



## WHITE PAPER

# Designing the New Utility Business Models

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## IN THIS WHITE PAPER

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This white paper explores the current situation of utilities in North America and Europe and the implications of the situation for the future success of utilities. The discussion applies to regulated and unregulated divisions of the utility parent company; generation, transmission, distribution, and retail; and investor-owned and government-owned organizations. The research is based on analysis of corporate presentations and annual reports, revenue of regulatory proceedings, conversations with utility leadership, and the body of IDC Energy Insights surveys.

## IDC ENERGY INSIGHTS OPINION

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The traditional utility business model is being threatened by market conditions and industry and social trends. It depends on the sale of electricity, gas, or water to the wholesale markets, making capital investments in generation, pipelines, and wires and, in the case of the investor-owned utility, earning a regulated rate of return. At present, utilities are facing new competition for revenue from new players – competition for customer mindshare, workforce attention, and fuel from emerging economies at a time when energy demand is shifting. Utility leadership must act now to address erosion of earnings and how to continue to meet the demands of shareholders, customers, and regulators.

Major findings of this white paper are:

- Utilities are faced with new competition for the wallets of their customers from nonutility players with new business models.
- European utilities have been discussing new business models for several years; North American utilities are just getting started. Both regions have had encouraging movements toward new market structures.
- There are a variety of possible new models, but these models must be vetted. Utilities will need help from outside to develop viable strategies to adopt these new models.

The threat to the traditional utility business model is real. With the speed of change, the time to take action is now. Although late to the game, utilities have the customer base and the knowledge of energy in their favor.

## THE QUEST FOR NEW BUSINESS MODELS AND REVENUE STREAMS

The traditional utility business model is being threatened by market conditions and industry and social trends (see Figure 1). Revenue is being challenged by competition from a new set of players from within and outside of the industry. Utilities must cope with unpredictable consumer demand and distributed supply on a grid that was constructed for one-way delivery that may require new infrastructure investments. In the meantime, the utility is losing mindshare of customers that have become accustomed to the richer customer experience offered by banks and retailers and that now expect this also from their utilities. Utilities need to replenish the aging workforce, but younger workers are more attracted to technology as well. Utilities in mature economies should expect to see more uncertainty in pricing and availability of resources as they compete with emerging economies. Faced with these realities, utility leadership needs to examine its business model and look at the viability of new revenue streams and new business models.

Even when utilities are able to maintain revenue, earnings are threatened by increased regulatory mandates, rising costs, and the need for investments in infrastructure. For example, even though the operating revenue of investor-owned utilities in the United States increased by 6.9% from 2013 to 2014 due in large part to rate increases and weather conditions, generation output increased by only 0.5%, the net income before taxes increased by only 1.5%, and the net income available to common dividends decreased by 0.4%, according to the Edison Electric Institute's annual industry performance report.

**FIGURE 1**

### Utilities in Transition



Source: IDC Energy Insights, 2015

## The Threat Is from "Others"

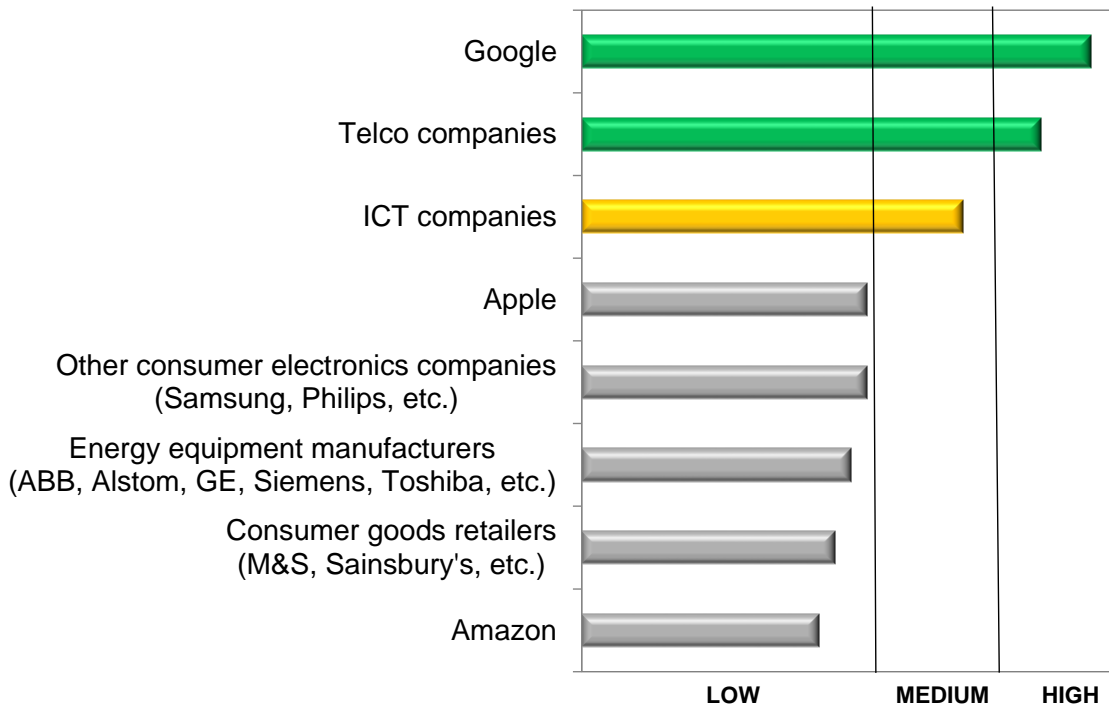
The biggest threat that utilities face today is from outside the industry. In a survey conducted with European utility executives in spring 2015, two out of three European utility executives indicated nonutility companies as the most serious contenders to their business model. Nonutility companies – including Google and Amazon, consumer electronics manufacturers, and telecommunication companies – have brands that have better consumer appeal, stronger ability to extract value from data, and deeper relationships with their customers. In addition, they enjoy better customer trust (and much better net promoter scores) and are digitally more mature. Start-ups and traditional companies that have made it through digital transformation (DX) are in a position to be more agile than nonutility companies in addressing the needs of the market (see Figure 2).

