



accenture

NEW ENERGY CONSUMER

Delivering new energy experiences for future growth

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MANAGEMENT SUMMARY

The energy ecosystem is at an inflection point in the transition to a decarbonized future.

Powerful forces are driving this change, the effects of which we can observe in the ingress of new entrants, evolving policy and regulatory models, and investor focus on the green future. At the heart of this transition is the evolving energy consumer.

COVID-19 has accelerated moves toward this future. Today, governments are tying ambitious climate goals to pandemic stimulus packages, while consumers rally around sustainable choices to avert a global climate crisis.

Our research shows that **60% of consumers** have become more aware of climate change and its environmental impact since the start of the outbreak, with more than half of consumers likely to invest more in energy efficiency today than before the pandemic.¹

Consumers want better experiences from service providers that reflect their values and lifestyles, and they want them at affordable prices.

Energy companies are taking action. The biggest threat to their business is not just the pandemic-related demand disruption and slowing traditional electricity sales, but the far-reaching changes in consumer

behavior and dramatic shifts in climate regulations. They must move from experimenting with pilot programs to actual rollouts of sustainable energy offerings, quickly and at scale.

Sustainable offerings are not only the right things to do for consumers, but the right things for business as well. Emerging value pools spanning energy efficiency, energy management, distributed generation, storage, eMobility and demand-side flexibility are rapidly maturing.

We project the business case for these models will reach **€8 billion EBITDA** (about US\$9.4 billion) in 2030 for key European countries alone (25% CAGR, while traditional commodity growth levels off at 1% CAGR), with the offer of lease and rent models for customers as the key.

Energy companies can consider several strategic plays to capture this value: from bolstering existing business with value-added offerings, to growing revenue-generating connected energy products and services, to making bold pivots into markets beyond energy. Across these plays, distinct value pathways are taking shape both today and on the horizon as market models evolve.

But it won't be easy to bring these plays to fruition.

Doing so will require transitioning from optimizing a high-volume, low-margin business to developing a low-volume, high-margin business with high growth—capitalizing on and **evolving existing capabilities and competitive advantages** while bolstering those they lack.

They will need to address the key experience drivers of trust, simplicity, transparency and affordability—paving the way for broader participation in the demand side of the energy transition. And they will need to evolve their existing business with digital at the forefront.

On the front end, this will require brand repositioning, digital marketing and sales capabilities, and artificial intelligence (AI)-powered customer operations.

On the back end, they must resolve hardware product supply chain challenges and invest in a strong technology stack and workforce to ensure smooth operations.

In essence, they must **reimagine** their business, centered on purpose-driven consumers and adapting to regulatory and market change, enabled through digital technologies.

Without question, there could be many potential obstacles that prevent them from making the transition. But those that thrive post-crisis will seize the opportunities generated by the upheavals we're seeing today. In this latest report from our New Energy Consumer research program, we explain how.



Over the past 10 years, Accenture's New Energy Consumer research program has taken a critical look at the emerging trends, opportunities and decision points energy companies and their customers are facing.

Our goal: to help energy companies understand emerging needs and preferences, identify new challenges and opportunities, and bring focus to the competencies essential for success in the evolving energy ecosystem.

In this edition, we examine the current upheaval in the energy ecosystem, in the interest of distilling actionable insights and guidance to help energy companies successfully navigate the rapidly evolving terrain, reveal future value and business opportunities—and execute at scale.

SETTING THE SCENE

Powerful forces shaping the new
downstream energy ecosystem



Today, energy companies face an inflection point driven by several powerful forces.

Demand growth is sluggish as increases from the electrification of transport and heating are offset by customer adoption of energy-efficiency measures and small-scale distributed energy resources (DERs) like solar, smart heat pumps and battery storage. Renewables are being deployed at a rapid pace, increasingly competing with and even beating traditional generation sources on price. And COVID-19 has laid bare the need for energy companies to accelerate this transition. A recent survey we conducted among 1,400 consumers across the United Kingdom, France, Germany and the United States in June 2020 shows individuals and small businesses are using their voices and purchasing power to send a clear message: “We want systemic, climate-positive change.”²

Industrial-scale businesses are making climate commitments, pressuring utilities to “green” their energy mix and driving growth in unsubsidized renewable energy with an explosion in the power purchase agreement (PPA) market. These customer sentiments are evolving alongside ambitious government-led sustainability targets and regulation. The European Union, for instance, is doubling down on a green and digital recovery from the pandemic with significant stimulus and funds to accelerate the energy transition.

And technology is emerging as an invaluable enabler, with digital interactions, digital customer journeys, digital advertising, on-line sales and services, personalization, and AI-driven customer operations driving significant customer engagement improvements and cost reductions.

The financial industry too is increasingly investing in sustainable business; with lower but volatile oil prices, investors see innovative, green-focused utilities and electricity as safe havens and, more importantly, as the energy businesses of the future. Competition in the space is also heating up with new entrants—auto manufacturers, technology companies, oil and gas majors, startups, and prosumers—all looking for a piece of new downstream energy value.

These shifting tensions are ratcheting up pressure on energy companies to not only bolster slower-growing margins of their core commodity businesses, but also to **derive value** and **faster growth** from new business models.

Figure 1. Powerful forces are shaping the new downstream energy ecosystem.



Energy demand growth is sluggish

as electrification of transport and heating are offset by energy-efficiency measures and DERs.

Renewables are being deployed at a rapid pace

and increasingly competing with and even beating traditional generation sources on price.

Businesses continue to make climate commitments

alongside increasingly ambitious government-led sustainability targets and regulation.

Digital technologies expose new value potential

with digital customer journeys, online sales and services, personalization and AI-driven customer operations.

Investor interest in sustainable businesses grows

as the financial industry looks to innovative, green-focused utilities as the energy businesses of the future.

Competition is heating up with new entrants

such as auto manufacturers, technology companies, oil and gas majors, startups, and prosumers all looking to capture downstream energy value.

