POSITIVELY CHARGED

Creating a future of value and growth for utilities in a multifaceted energy system
Understanding disruption is one thing, but addressing it is quite another. One thing is clear, the traditional utility business is being fundamentally disrupted. Change is underway and a new power model is emerging.

In this context, novel, innovative business models are required. Yet, many companies are often hampered by the existing mindsets and revenue streams of their core businesses. This prevents them from effectively responding to disruption and capturing new opportunities presented by a multifaceted energy system.

To turn disruption into an advantage requires energy providers to transform and grow their core business while simultaneously innovating to create and scale new opportunities. There is no single approach toward transformation, but digital and innovation at the core will create a future of value and growth, opening up the opportunities of the new.

Thanks to the many Accenture professionals around the world, whose passion and dedication brought this perspective to life. In this new and exciting environment, we continue our commitment to bring the best of Accenture to the utilities industry.

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EXECUTIVE SUMMARY

New energy technology and digital-led innovation is releasing trapped value and disrupting energy providers across a long-established value chain. Disruptors—new market entrants, industry convergence, and even consumers—are advancing the new energy ecosystem. From disruption comes opportunity, and an immediate response is a must. Traditional business models are no longer sustainable. To “lead in the new,” energy providers must master the art of “rotating to the new” (see Figure 1). This dynamic change journey can serve as the path for transformation in the new energy ecosystem—a way to unlock value today in the new power model.

Understanding a market on the brink of the new

Energy providers understand the sources of disruption shaping their future. The energy transition, rising environmental mandates, evolving consumer demands and expectations, and the proliferation of digital technologies are creating tremendous pressure. The next two decades will be marked by significant impact on demand, with levels in mature markets falling below GDP growth estimations. Yet investments, specifically in renewables and the electrification of transport, are set to ramp up. Exponential growth in renewables is uncovering new value opportunities for low-carbon producers. Mass adoption of electric vehicles (EVs) is poised to profoundly impact demand growth, grid stability and new customer propositions.

We are also witnessing the democratization, decentralization and the rise of a more customer-centric power model. Distributed energy resources (DERs) will expand as conventional generation is augmented by disparate assets and technologies. Energy storage, demand response, peer-to-peer trading and wholesale market access are just a few of the rising value pools. In addition, consumers are more energy aware than ever and looking for new, open, collaborative experiences and more compelling value propositions.

Moreover, digital technology is being built into every asset, operation and interaction, transforming businesses into intelligent enterprises with on-demand insights. Digital technology is accelerating the market toward a new power model—one set to radically transform the value chain.

Geopolitical, regulatory, societal and economic factors all affect the pace of disruption, so not all energy providers will experience disruption in the same way.

The reality is that energy providers must transform within a hybrid system in which the traditional value model coexists with an increasingly decentralized model. The new power model is underpinned by multidirectional flows of energy and information, adds new commodities to the mix, and is enriched by digital services such as active demand management, virtual power plants and connected energy services (see Figure 2).
Accenture’s Disruptability Index

Given the realities of broad-based disruption, the results of Accenture’s Disruptability Index should come as no surprise. We developed this index to measure current levels of disruption and susceptibility to future disruption. To determine susceptibility to future disruption, we measured incumbents’ operational efficiency, commitment to innovation and defensive strategies to mitigate attacks. Energy providers emerged as one of the top-three industries for susceptibility to disruption moving forward. Driving the scores: lower levels of venture capital flowing into the industry in comparison to other industries, and relatively poor results in operational efficiency in addition to the compressive industry market trends.1

Figure 2: The new power model radically transforms the utility value chain.

Source: Accenture analysis.
Squeezed performance

Following a decade of growth, many energy providers now face major operational issues, with excess traditional generation and stranded legacy assets. Disruption of the current business model is already having measurable impact, and the industry is now seeing an absolute revenue decline.

Near-term impacts vary around the world, and our analysis illustrates how performance decline has been particularly pronounced in Europe, where incumbents lost half of their market capitalization (See Figure 3).

Figure 3: Utilities have experienced significant decline in value since 2008 and have underperformed by market comparison.


Source: Capital IQ, Inc.; Accenture analysis.

Identifying trapped value

In one scenario, Accenture analysis has identified significant value potential in the new market context.

The modeling suggests that much of the growth will likely come from downstream energy retail through new products, services and value propositions. We estimate energy providers could experience additional revenue from new downstream sources such as distributed generation products and related services as well as adjacent markets for smart cities and connected buildings. At present, energy retail typically accounts for about 10 percent of total industry value, and we predict it will rise to about 24 percent through the introduction of these new revenue opportunities.