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FIGURE 2

### Nonutility Company Challengers in the Next Five Years

Q. Within five years, which nonutility companies will pose the biggest challenge to your business?



n = 35

Source: IDC Energy Insights, 2015

Even in noncompetitive or regulated markets, traditional utilities are exposed to competition. In the United States, low gas prices are the norm in most regions. However, in the Northeast, high gas prices last season due to constrained gas delivery led to higher electricity prices as gas generation grew, opening the door for retail energy providers in this previously quiet deregulated market.

**According to one North American utility CEO, "Solar is what keeps me up at night."**

More importantly, third-party providers of photovoltaics (PV) are rapidly advancing in residential markets where utility rates are high and where there is concern for reliability or interest in clean power. According to one North American utility CEO, "Solar is what keeps me up at night."

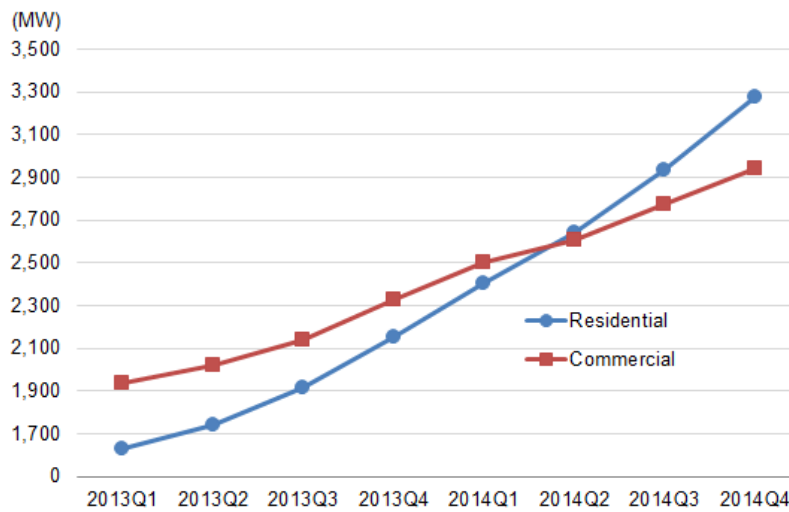
### ***Business Models of Competitors***

Competitors include nonutility companies that are offering energy and other products. Emerging companies such as Vivint offer a combination of solar and energy services, plus other home services such as security. PV providers such as SolarCity and SunPower offer rooftop solar. These companies own and install the solar panels on the customer's rooftop and sell electricity back to the customer at reduced rates and also generate revenue from trading renewable energy credits. NRG, an unregulated merchant generator and retailer, is going after the traditional utility businesses with multiple "solar +" offerings for home and business and pursuing central station renewable generation to balance its fossil generation portfolio. With its acquisition of Nest and heavy investment in SolarCity, Google seeks to go behind the meter to sell services to the energy consumer; Google's Project Sunroof provides powerful mass market outreach.