Amidst this, COVID-19 has raised the stakes and speed for change. Over the short term, the pandemic impacted customer-scale solutions such as DERs, with most installations of domestic solar panels or electric vehicle (EV) charge points temporarily halted during lockdowns. It has given us a preview of the energy transition in the next 10 years; for example, with high participation of variable renewables in the European grid during lockdowns. It is proving to be an opportunity to enact recovery policies that reinforce and accelerate the energy transition, and it is also serving as a catalyst to redefine cities and transport as the nature of work shifts.

Above all, however, it has shown that support for the energy transition and the appreciation of its benefits are greater than ever.

Pandemic or not, **the energy transition is here**—and now is the time for energy companies to capitalize.

Moving from commodities (electricity and gas) into the world of connected energy products and services creates a unique opportunity to distinctively reshape and repurpose an energy company's brand and customer experience, facilitating a shift from traditional utility toward becoming an innovative digital energy service provider.

STRATEGIC POSITIONING

What to pursue?



Evolving sources of consumer value

The energy transition has created new demand-driven value pools within energy markets. The pandemic has further accelerated consumer opportunities. However, consumers are still facing significant adoption barriers. Trust, simplicity, transparency and affordability are key experience drivers.

Residential and business customers have been experiencing a surge of new value opportunities through which they can generate their own electricity, manage their energy consumption and even sell power back to the grid. As our New Energy Consumer research predicted back in 2016, the customer at the end of the value chain has become a cornerstone for energy transition—and the interest to engage is clear.³ The pandemic and recovery are serving as accelerants to this change.

However, customers face too many choices, a lack of concrete information regarding real costs and benefits, insufficient financing options, and uncertainty about data use and privacy—all factors making it challenging to engage with the energy transition.⁴ These barriers to adoption can be especially high for small businesses and low-income households. Yet these segments have arguably the most to gain from new energy-saving technologies.

Furthermore, in many cases there is still a significant gap between customer expectation and energy providers' performance in delivering offerings to the end customer.⁵ And that gap is growing, as customer expectations increase and table stakes for service levels rise cross-industry

(for example, as driven by highly customer-centric businesses such as Amazon, Google and Netflix).

Accordingly, addressing the key experience drivers of trust, simplicity, transparency and affordability are critical to enable customers to engage effectively. And the energy transition will only truly gain traction with end-consumer participation.⁶

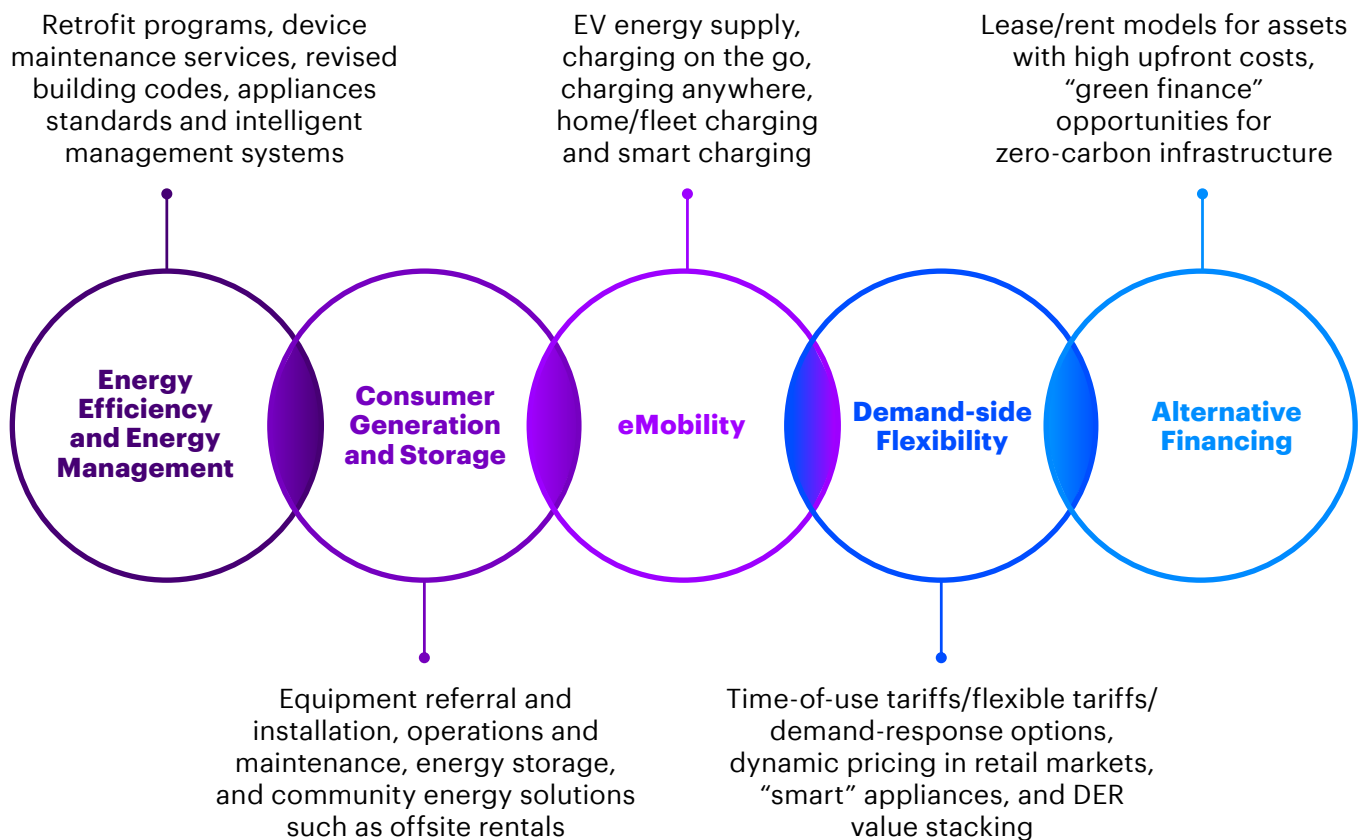
For energy companies to address these considerations, there is a fundamental question: Which opportunities to pursue? The approach to do so differs significantly across customer segments, with each offering a mixture of challenges and opportunities to capture new sources of consumer value:

- **Commercial and industrial (C&I) customers** represent the smallest number of accounts but offer the largest deal sizes for energy services projects—generally greater than €500,000 (about \$588,000). These customers require a broad, diverse set of services tailored to their market segment. They also require custom solutions and industry expertise, with longer deal cycle times and higher per-deal costs.
- **Mid-market/small and medium business (SMB) customers** offer a large, diverse opportunity, with deal sizes generally less than €500,000 (about \$588,000). To date, these customers have received less attention than other segments due to their requirement for mostly customized solutions. They also introduce a potentially longer cycle and higher per-deal cost unless supported by a digital platform. Such platforms can significantly reduce the costs for identification of opportunities and production of proposals—unlocking significant value from this segment accordingly.

