficiency technologies is making it easier for customers to manage their consumption and get their power elsewhere—and at a lower cost—or produce their own.

Some technologies, like solar photovoltaic (PV) devices, are already profitable and at par or better grid parity for most of Europe and Asia. These technologies are becoming more cost-competitive in North America—17 states in the United States.¹

Utilities in Europe and Asia are adapting to the new reality, using cost transformation as one of the means to combat disruption. In North America, utilities have cut costs, but their efforts have fallen short, or they have been slow in finding new ways to make money. They have been investing heavily at a rate of 2x to 3x depreciation over the past five years,² pushing customer rates higher in an industry with no or dismal growth.

There is a powerful opportunity today for utilities to use cost management and technology innovation to improve margins and fuel future growth. But at this crossroads, will utilities make the bold moves needed to conquer the future?



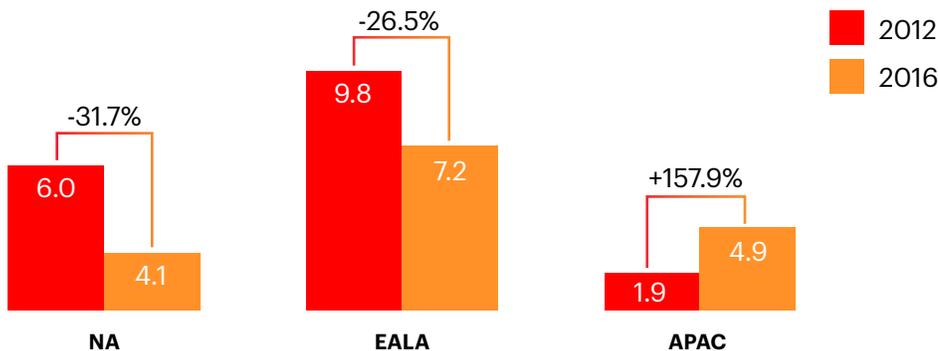
BOTTOM-UP COST MANAGEMENT IS A GAPING HOLE IN UTILITIES' DNA

Traditional utilities have made recurring efforts to reduce costs in a “continuous improvement” mode, but cost reduction has neither been sufficient nor been aggressive enough to weather the industry and regulatory shifts. One-off initiatives may have cut costs one year, but they crept back the next—sometimes even worse. Performance is indicative of this cycle of inefficiency.

Utilities’ return on invested capital (ROIC) has declined by more than 20 percent from 2012-2016 in Europe and the US (Figure 1).³ Profitability is related to revenue and cost performance. Looking at cost as the most controllable line for US utilities, cost performance deteriorated by at least five percent over the last four years (Figure 2).⁴

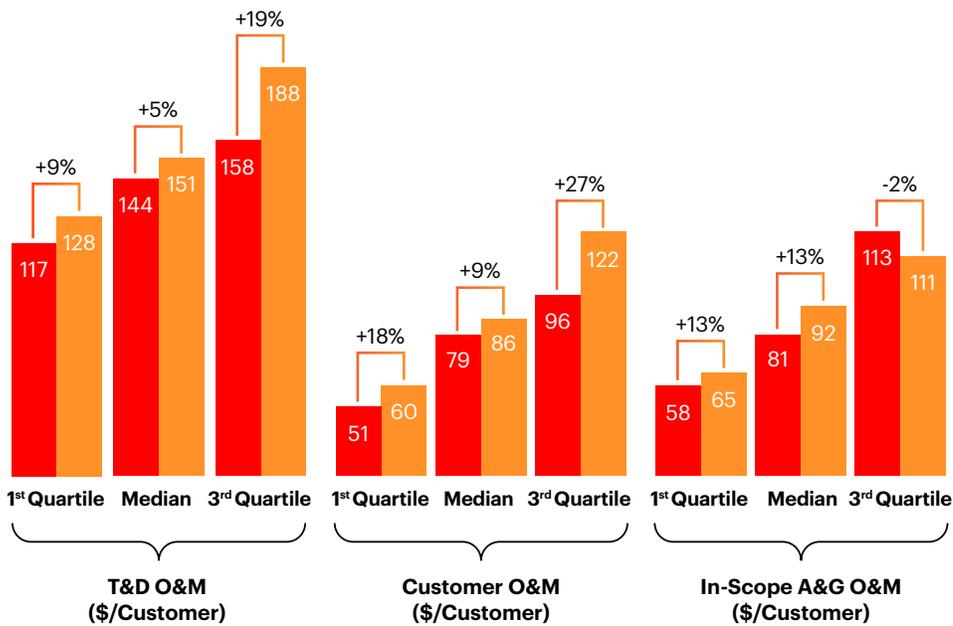
Over the last decade, US utilities have made substantial investments (\$350B in 2016⁵), with the 30 largest US utilities seeing capital investments exceed depreciation by 2.4x.⁶ However, those investments have not translated into operational efficiency. Utilities today simply cannot make money selling electricity as rates are going up, technology costs are dwindling and demand is declining. Cost optimization is the only controllable source to free up cash that could be allocated to growth for the short- and medium-term.