The threat to revenue is expected to continue as technology advances. The U.S. Energy Information Administration found that in 2014, "the number of net metering customers showed a 10% average quarterly growth in the residential sector and a 5% average quarterly growth in the commercial sector" (see Figure 3). The price of solar continues to drop, and soon affordable energy storage that has capacity beyond 10kWh of backup will be available. With more sophisticated energy management orchestrating distributed generation, storage, and demand response, consumers will be less dependent on central station generation. Mandates such as those in California that require the state's three investor-owned utilities to add 1.3GW of storage, half of which cannot be owned by the utility, will spur development of the technology for both utility-scale storage and customer-scale storage.

**FIGURE 3**

**U.S. Quarterly Photovoltaics Capacity, 1Q13-4Q14**



Source: U.S. Energy Information Administration's Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions"

***The Savvy Consumer and Worker***

As consumers are empowered by the proliferation of IT interfaces and multiplication of communication types, their expectations for borderless everything-anytime-anywhere, customer-centric interaction are profoundly redefining the nature of services. For example, digital transformation is now making it possible for consumers to "try on" clothes by looking in the mirror in the dressing room of a retailer or design a car to order. According to Steve McBee, president and CEO, NRG Home, a competitor to the utility, "I think the bar is going up significantly for energy providers. Energy consumers – the millennials – will expect reliable, affordable data and products that are highly curated and products and services that are more sustainable." Start-ups and digitally transformed companies are already grabbing the attention of energy consumers away from utilities.

Utilities are lagging far behind other industries in serving the tech-savvy customer. According to J.D. Power's 2015 *Utility Website Evaluation Study*, 57 out of 66 U.S. utilities offer mobile access to the utility Web site, but the satisfaction level of customers using a mobile device/app is lower than that of customers using their desktop to access the utility Web site. In addition, the next generation of consumers – the millennials – will be primarily interacting with their utilities using smartphones and tablets.

Labor force demographics are hitting the utility industry with the retirement of older workers. The industry has been anticipating this development for years. According to the U.S. Bureau of Labor Statistics, in 2013, the average age of a utility worker was 46.8, with only 23% of the current utility workforce under the age of 34. The new generation of workers is enamored with technology. Even oil and gas companies, known for relatively high salaries, are building Google-like campuses to compete for the new generation of workers. Traditional manufacturing companies, such as GE, are moving from offering services to offering digital services, making these companies attractive as well. Digital tools in the hands of the workforce will serve to not only attract new recruits but also improve operational efficiency.

## ***Decarbonization and Unconventional Fossils***

Central station generation continues to face challenges and opportunities. Regulatory efforts such as the Clean Power Plan in the United States and the 2020 mandate in Europe put the focus on securing energy supply from cleaner sources, such as renewables and natural gas. The United States has already seen the shuttering of coal-fired generation, and Europe has seen an increase in renewables as a source of supply. Increases in the supply of natural gas through unconventional extraction have provided greater energy security in North America and have the potential to support Europe with gas resources as the LNG market develops. Still, the prospect of export to meet the needs of emerging economies and a subsequent increase in the price of natural gas could raise the price of fuel for utilities.

## **New Business Model Discussions Top the Agenda**

Utilities can choose to continue with their current business model, relying on approval for rate increases and advocacy for new rate structures as a way to address their situation. However, raising rates may give customers further incentive to leave the system. Forward-looking utilities are looking at developing new business models.

While a few North American utilities are assessing their options, most European utilities are looking at new business models. Finding profitability and easing the current crunch on margins remain the overarching objectives for CEOs of European utilities. Among the top 3 priorities on the strategy agendas of European utility executives, "new business models" tops the list, followed closely by "lower costs" and the research for "operational efficiencies" (see Figure 4).

In North America, the focus on new business models has picked up over the past two years. According to a DNV GL survey of 100 utility executives, manufacturers, developers, retailers and IPPs, industry associations, contracting firms, and other industry players, 34% of respondents in 2015 think that the most significant challenge to the utility over the next five years is the need for new business models, up from 2% of respondents in 2014.

FIGURE 4

## Top 3 Priorities of European Utility Executives

Q. What are the top 3 most important priorities you have on your agenda?



Source: IDC Energy Insights, 2015

### Market Structures Encourage Innovation

Recognizing the changing nature of the industry, regulatory bodies and associations have started to rethink industry structure and market operations, with Europe being ahead of other regions in thinking about new structures. In Europe, new market models are being tested, including local flexibility markets (a market for alleviating local distribution constraints) and flexibility contracts with aggregators. These models are based on several assumptions. As electricity demand transitions to a new mix, in which traditional uses (e.g., lighting and industry) give way to new uses (e.g., electric mobility), the distribution networks' peak load will keep growing in the median scenario, at least in some countries. In addition, new usages will contribute to change load patterns, thereby creating new constraints on networks, while the integration of an increasing amount of renewable energy sources is already proving a challenge. Similar issues will emerge as a result of the drive toward self-consumption of an increasing number of prosumers on the network because consumption and self-generation are likely asynchronous.