- **The residential/business-to-customer (B2C)** segment represents the largest number of accounts, where standardized solutions—with deal sizes below €25,000 (about \$30,000)—can be delivered in a short timeframe. The challenge comes in crafting inherently desirable, customer-centric solutions that engage end users on their own terms. B2C energy solutions show promise but tend to have a longer time to maturity when compared with business-to-business (B2B) solutions in the energy space, which tend to represent a more promising value pool in the short term.

To understand more about the specific opportunities developing across these segments, we can examine several key new energy value pools in greater detail (see Figure 2).

Figure 2. The landscape of new energy value pools is broad and diverse.



Energy efficiency and energy management

Energy efficiency and energy management programs have served as cornerstones of the energy service value chain for some time. In regions such as North America, utilities and governmental energy agencies have worked together to offer customers a variety of energy efficiency-related offerings and designations, including building codes (e.g., LEED), appliance standards, (e.g., Energy Star), and retrofit programs for applications including energy-efficient insulation and lighting. Around the world, energy services for homes and businesses offer opportunities to maintain and improve energy devices (such as maintenance services for boilers and systems to intelligently manage heating, ventilation, and cooling systems). Many of these more traditional, established offerings will continue to help create value for customers while helping to drive the energy transition forward.

Consumer generation and storage

On-site generation such as rooftop solar and battery storage can offer value for both the customer and the grid, and the consumer value proposition is only getting stronger.

Our research found that **a third of customers** think they will invest more in solar panels now than before the COVID-19 crisis.⁷

For key European markets,⁸ the primary value for customers is still self-consumption—using energy they themselves produce, instead of purchasing it from the grid.

This value applies to solar-only installations, as well as installations coupling solar with storage. While the relatively nascent nature of battery storage technologies means that the business case for storage-only applications on their own is limited in these markets, subsidization and opportunities for further value stacking have the potential to unlock greater storage-only opportunities in the future.

Services for consumer generation and storage include equipment referral and installation, operations and maintenance, and flexibility afforded by battery storage.

Our analysis shows that the value from these consumer generation and storage business models is projected to reach **€3.1 billion to €3.7 billion** (\$3.6 billion to \$4.4 billion) in 2030 for key European countries.

In addition, many people in cities live in buildings without their own individual roofs—a prime opportunity for shared solar addressed through crowdsourced community energy solutions where customers could rent offsite solar panels. Finnish utility Helen offers such a service for customers to rent solar panels from €4.40 per month, with the ability to choose their own panels—similar to how they would choose seats at an event.⁹ Customers may also take advantage of collective auto-consumption benefits enabled by new EU regulation, as demonstrated by Spain-based energy company Repsol's SolMatch offering.¹⁰

Tariff structures for solar and storage

Rooftop solar and storage can help save customers money on their energy bills over the lifetime of the asset, with the average payback period depending significantly on regulatory and market influences. For example, the average payback period in Australia is four to five years;¹¹ in California, it is seven years (in fact, the average U.S. household could save between \$10,000 and \$30,000 over a system's lifetime).¹² In Italy and Germany, the payback for customer-owned solar rooftop PV extends to more than 12 years.¹³

In California, this is primarily driven by net metering, which allows customers to be compensated for a net surplus of generation at the retail price. Here, storage does not

tend to make business sense, as net metering creates no incentive to shift demand. However, in Australia, a feed-in tariff program supported by electricity retailers and very high, volatile prices make storage especially valuable. Across key European countries, Accenture projections indicate that the customer business cases for standalone rooftop solar and rooftop solar + storage are set to become even stronger over the coming decade. Capital equipment costs will fall, while "revenues" mainly generated by self-consumption will stay stable, or even slightly increase along with retail electricity prices. Solar + storage is projected to grow even faster than standalone storage, due to a proportionally faster drop in capital equipment costs.



eMobility

A massive opportunity for transport electrification is emerging, driven by several trends working in tandem—driving private car owners and fleets to electrify, and leading to a value potential we estimate to be €5 billion EBITDA (about \$5.9 billion) for key European countries in 2030. Figure 3 illustrates several key areas for this opportunity.

These opportunity areas are driven by several factors. From the consumer standpoint, greater availability of EV models is contributing to improved desirability for a broader range of customers. Falling total cost of ownership for EVs with respect to internal combustion engine vehicles is increasingly motivating private car owners and fleets to electrify—two-thirds of future EV owners indicated that saving money over the longer term motivated their purchase (e.g., due to lower cost per mile).¹⁴ Advancements in battery storage technology are increasing vehicle ranges at lower costs, helping address customer range anxiety.

Post-COVID, 64% of European and U.S. consumers would be **motivated to spend more in energy-efficient alternatives** if government incentives for cleaner transport including EVs were introduced.¹⁵

Governments and legislation are playing a key role in general, both through environmental standards (e.g., clean air zones in the United Kingdom), as well as via post-COVID stimulus measures (e.g., those in Germany specifically targeting EVs) which are providing a strong boost for EV infrastructure and uptake. As charging infrastructure proliferates accordingly, consumers should find it increasingly easier to charge their vehicles—making the value proposition even more enticing.

According to our analysis, more than 40% of the projected value for eMobility in key European markets in 2030 lies in EV charging equipment and services for B2C and B2B applications. We project another 30% of the value to come from increased EV commodity sales, including the additional electricity which will need to be sold to meet the electricity demands of more EVs on the roads. Energy companies are well positioned to capitalize on both opportunity areas, but increasingly aggressive moves by cross-industry entrants mean that they need to act decisively—and fast.