But the transformation of the power model to make these opportunities possible will require significant investments. In all, across transmission and distribution and renewables, required investments globally between 2016 and 2040 will hit an estimated US$19.2 trillion.
Envisioning the intelligent utility of the future

The move toward a new power model is giving rise to a more fragmented value chain with new plays and sources of value creation. The concept of the integrated utility is breaking down, with more intermediation opportunities and new players emerging in a new ecosystem. Amid groundbreaking shifts, energy providers must pivot to the new, envisioning an intelligent utility to create a future of sustainable value and growth.

Accenture sees three plays for energy providers to unlock value in legacy models while positioning themselves to lead in the new (see Figure 4).

Across these plays, the intelligent utility operates differently by harnessing new technology and advanced analytics. They drive smart, responsive processes. And they break down barriers between functional silos—enabling them to operate with greater flexibility. As energy providers transform, they also create organizational architectures that bring together capabilities of their legacy models and new capabilities to increase agility, efficiency, productivity and creativity.

Energy providers are not alone in plotting opportunities. They are being joined by other players—traditional as well as new entrants. Energy providers and other players are developing networks of alliances and partnerships to expand their reach, uncovering strategic growth opportunities that could transform businesses, products and services—even the market itself.

Figure 4: Three strategic plays (and illustrative value pathways) for the intelligent utility.

<table>
<thead>
<tr>
<th>CURRENT</th>
<th>INTELLIGENT PRODUCER</th>
<th>INTELLIGENT GRID OPTIMIZER</th>
<th>INTELLIGENT CUSTOMER ENABLER</th>
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<td>Commodity-centric supplier</td>
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**CURRENT**

- Conventional generator
- Smart grid operator
- Commodity-centric supplier

**INTELLIGENT PRODUCER**

- Diversified, responsive portfolio of low-carbon assets
- Storage and balancing services

**INTELLIGENT GRID OPTIMIZER**

- Distribution optimization and orchestration
- Metering and microgrid services
- Data hub service provider

**INTELLIGENT CUSTOMER ENABLER**

- Energy marketplace enabler
- Connected lifestyle provider
- Energy services company
- Aggregation and exchange services

Source: Accenture analysis.
Transitioning to an intelligent enterprise hinges on leading in the new

There is no single approach to transform energy provider businesses for the future. And leading in the new is a dynamic, ongoing journey, not a single event. It is a pragmatic approach to change, and a deliberate choice to be continually iterative.

Accenture views leading in the new as a pathway combining three interlocking steps:

- **Transform the core business** to optimize core processes and unlock trapped value within current operations, driving investment capacity with leading-edge, digitally enabled solutions. A significant portion of additional value creation in the near term could come from initiatives such as the digitalization of customer operations and enterprise functions through artificial intelligence (AI) and new platform solutions as well as the digitization of asset management through Industry X.0 plays such as digital plants, the connected worker and predictive analytics.

- **Grow the core business** to release the fuel for growth. Energy providers can grow their core business with selective investments in renewables and generation, in grid enhancement and expansion, and greater optimization of distribution and current client base expansion. In the near term, approximately one-third of the overall additional value could be realized through these expansive investments as well as intelligent revenue capabilities related to the digitization of the entire customer experience.

- **Scale the new** requires constant agility and innovation to evolve over the next 10 to 15 years. For example, pivoting toward low-carbon optimization, adjacent intelligent energy services and new energy consumer services. Over the near term, the “new” will be relatively small at approximately 15 percent of expected additional overall value, but it is also the fastest growing area, and key to sustainable revenue growth beyond the traditional business.

With limited room to fail, the balance between the core and the new becomes even more delicate. Despite the risk, significant value exists in the near term for energy providers investing in new business models and building innovation capabilities. In considering a transformation window of five years, including cost reduction and revenue increases, Accenture modeling has found that an integrated energy provider with eight to 10 million customers could potentially unlock between $6.9 billion and $17.3 billion additional net value (see Figure 5).

This is the time for energy providers to boldly embrace disruptive opportunities—to take advantage of disruption and shape their future. After all, the future belongs to the incumbents that challenge their operational legacy and drive into disruption with focus and ambition.

**Figure 5: Substantial potential total net value: An illustration.**

**Five-year transformation net value: 6.9 $bn - 17.3 $bn**

Note: Value totals shown may be split among shareholders and/or customers—allocation will depend on jurisdiction and regulatory model; base case of 8.8 million electricity customer/connections between 2019—2023.

Source: Accenture analysis.
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REFERENCES

2. Accenture modeling.

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