Under the constraint of the aforementioned future needs, flexibility is a means for the distribution system operator (DSO) to both enable demand-side management (made possible through demand response and upcoming capacity markets) and use active network management as an alternative to investment in network reinforcement. In France, for example, a draft bill encourages local authorities to experiment with local flexibility markets in coordination with the DSO. In addition, an investigation into market models for flexibility has been launched under the Smart Grid Vendée project in the west of the country. This is a 2,600-sq mi five-year demonstrator testing market designs, active management of the medium voltage grid, increases in grid hosting capacity, and new demand response mechanisms.

In North America, the more advanced initiatives come from areas of rapidly growing DER or renewable penetration. For example, the New York Reforming Energy Vision (REV) is a state initiative that calls for a restructuring of the way utilities and energy companies sell electricity to "maximize the utilization of resources and reduce the need for new infrastructure through expanded demand management, energy efficiency, renewable energy, distributed generation, and energy storage programs." The effort calls for regulated utilities to act as distributed system platform providers (DSPPs) that will own the distribution network and "create markets, tariffs, and operational systems to enable behind-the-meter resource providers" with new tariff structures supporting the capital investments required to sustain these new markets. California has recently attempted to consolidate its progressive renewables, energy efficiency, and PV initiatives through a proposal by the California Public Utilities Commission, which, if approved, could reorganize how the state manages planning and paying for the integration of utility and third-party energy resources.

### ***But Utilities Still Lag Behind***

Risk-averse utilities typically test out new ideas through pilots or demonstration projects. In fact, the new market structure initiatives have spawned proposals and projects. Plus, there is a recognition that utilities need to move to new business models that favor services. In the preface to its proposal to the New York State Public Service, Central Hudson is supporting services as a model. According to the senior vice president of customer services at Central Hudson Gas & Electric, "Uber has created a business model that uses a network of third-party providers to benefit the consumer, the third-party providers, and Uber ... Utilities are in a unique position to establish a similar business model."

Still, experiments are typically one-off supplements that solidify customer loyalty and produce new revenue streams but do not fundamentally change the business model. A majority of investor-owned organizations are still looking to the regulatory rate-making process as a way to enhance shareholder value. For example, one utility has said that it will improve basis points by reducing regulatory lag of rate increase approvals. Another CEO's plan for the future is puzzling, "About 30-40% of a customer's bill is fuel. I'm not in the fuel business, so if I can get customers to use less fuel, I can lower their bills and lower my cost. If I lower my cost more than I lower their bills, then I make more money."

Industry-friendly regulatory agencies/PUCs in the United States will approve policies to ensure that protective measures are in place that bolster utility financial health. These measures can be and usually are at odds with competitive markets and the entrance to third-party services and business model innovation. For example, utilities that propose large interconnect fees to regulators, seeking to block out the competition, are protecting their business at the cost of consumers and innovation. Utilities will work this lever for the short term. However, that approach is not sustainable in the long term. Most utilities are likely to be doing too little too late to staunch the "death spiral" (see Figure 5).

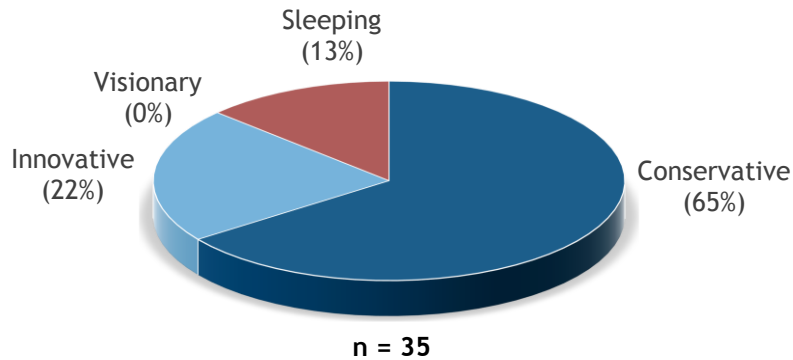
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## FIGURE 5

### How Utilities Feel About the Future

Q. What is, according to you, the best adjective to qualify electric utilities in their plans to prepare for the future?



Source: IDC Energy Insights, 2015

## SUCCESSING IN NEW ENERGY MARKET

There are multiple possible ways being posited for utilities to create new revenue streams:

- New products and services for customers, such as bundled home services, HVAC maintenance, distributed energy, energy efficiency, and community solar, and new ways of offering them, with a strong shift to the "as a service" business model
- New service offerings to the market such as ancillary services, aggregation and virtual power plant, negawatt power, third-party distribution network management, EV infrastructure development and management, and data management service

More and more, forward-looking utilities recognize the possibility of expanding beyond pure commodity-related services. Further, these companies plan to decouple their new offering from the sale of a commodity supply contract. An executive of a European utility recently said, "Going forward, we need to rapidly move beyond supply-related offerings."