Figure 3. Connected energy eMobility value pools hold great potential across several key areas.

Energy Supply	Supply of electricity to charge EVs.	Smart bundling
Charging on the Go	Charging while “out and about,” including charging on the street and at road chargers between cities.	
Charging Anywhere	“Roaming” services facilitating charging across multiple providers, such as while traveling.	
Home/Fleet Charging	Charging for homes, businesses and fleets including lease/sale, maintenance and charge point operation.	
Smart Charging	Services allowing for modulation of EV charging to optimize for price, environmental impact and convenience.	

Demand-side flexibility

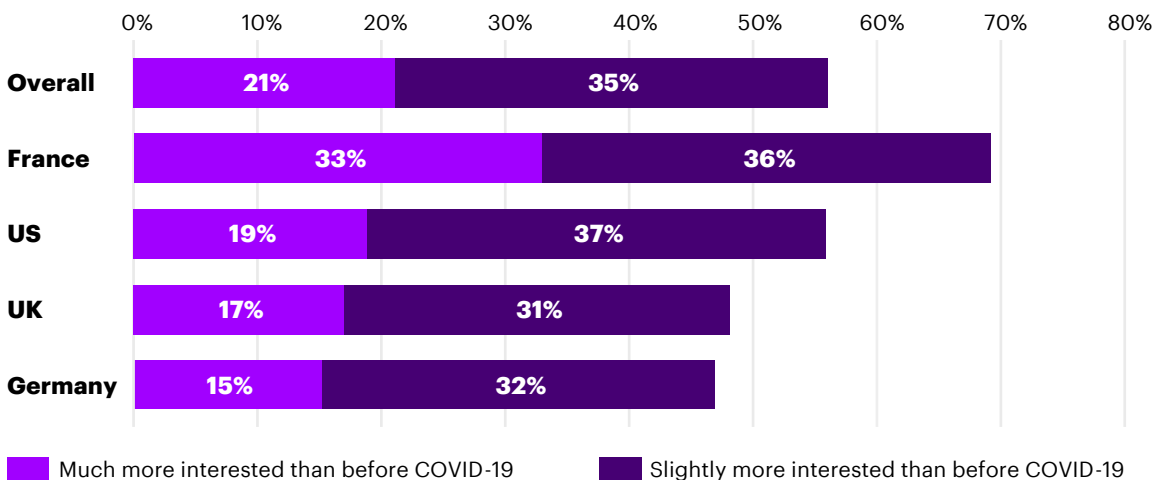
Flexibility has traditionally been the domain of large C&I customers with larger loads and the ability to modulate or turn off consumption at peak times. For these customers, solar, storage and fleet electrification offer new sources of value from flexibility. But also, with a range of new solutions on the market and greater needs for flexibility on the grid to balance supply and demand and manage congestion at both system and local level, flexibility is opening to a wider asset base, with increasingly meaningful loads to manage at smaller business and residential levels. Digital technologies and the internet of things (IoT) are making this even more feasible.

Through our analysis, total shared flexibility value for key European markets is projected to be **€3.7 billion** (about \$4.4 billion) by 2030 for market participants.¹⁶

And residential customer interest is growing. More than half (55%) of customers said they would be more interested in time-of-use tariffs/flexible tariffs/demand-response options after the pandemic to increase cost savings by shifting electricity consumption from evenings to daytime/nights (see Figure 4).¹⁷

And indeed, customers must be on board for demand-side flexibility to work—though the nature of their participation in practice can take several forms. Our research shows that customers typically do not fully understand the value and mechanisms of flexibility, nor are interested in them in and of themselves. Instead, customers are interested in simplicity, price, experience and “set-and-forget” solutions, so creating simple propositions that “hide” the complexity could help. For instance, customers could receive a simple rebate on their bills in exchange for allowing certain type of consumption control (within defined limits).

Figure 4. Following the pandemic, respondents report greater interest in time-of-use tariffs/flexible tariffs/demand response.



Source: Accenture post-COVID energy consumer survey, June 2020.

One major key to tap into smaller-scale flexibility is dynamic pricing in retail markets, which new regulation in the EU, for example, is making a reality. These pricing approaches are critical to make viable standalone storage and solar + storage business cases. On the other hand, existence of net metering (as in the Netherlands) is comparatively detrimental for the solar + storage self-consumption business case. In these cases, customers might gain some value from price arbitrage, but rarely enough to offset the investment cost.

Once customers participate with their flexibility, the focus should be on tapping into the most valuable flexible loads: primarily smart water boilers, smart heat pumps and smart charging for EVs. Smart EV charging, for instance, is projected to represent 15% of the total EBITDA value from connected energy EV charging business models in 2030 for key European markets, according to our analysis.

At the building and community level, microgrids are also proliferating and taking advantage of flexibility. Here, behind-the-meter cross-DER orchestration and optimization schemes increasingly allow a variety of devices to participate flexibly and efficiently.

Prospects for DER value stacking opportunities are also rising, due to greater participation of DERs in balancing and ancillary services markets and emerging local congestion markets. In addition to battery storage, one example which may come to fruition in the future is the participation of smart water heaters. Although not projected to yield significant EBITDA value over the next decade, smart water heaters retain a potentially advantageous quality: they represent already installed energy storage. Unlike battery storage, which entails relatively high costs to purchase and install, smart water heaters offer a comparatively low cost required to add on “smart” operation, via a small digital device to control the operations of the existing heater.

Alternative financing

To ensure that as many customers as possible have access to participate in these emerging opportunity areas for the energy transition, affordability is key—and alternative financing can help foster greater inclusion. In these models, the hardware assets are owned by energy companies and provided to consumers via subscription—reducing the upfront capital required to participate.

For energy companies, these models offer the potential to tap into a **“parallel universe” of value**, in the form of new revenue stream from monthly charges—our analysis puts the value at around **€3.6 billion** (\$4.2 billion) in 2030 for key European markets—in exchange for carrying additional capital on their balance sheets.