Figure 1. Utility industry return on invested capital (ROIC) performance (%) and percentage change 2012-2016.



Source: Accenture Strategy analysis

Figure 2. Utility industry performance continues to deteriorate with rising O&M costs.*



Source: Accenture Strategy analysis
 *A&G = Administrative and General

Private equity firms are swooping in to buy utility companies, or their assets, at reasonable prices and make changes to run them more efficiently and profitably. For example, Goldman Sachs Infrastructure Partners took over the gas distribution business unit of Endesa (now Redexisgas) in 2010, and has boosted its financial performance - EBITDA has increased 63 percent, from 96M€ in 2012 to 157M€ in 2016.⁷ UK Power Networks, now owned by Cheung Kong Group after the sale of EDF Energy Networks, has achieved over 5 percent EBITDA growth per annum on average since 2012.⁸ To stay in business, utilities must follow the lead of private equity and develop a bottom-up cost disruptive management capability that can unlock substantial funds to be reinvested in growth through new business models and services.

FirstSolar in the US
and Vandebron in
the Netherlands

are among the more than

30 sizable companies

competing for the home energy management and direct to consumer market.

CUSTOMERS ARE FLEEING, AND UTILITIES ARE FROZEN IN TIME

Today's customers expect more than an engineered solution—they want solutions that address their issues and need for clean and affordable energy. And it's lights out for utilities that don't deliver. Already, customers are defecting utilities and new entrants are rushing into the market to fulfill customer needs by offering better service, more transparency in rates, energy efficiency recommendations and a wider array of products at costs 10-30 percent lower.⁹

Smaller, more agile companies are better equipped to offer services that consumers or prosumers (consumers that sell and buy sustainable energy themselves) want because they thrive on innovation and they have operating models that allow them to respond to their needs quickly. Furthermore, they are knocking on doors to win business while many utilities remain idle. Even non-traditional players are coming on the scene. Comcast is selling residential solar.¹⁰ Tesla is selling Powerwalls that enable customers to seamlessly self-power their homes.¹¹

These new competitors are getting in at the right time when the levelized cost of alternative sources has gone down. In North America, 8 out of 50 states have solar generation above 5 percent, rising from close to zero just five years ago.¹² In most of Europe and Asia, solar is already profitable and at par or better grid parity. The entire US will be at par or better grid parity by 2028 for solar and fuel cells.¹³

Retailers, solar providers and other technology companies are taking advantage of technology evolution and market conditions to sell directly to consumers. These new entrants have also become the intermediaries of power, using digital technologies and platform models to become the go-betweens among electricity consumers and producers of wind, solar and other renewable sources of energy. They also are serving prosumers.

“Someone's going to cannibalize our business—it may as well be us. Someone's going to eat our lunch. They're lining up to do it.”

Alectra Utilities
CEO, Brian Bentz

THE FUTURE IS NOT A MONOPOLY

Current business models are not sustainable for utilities. In fact, 45 percent of global utilities executives report facing significant to major issues with a traditional utility model¹⁴—but there are options.