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### *New Products and Services for Customers*

#### **PV Charging**

Alliander is at the core of Allego, a company that develops charging solutions and tailor-made charging infrastructure for municipalities, businesses, and public transport companies. Recently, the Dutch-German consortium consisting of Motion, Allego, and Alliander AG won a contract for installing and running charging points for electric cars in Berlin, Germany. SDG&E is proposing deployment of a PV charging station with tariffs to encourage use during peak renewable production to its regulator.

## HVAC Services

German company RWE is promoting its SmartHome product offering. Many other utilities are bundling the installation and maintenance of boilers or air-conditioning systems with their traditional commodity offers. In some cases, utilities are even starting to decouple energy-related product and commodity offerings to increase their addressable market.

## Rooftop Solar

Some utilities are taking on PV providers directly. ConEdison Solutions, an unregulated subsidiary of Consolidated Edison, has just announced that it will offer the sales of electricity from leased rooftop PV. It will own the solar and provide financing and installation in partnership with PV provider SunPower. CPS Energy has just rolled out a rooftop solar leasing program.

## Bundled Home Services

Any or all of the previously mentioned services could be bundled and offered to customers. One vision is to bundle a combination of solar, battery storage or fuel cells, demand response, and/or energy efficiency, allowing the customer to automate response and earn money back from providing distributed supply back into the grid, eventually trading on a distribution market.

However, utilities exploring new business models are looking beyond energy services to offer other services such as broadband, security, and home comfort.

Utilities are partnering with telco operators to create broadband networks: In Ireland, for example, ESB and Vodafone are collaborating via the venture SIRO to build and manage a fiber-to-the-building network. In Italy, Enel has offered help to deploy fiber-optic network to Italian homes leveraging its street cabinets. The company does not intend to become a telco operator; rather, it will charge a maintenance fee.

## Community Energy

Solar, energy storage, and microgrids are offerings for communities of customers. Rooftop solar is not available for all consumers in buildings without good orientation or with multitenancy. A few utilities are offering community solar as an alternative for their customers. CPS Energy in Texas just announced a community solar pilot project in conjunction with the Clean Energy Collective. R&D and product development groups at forward-looking utilities are investigating whether their knowledge of energy management could be put to good use implementing and managing microgrids for campuses and communities.

In Europe, a modern movement of community-led energy self-sufficiency based on renewable technologies has been gaining ground. In Germany, where there is a particularly large concentration of such communities, the terms *bioenergy* and *ecoenergy* have been coined to describe the status of the villages. In 2014, the government of the United Kingdom announced the Community Energy Strategy, which is an initiative to provide financial and knowledge-based support to encourage community energy schemes in the country. The involvement of an entire community not only leverages economies of scale for financing and implementing technological solutions but also leads to improved social community cohesion and generates a powerful self-perpetuating momentum for change.

## ***New Service Offerings to the Market***

### **Virtual Power Plants/Negawatts**

In recent years, aggregators and virtual power plant operators (independent or affiliated with utilities) have appeared in the market to both offer demand flexibility, in other terms negawatt power, and manage distributed energy sources of prosumers, mainly but not exclusively commercial and industrial (C&I). The operation of distributed installations is scheduled and optimized for the purpose of energy trading in the wholesale markets (e.g., Europe), to provide system support services to the power system operation, and to avoid investment in additional capacity (e.g., the United States). In Europe, for instance, both utilities (such as RWE and DONG Energy) and new start-ups (such as Entelios [an EnerNOC company] and cyberGRID [acquired by Toshiba]) entered this space. The financial success of these kinds of services will vary across geographies and is dependent on the economic value of flexibility.

### **Data Management for Market Facilitation**

Data management, especially, but not only, in competitive unbundled markets, is key to fairly operate existing and new markets. Distribution companies, as regulated businesses, may be pivotal for this. Actually, European DSOs are seeking to play the role of market facilitators. Coordinating the needs of different market actors in a changing energy market can be an important role for DSOs in the future, if national regulators will allow it. The DSO business model will be increasingly data driven, and digital transformation will see DSOs distribute not only commodities but also information to the market.