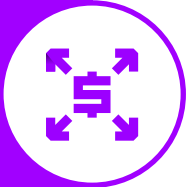
Additionally, energy companies have the prospect of working with banks to develop finance options for zero-carbon infrastructure investments.

The concept of “green finance” is not new. We have seen government initiatives such as the UK Green Deal and banks marketing “green mortgages,” but so far there has only been minimal traction with consumers. The post-pandemic environment, however, could accelerate this activity, growing strategic partnerships between banks and energy providers as decarbonized choices rise in importance with customers.

Four strategic plays

We see four strategic plays for energy companies to execute on the emerging opportunities, depending on their individual context.

1



ENERGY VALUE PROVIDER

Commodity focus, with value-added perks to improve retention

- Focuses on increasing customer lifetime value by offering extra services to drive perceived value and customer “stickiness” without the intent to generate additional profit.
- Services create reasons for personalized, relevant customer engagement—examples include handyman, locksmith, connection with local tradespeople and video streaming services.
- Offers for these services can be triggered by macro- or micro-moments that are meaningful to the customer. For example, providing real-time updates for approaching events that could cause household challenges such as thunderstorms, or offering targeted messages to offer free laundry cycles as the birth of a new child approaches.
- These acts of helpfulness can evoke brand affinity, which can help drive loyalty and customer recommendations.

2



ENERGY + HOME SERVICES PROVIDER

Adding “status-quo” services in tandem with commodity

- In addition to commodity sales, this play includes offering closely related “status-quo” home services to customers—with the intent to generate additional profit.
- These services include boiler maintenance, insulation, and smart home and/or thermostat installations.
- To make it work, a qualified field force and digital enablement for sales, installation, and maintenance are key.

3



CONNECTED ENERGY SERVICES PROVIDER

Offering future-forward products and services

- Provides products and services for emerging opportunity areas like energy management, DERs, EVs and flexibility, with the intent to tap into new and fast-growing profit pools.
- A key challenge is gaining customer trust, helping them feel fully comfortable with the process and the value they will gain.
- A qualified field force and digital enablement for sales, installation and maintenance, as well as IoT, applied intelligence and cloud competencies are key.
- The business case for connected energy models is projected (based on our modeling) to reach €8 billion (about \$9.4 billion) EBITDA by 2030 for key European countries alone (25% CAGR), while traditional commodity growth levels off at 1% CAGR (see Figure 5).
- These new business models also hold substantial environmental value potential. According to our analysis, by 2030, they could drive an annual reduction of up to 76 million metric tons of CO₂—similar to intra-EU aviation emissions today.

4



BEYOND ENERGY

Pivoting into manufacturing, technology services related to the energy transition, and addressing other emerging needs in the new power ecosystem

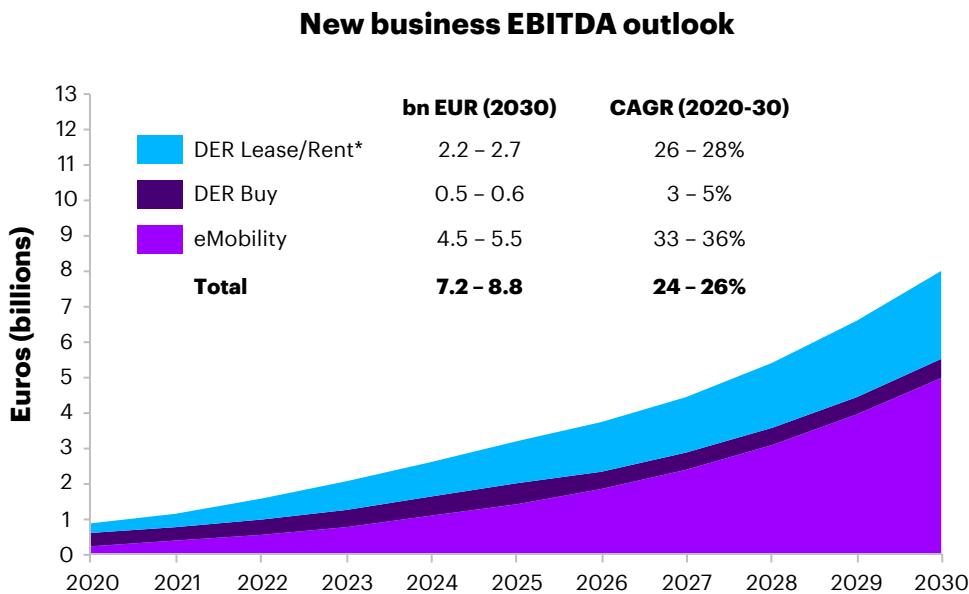
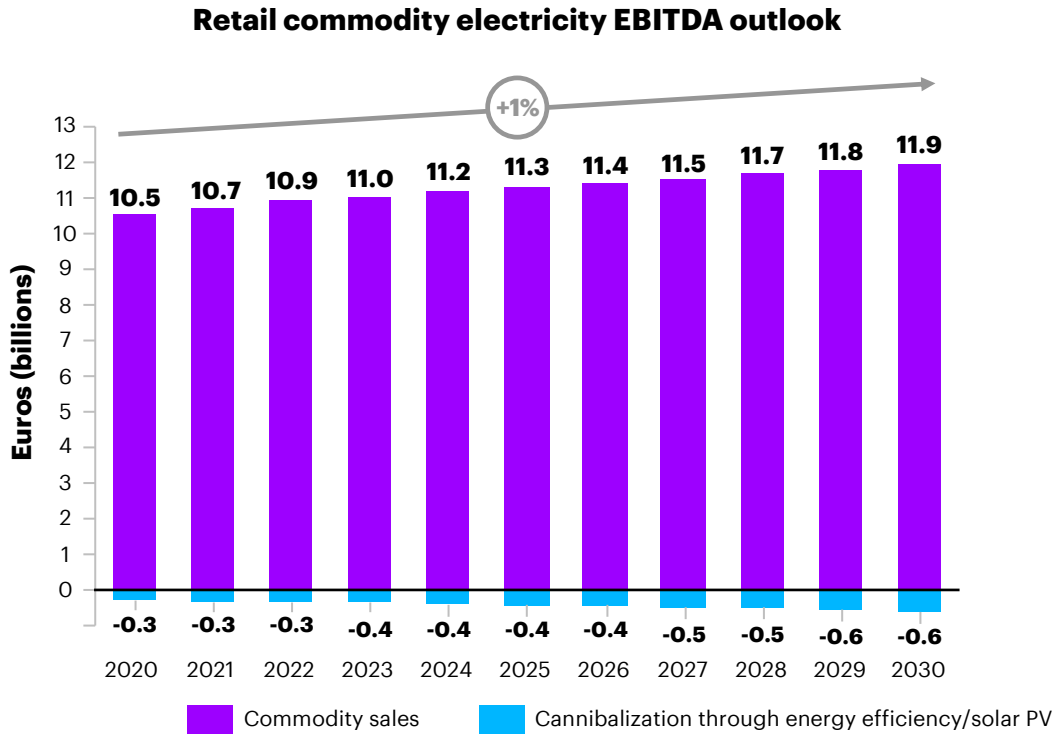
- This play can take many forms, as it refers to taking on new positions in value chain in pursuit of revenue growth and/or more complete value propositions for customers.