Large utilities can partner with smaller, more nimble companies to survive in the new. Partnering allows traditional utilities to be more relevant by delivering the new products and services that customers are seeking. For instance, 69 percent of customers are interested in energy management programs and 57 percent would consider investing to be power self-sufficient.¹⁵

Some large utilities may opt to spin off a part of their business to adapt to the new. RWE, Germany's second-largest power generator, decided to separate its fossil fuel assets from its clean energy business, the now successful Innogy. The split is intended to allow the company to be more customer-centric and focus on "decentralization and digitization."¹⁶ Another major Germany utility, E.ON, decided to keep its business focused on renewables, yet spin off a new business, called Uniper, to concentrate on conventional energy.¹⁷

NextEra in the US
has had a
cost reduction
program since
2014, consistently
improving margins by

3 percent
year over year

To adapt to the new, utilities can take on the role of platform provider. There is a variety of emerging platform models that can be [successful power plays](#) for traditional utilities:

Low-carbon energy producers that optimize the mix of energy sources. The leaders excel at running large-scale wind or solar generation, by striking healthy deals, leveraging incentives and operating efficiently. Traditional utilities, such as Iberdrola and Dong, are moving to a more renewable mix alongside “pure” low-carbon players like Acciona or Statkraft.

Distribution platform optimizers that meet demand with optimal sources of supply. This model is about moving the right energy at the right time from the best source to meet demand at the instant it’s needed. Alliander and Ewenetz, for example, are shaping grid models to accommodate changes related to the adoption of distributed energy resources (DERs).

Energy solution integrators that provide new services to help customers optimize their energy production and consumption. These customer-centered businesses provide the solution requested by the client at the lowest possible cost. The aforementioned First Solar and Vandebron, but also other more traditional utilities such as Innogy, Enel and E.ON with an ecosystem of partners, are providing energy and comfort solutions to get a foot in the customer’s front door.

TURNING THE CORNER

Utilities can conquer the future, but first, they must take the right steps at this critical crossroads:

Build a cost DNA. Having an enterprise-wide cost-conscious mindset can be the fuel for growth. New entrants and private equity firms are using zero-based mindsets and other instrumental cost optimization methods—utilities should, too.

Successful, bottom-up cost management will require examining internal spend, rethinking how internal resources are organized and reconsidering how contracted services are paid. For example, utilities can renegotiate commercial contracts, making them outcome-based and tied to more variables, they can mobilize their O&M field force and provide them richer information and remote expert support so they can perform their job more efficiently.

Technology is also a key enabler to driving efficiency and reducing costs. For instance, efficiency leaders continually investigate which processes could be eliminated, simplified, standardized or automated or fully managed by robots or artificial intelligence to reduce the cost to serve.

Italian energy company Enel

launched a full suite of E-Solutions aimed at meeting the needs of a global customer base with the help of **disruptive technology**.

Source: Enel press release; "Enel Launches E-Solutions, A New Global Business Line; May 17, 2017"

A Utilities industry association in Spain

(comprising natural gas, electric, oil and other ecosystem companies) is working together to bring **shared objectives** to government to drive legislation related to the **energy transition** while still working toward achieving individual goals.

Be responsive to customer needs now. The market will not come to a utility—the utility must go after it. Customers want options and moreover, they have choices. To compete, utilities should break away from old thinking and be creative about ways to deliver new value and capture new markets.

Traditional companies should consider becoming the energy solution integrator, the distribution platform optimizer or the low carbon producer. But regardless of the platform model, partnering with smaller, more nimble companies to offer new technologies and services to customers must be part of the transformation.

Shape the future through proactive regulatory involvement.

Traditional regulatory strategy will no longer work in the new utilities environment. Companies must proactively collaborate with stakeholders and prepare to engage more actively with regulators, sharing what needs to be regulated and not, and therefore playing a role in shaping new policies.

When utilities have a seat at the decision-making table, they can help shape future choices about subsidization, the role of grid operators, natural resources, demand management, capacity and climate change.

Some utilities have avoided involvement in regulation to preserve their advantage. Instead, they should strengthen their advantage by leading the industry toward agility and efficiency.



Fast forward.

Utilities have long been a trusted partner to customers. They are the company that most people allowed into their homes first. But over decades, utilities have squandered growth opportunities by not evolving at the same pace as the customers they serve. Now, companies are at a crossroads where they must decide the next move. Competitive utilities will transform traditional thinking and ways of working and embrace the new to confidently take on the future.

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