It is easy to expect that the role of DSOs in data management or in the creation of dedicated data hubs will vary from country to country. In the United Kingdom, for example, a dedicated regulated company, the Data and Communications Company (DCC), is responsible for the procurement and management of smart metering data and communications services. ElectraLink, the provider of the regulated Data Transfer Service (DTS) that sits at the heart of the United Kingdom's competitive energy market, launched a new offering called Smart Meter Installation Dataset (SMID) in 2014. This is a commercial tool that uses actual data and predictive analysis (identifying correlation patterns across the British housing stock and network activity) to generate information about the types of issues that energy suppliers and meter operators are likely to encounter on a property-by-property basis during the rollout process. And before SMID, in 2012, ElectraLink was given permission by DTS users under strict conditions to provide the industry with analytics and reporting on the DTS data. Since then, ElectraLink not only transferred but also stored, accessed, and analyzed DTS data over time, which opened the way to the data analytics and reporting services it now offers to market participants on a commercial basis.

### **Connection Services**

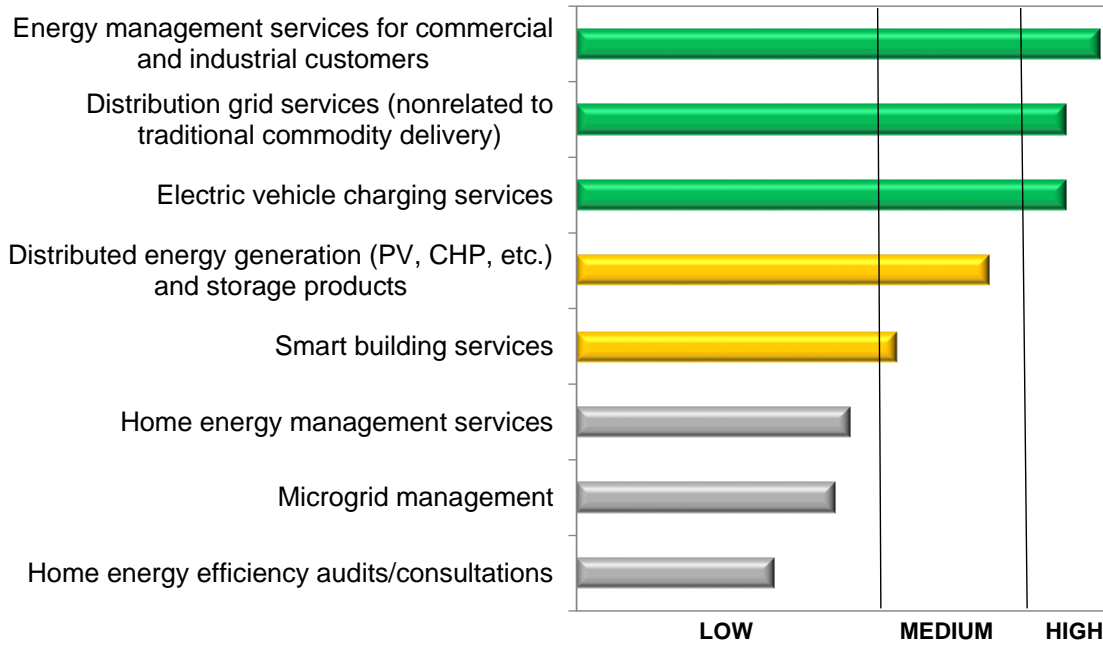
Connecting PV to the grid is a long and expensive process. Iberdrola is proposing a partnership with Smarter Grid Services to provide interconnection services for connecting large distributed generation projects to the grid.

The previously mentioned services are just a few examples among several initiatives utilities are developing in their business transformation efforts. IDC Energy Insights conducted a survey of European utility leadership and found that utilities are considering revenue streams related to new market conditions (electric vehicle charging, distribution grid services) as well as traditional offerings from which they might not have previously earned revenue (energy management for C&I customers). It is likely that ideas about revenue-generating offerings will continue to vary regionally to address specific market conditions (see Figure 6).

**FIGURE 6**

### New Revenue Stream Generators in European Utilities

Q. How much will the following contribute to generating new revenue streams within the next five years? (Please rate importance.)



n = 35

Source: IDC Energy Insights, 2015

A "one size fits all" successful business model has not yet emerged and probably will not emerge, given local utilities regulations. While utilities piloting or moving into the new market offerings are still struggling to replace their traditional profit pools, they also must consider they will have to face different kinds of competitors, even in the markets where energy competition is not allowed. Think about SolarCity in the United States (as previously described). Even more conservative utilities need to quickly take action to prepare themselves for a different scenario. In the end, new business innovation becomes nearly more important than trying to pick the "right" model experiment.