Examples include:

- Moving into hardware manufacture, such as producing batteries, heat pumps or EV chargers.
- Leveraging existing capabilities to expand into other centrally billable commodities such as broadband or telecom services.
- Partnering with a services company to offer white-labeled solutions for small business “going green” and/or making the shift to digital.
- Dramatic pivots into non-adjacent markets can also be considered, such as transportation, parking services with inductive charging, fleet management, or micro-mobility.

Figure 5. Connected energy business models are projected to grow rapidly over the coming decade.

EBITDA 2030 outlook (billion EUR)—commodity vs. new business in utilities retail in key European markets



* Including utility capital costs
 Excluded from the scope: traditional heating/boiler systems and services; building insulation; building energy mgmt systems/HEM not related to PV/storage/EVs.
 Assumptions: utility keeps 35% of the flexibility gains, sharing the rest with the consumer.
 Source: Accenture modeling.

Value pathways

When considering pursuit of future energy business models, timing is key. In addition to the strategic plays currently available, there are two other options on the horizon in the near future.

While not yet broadly viable as profitable business models at scale, **aggregation and commercial demand-side asset optimization** could yield significant value.

For this pathway to come to fruition, there are a few dependent factors. Most critically, market structures and rules will need to be addressed. DERs must obtain greater access to participate in existing flexibility markets, and new flexibility markets must be created at the local distribution level, allowing for effective valuation and valorization of flexibility from DERs. Volatility from renewables is also a key driver—increasing wholesale price volatility, especially at lower price levels, will likely exacerbate the critical need for flexibility. This would help support the business case for distributed flexibility sources like demand response, battery storage and smart heating. Also, natural gas prices (and by extension the state of the oil and gas sector more broadly) are a major influencing factor, given that natural gas peaking resources are currently the main sources of flexibility on the grid.

With sufficient progress, these factors will pave the way for new opportunities in this space, and open up new prospects for value stacking—combining multiple value streams to improve the business case for a given DER. Virtual power plants (VPPs), aggregated groups of DERs that bid their flexibility into the market in place of generation resources, could eventually offer significant value; for example, by aggregating the flexibility mentioned afforded by smart water heaters.

Dramatic pivots represent a second value pathway not yet currently viable, but with potential for the future.

These pivots refer to energy companies extending their offerings well beyond the core energy business—such as offering inductive charging for EVs or launching parking services in cities. Though these opportunities could potentially be pursued today, they are perhaps more realistically likely to be viable for energy companies beyond 2030 as part of an ongoing transition and diversification from the traditional pure commodity business.

MAKING IT REAL

Executing at scale
with digital customer
experience at the core



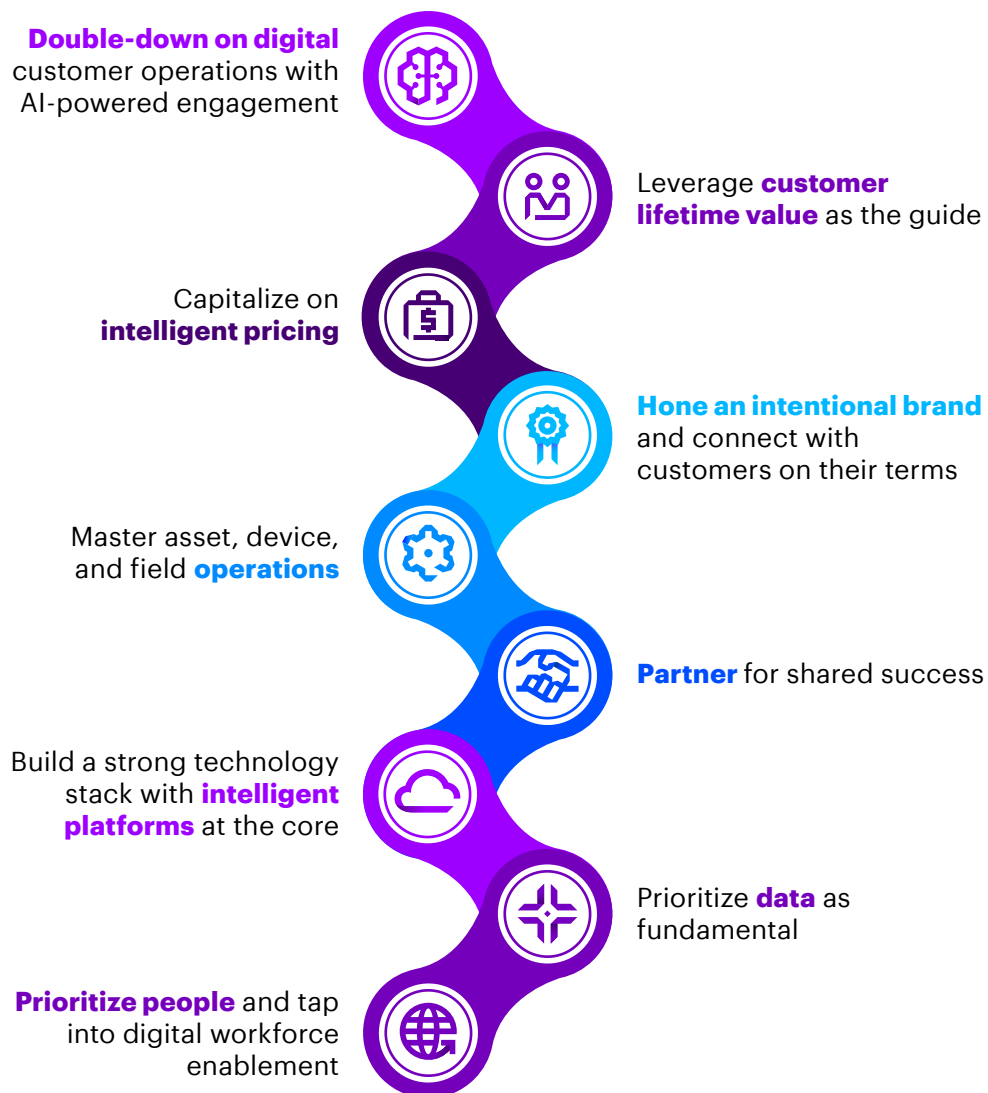
How can energy companies execute to drive growth from their chosen strategic positioning?

For energy companies that choose to go beyond traditional commodity models, the key challenge will be to successfully transition from optimizing a high-volume, low-margin business to building a low-volume, high-margin business.

The shift is **part “evolution” and part “revolution.”**

Energy companies will have the opportunity to foster “evolution” as they leverage and build on existing capabilities to play to their competitive advantages, while staging a “revolution” to rapidly develop or otherwise access new capabilities that will enable successful execution. In Figure 6 and the following pages, we offer some guidelines.

Figure 6. Nine guidelines can be considered to help enable successful execution at scale.



Double-down on digital customer operations with AI-powered engagement

The commodity business is one of low margins, high volume and intense competition based on price. Low cost to serve is critical. With value driven by volume and transaction accuracy at the lowest cost, advanced customer engagement is what enables enhancement in this space.

Emerging technology including process automation and machine learning could be leveraged in the back office to carry out routine transactions. In the front office, AI agents, virtual assistants and digital channels could help reduce cost to serve while improving customer satisfaction.

Here, focusing messaging and offerings to connect with specific customer segments is crucial. In the digital marketing space, personalization and smarter customer targeting go hand in hand. Segmenting customers and taking a systematic approach to understand their journeys helps increase the ability for energy providers to both engage with them more effectively and identify and act upon the micro- and macro-moments along the way (e.g., offering solar maintenance help after a large storm). Doing so can help improve net promoter score and help more effectively engage with customers.

This approach helps business as well, with improvements of as much as **20% to 40%** in cost reduction, **40%** increase in digital sales, up to **25%** increased customer retention (loyalty) and **50%** increase in digital containment.¹⁸

Once operating at a high level, energy companies could even seek to offer their customer and/or billing engine on an “outsourced” basis to companies pursuing other business models.

Leverage customer lifetime value as the guide

With the digital customer in mind, how can energy companies make the most effective decisions? One key emerging point of consideration is customer lifetime value: steering by value, not volume. By quantifying profit and loss for each individual customer over their lifetime, it becomes possible to make decisions quantitatively aligned with the most critical end business goals. Once the KPIs and data sources are in place, end-to-end governance, accountability, processes and stakeholder management are critical to drive actual decision making using these values.

Capitalize on intelligent pricing

Intelligent, differentiated pricing is a growth lever with significant untapped potential for energy companies. Evolving beyond the typical static rule-based and one-size-fits-all pricing schemes, intelligent pricing calculates prices in near real time based on variables including demand, competition and individual customers' willingness to pay using dynamic algorithms. Its value is its ability to simultaneously boost sales and margins by pricing at the optimal level for a given customer—with typical expected outcomes of increased sales (10% to 20%), improved margins (up to 2 percentage points) and increased revenues (5% to 15%).¹⁹ Players such as Amazon, Uber, and Airbnb are pushing the boundaries of possibility further with advanced and effective intelligent pricing schemes.

In practice, energy companies can factor in the channel used to purchase a product or service, the context of a contract, customer lifetime value and propensity to pay to help improve sales, margin and churn. Especially as energy companies navigate transitions to time-of-use tariffs, it becomes even more important to master this capability.

Hone an intentional brand and connect with customers on their terms

Brand purpose is a key element of customer trust. A great brand is the intersection of a company's strategy and execution—linking the stated business strategy with customers' service experience. Now more than ever, customers compare and make decisions based on the way they experience brands. For example, a reported 62% of consumers prefer to purchase from purpose-driven brands.²⁰

Today, the energy transition presents a unique opportunity for energy companies to redefine a strong brand built on purpose. One such example is Electric Ireland, whose recent brand launch "Brighter Together" references the unique collective identity and spirit of their homeland to emphasize the company's commitment to the collective challenge of the energy transition, and a more sustainable future.²¹

Energy companies can also focus on developing and selling products that connect with customers on their terms. Marketing analytics can be used to target offers, and personalized messaging can keep customers engaged.

Companies that can connect an intentional brand purpose with customer-focused offerings can **create uniquely captivating experiences.**

Tools such as behavioral research, a test-and-learn approach, and agile product development can prove invaluable here to fully understand customer energy mindsets and motivation (i.e., key attitudes, behaviors, and triggers around customer energy concepts) and craft brand-aligned offerings accordingly.

A great example is EDP's EV.X app, which is designed to help drivers understand what their daily lives would be like with an EV, and whether it is the right choice for them.²² This app was designed by and for users to address a key barrier for EV adoption: consumer awareness of what driving an EV would mean for them personally, based on their individual driving patterns. EDP co-developed this tool together with consumers and it is available free of charge.