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### **Restructuring Is Required**

To enable new business models, organizations will likely be required to restructure. Many companies are already undertaking profound business reorganization, and more will occur. These reorganizations often translate into company splits, which separate traditional business based on fossil fuel assets from more forward-looking renewables and energy services activities. In other cases, spin-offs are

targeting the creation of agile companies that are investing in innovation and aim to become the vehicle for promoting cultural change across the entire group.

Among very large utilities, the German giant E.ON was one of the first companies to announce a split, spinning off power plants to focus on renewable energy and power grids. The company CEO positioned this decision as driven by technology and customers and by the fact that E.ON needs to prepare for a different kind of competition.

In April 2015, French company GDF SUEZ announced group rebranding and became ENGIE. The rebranding, and some internal reorganization, reflects the company's decision to play a different role in the global energy transition. ENGIE believes that "The future is 3D. Decarbonized, Decentralized, and Digital" and is preparing for this.

In July 2015, Dutch Eneco Group launched a new business unit entirely focused on innovative energy projects, partnerships, and collaboration with energy start-ups. With the creation of Eneco Innovation & Ventures, the company wants to accelerate innovation and the transition to a sustainable energy supply. Responsibilities of the new business unit include the international introduction of the smart thermostat Toon.

Most utility experimentation will need to be done by unregulated subsidiaries. For example, NRG is one company that has pursued a clean agenda, offering products such as central renewables, along with home services and "solar +." However, NRG is not a traditional utility company – the company began as a merchant generator with fossil fuel that acquired a Texas retail energy provider but has recently shifted its approach to the market. Utilities that are pursuing new initiatives are doing so in unregulated subsidiaries. Arizona Public Service, Tucson Electric Power, Duke, and others have not started new companies; they are working within state regulatory policies to try new services under their existing business structure. Ofgem, the regulator of regulators in Europe, recently issued a point of view that limits regulatory entities. Other utilities are seeking to change regulations to allow the sale of a wider range of services, such as home energy management, healthcare, and security.

### ***Proving Out the New Business Models***

While utility CEOs are open in sharing their prospects for growth under traditional business models, they do not readily share the business cases for new business models. Utilities conducting demonstration projects are likely using them to develop a business case. At the same time, the new business models are not mature enough to prove out the business cases, even if they are revealed. If utilities are to meet the quickly advancing competition, they will need guidance in building the business case and proving it out.

### ***Partnerships and Services Are Part of the New Business Models***

In pursuing digital transformation, "traditional" companies are aligning with more agile and entrepreneurial companies to secure new business. Traditional companies, such as GE, are transitioning to deliver more services. GE partnered with Local Motors, a small company that crowdsources and manufactures automobiles to innovate in the area of connected home appliances so that GE can derive revenue not only from sales of the appliances but also from ongoing use of those appliances.

In many of the examples of new initiatives, utilities are partnering with other organizations (e.g., Consolidated Edison and SunPower, ESB and Vodafone, and CPS and Clean Energy Collective). Another potential partnership would be to invest in the promotion campaigns of nonutility companies to locate distributed energy resources in capacity-constrained areas.

## RIDING THE WAVE OF THE DIGITAL ECONOMY

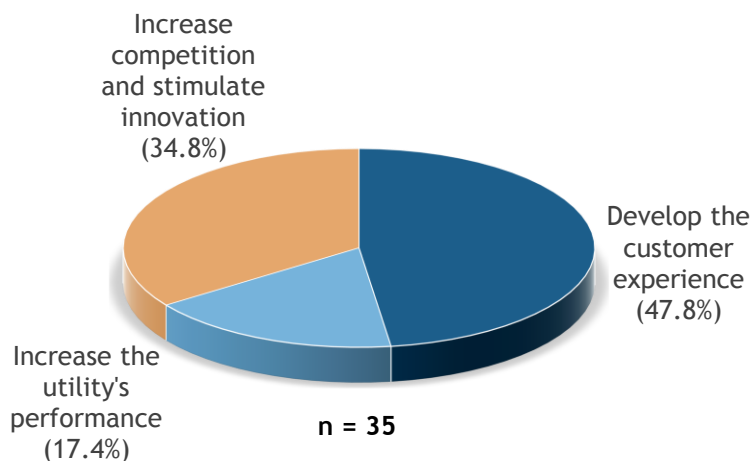
There is a high degree of consensus that digital transformation is bound to produce huge benefits for utilities – for customer operations, asset operations, and overall business innovation (see Figure 7). Still, utilities are only at the beginning of the digital transformation journey. Think about companies that can be unanimously considered as the most disruptive and innovative in the market – Netflix, Tesla Motors, SolarCity, Amazon, Google, Apple, and Uber. No utilities show up in this list, and these are the new kinds of competitors that utilities will have to deal with. The CIO of a European utility said, "Sooner or later, the energy business will become a digital business, whether we like it or not. Utilities should make sure their IT organizations are able to walk a different pace, one that is to speed with new opportunities."

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FIGURE 7

### Utilities Priorities for Digital Transformation

Q. What is your vision of the priorities for digital transformation?



Source: IDC Energy Insights, 2015

A recent IDC survey shows that the vast majority of utilities, at least in Europe, have already appointed some sort of digital officer or innovation officer in their organization. Nevertheless, utilities executives are struggling to move their company to the next level, that of digital business transformation, employing digital technologies coupled with organizational, operational, and business model innovation to create new ways of operating and growing businesses.

It is not easy for utilities, especially for large and complex organizations, to change (refer back to Figure 6). And business transformation cannot be driven by simply appointing the task to a new function. Digital transformation at utilities needs to involve leadership, customer experience, information, workforce, and operating models.

The digital transformation is a "team sport" that requires the close collaboration of senior executives and their teams across the enterprise. DX leaders and their teams have to function much differently from their peers at traditionally run enterprises. The hierarchical, rigid, and top-down management practices of the past need to yield to fluid, evolving, and vision-driven approaches. Leading digital transformation is inherently multifaceted and multidirectional. DX leaders must have the ability to create digitally fueled business visions; to attract "co-conspirators" including customers, partners, and competitors to help realize the vision; and to orchestrate the myriad components needed to actually execute on the vision.

And that must all be accomplished in "outside in" business environments where customers call the shots, not the insular make-sell business-driven environments of the past. The new reality of business ecosystems is a complex and rapidly changing fabric of emerging technologies; personal, societal, and governmental trends; customer needs and expectations; and global competition. Moreover, the change is happening at an accelerating rate.

The new reality for utilities business leaders is that they need to transform and lead digitally powered organizations that are not only adaptive to change but also able to predict and drive the change.

Leadership digital transformation requires that leaders become more sophisticated in their knowledge of the enterprise ecosystem, including the digital accessibility of markets, customers, and service providers, to anticipate and develop product and operational innovations that extend market share and increase revenue by creating shared digital experiences that serve the needs of mobile, socially connected, and digitally transformed customers and partners. It also requires the ability to communicate and embed the vision in the organization and to engage employees, customers, and partners in its execution.

## SIX ACTIONS THAT A UTILITY SHOULD CONSIDER

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With rapid changes hitting the utility industry with new competitors, changing supply resources, and new regulations and digital technologies, utilities cannot afford to wait to "see what happens." Incremental approaches are not likely to cope with the magnitude of the disruption. Utilities need to challenge legacy approaches and start embracing – even leading – the change rather than reacting to it. Too many utilities are still chasing the forces of change with approaches that are arguably not bold enough.

IDC Energy Insights recommends that utilities consider the following actions:

- **Change the speed of actions.** The traditional utility mindset of long-range planning of 20 years needs to change. Digital competitors are working with a very short planning and execution horizon. These companies are constantly moving forward with a combination of continuous experimentation and learning. They "think big." They fail fast and move on. Utilities need to evolve from the incremental innovation approach, which minimizes the risk of failure.
- **Create an ecosystem for innovation.** Forge relationships with all ecosystem players, including start-ups and even competitors. Leverage this ecosystem to innovate products and services that incorporate business models that are new or modified to increase disruptive potential. Learn how to manage the synthesis of talent, technologies, and all assets of the ecosystem.
- **Start a top-level CXO and board initiative to revisit the utility business model.** The effort is not about building executive buy-in from below. Top-level executives need to initiate a discussion at the board level to discuss the way forward, taking advantage of board expertise from other industries.

- **Start with a tabula rasa to avoid getting stuck in regulatory restrictions.** There are always regulatory barriers, especially in the utility industry. The real or perceived barriers can stifle creativity. It is best to start with brainstorming the concepts, and once those concepts are vetted, decide whether to seek regulatory approval or offer products and services through an unregulated arm of the utility.
- **Make digital transformation part of the business agenda.** Some utilities are developing a digital strategy in parallel with an IT agenda, which is aligned with business needs. But digital transformers and disruptors do not have separate business and digital strategies. They have one agenda. Digital is the business.
- **Utilize consulting and technology services firms to help guide the innovation process.** Services firms with experience in digital transformation can help utilities create an ecosystem for innovation. They can guide utilities through an evaluation of new business models. They can help shape and execute transformational programs.



## About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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