Master asset, device, and field operations

Asset-focused business models can be a challenge, and the demands of a physical supply chain can be underestimated. In terms of hardware procurement and logistics, selling hardware is quite different from selling a commodity like electricity. The supply chain and logistics impacts for keeping stock and warehousing, managing marketing and sales process from lead to conversion, asset installation, and returns are substantial. As the figurative and literal face of the brand, an energy company's field force is key to capture market share and for customer contact. And monitoring and optimizing large numbers of distributed assets in the field, necessary to creating the next generation of commercial optimization, requires not only the ability to manage these assets but also breaking traditional business siloes between retail and trading.

In Australia for example, AGL is capitalizing on their strengths in optimization and trading intelligence to create a highly advanced VPP, with more than **1,000 aggregated customer behind-the-meter batteries** participating to date.²³

AGL manages customers' batteries to provide grid support services when the grid most needs it (e.g., when electricity demand spikes during a heat wave), and in exchange provides financial compensation to customers.

Energy companies with physical assets as a key existing part of their business may find a competitive advantage in this space. In Europe, forward-thinking distribution system operators (DSOs) functioning in a regulated capacity are increasingly assessing opportunities related to eMobility and

DER infrastructure deployment. By standing up separate commercial arms to pursue these models, they can seek to diversify their businesses, putting to work their field forces and asset management capabilities in the process as unique value propositions. Distribution network operators (DNOs) such as UK Power Networks Services, for example, are already pursuing this type of approach, offering EV charging infrastructure as-a-service in the United Kingdom.²⁴

Partner for shared success

Great potential lies in strategically partnering with other ecosystem players to most effectively reach and serve energy customers and bring diverse offerings to market. These partnerships can take on a variety of forms. Some will seek to augment missing capabilities energy companies may lack (e.g., partnering with a leasing company to offer a complete package for fleet electrification). They may also partner to access sales avenues and/or channels that are otherwise inaccessible (e.g., partnering with a local supermarket chain to offer their energy products and services to customers at a discount), or to gain access to customer data in pursuit of valuable insights (e.g., partnering with a local EV dealer to generate leads for charger purchase and installation). Those pursuing the Energy Value Provider strategic play may opt to partner to add attributes to their commodity offer to increase loyalty (e.g., partnering with a music or video content service provider to offer a discount on both services). Others may partner with financial providers, such as helping facilitate financing of connected energy offerings like rooftop solar or EV chargers. Across the board, these approaches can open opportunities for energy companies to embrace and capitalize on roles as ecosystem integrators.

Build a strong technology stack with intelligent platforms at the core

A strong technology stack and intelligent platforms can facilitate execution across business models. In digital energy infrastructure, it can be helpful to consider three layers of architecture: front end (relating to customer interactions), back end (focused on customer management, market messaging, billing, payments), and operational technology interaction (connected real-time device management).

The front end is all about customer engagement, channels (from telephone to mobile apps to chatbots), customer journey management, the digital experience and the advanced customer analytics programs critical to operate many business models. Here, analytics programs in particular are often customized to the specific market segment (residential, commercial, industrial), and can allow both journey management (e.g., to identify cross-sell and upsell opportunities and facilitate the sales process for energy services) and energy optimization (e.g., to optimize behind the meter loads and unlock value stacking opportunities for deployed assets).

The heart of the back end are the systems of records, customer relationship management (CRM), billing, metering and enterprise resource planning—the heavy lifting and transactional machines of the energy

company. Here, evolving business models (for example, as consumers become prosumers) require evolving business logic and support by more flexible backend systems. And alongside, operational technology platforms drive the broad set of new products and services—underpinning business models for DERs and eMobility, which require not only connecting and managing large sets of devices in the field, but also operating them in a coordinated “smart” fashion using advanced energy algorithms to create value and reduce operational expenditure.

Across these layers of architecture, business needs and corresponding IT strategies differ (see Figure 7). For example, front-end customer systems tend to benefit from unique selling points applied consistently across geographies, while back-end systems tend to have more localizations (e.g., to accommodate market specific messaging, regulation, VAT, etc.). Across all, modern architectures are cloud-based, modular, component-based, tied together by microservices, and loosely coupled—and leading companies are increasingly moving to a meta-architecture of two or three distinct architectures linked together.

Figure 7. Business needs and IT strategies differ across the three layers of technology architecture.

	Business Need	IT Strategy
Front End – Customer Interactions	<ul style="list-style-type: none"> • Defines the experience and creates unique selling points • Must be tailored to the brand and offering • Requires agility 	<ul style="list-style-type: none"> • Build and customize to excel • Tailor to the company’s specific needs and offering • Leverage unique selling points • Apply consistently across geographies
Back End – Customer Management	<ul style="list-style-type: none"> • Supports customer interactions, enables the experience • Helps energy companies win deals and serve customers • Meets the needs of the specific geographies in which it is deployed (e.g., complies with local regulatory schemes) 	<ul style="list-style-type: none"> • Hybrid solutions, where SaaS systems are configured and integrated. • Customize only where it is necessary to create a competitive edge • Tends to differ by geographies, as necessitated by geo-specific factors
Operational Technology Interaction – Connected Device Management	<ul style="list-style-type: none"> • Focuses on operational excellence • Prioritizes reliability and completeness over uniqueness 	<ul style="list-style-type: none"> • Purchase a platform that meets specific needs and is made to integrate • Customize only where it is necessary to create a competitive edge

Prioritize data as fundamental

We're moving into a real-time IT-led cloud data environment. The volume and range of data an energy provider has access to is growing and becoming more diverse. Management and governance of this data, as well as the innovative mechanisms to leverage it, are fundamental.

As opportunities to connect varied datasets and technology to create value increase, interoperability becomes increasingly critical—and the norm. We can consider interoperability in terms of two categories: interoperability connecting between devices in the field and interoperability in terms of communicating with and between third-party systems. Approaches such as decoupled data and API integration are the keys to making these a reality.

Across all these areas, it is difficult to overstate the importance of cybersecurity. In both the IT/OT (information technology/operational technology) space, as well as with regard to customer data privacy, cybersecurity continues to represent a constantly evolving challenge and powerful stumbling block requiring diligence and prioritization to effectively address.

Prioritize people and tap into digital workforce enablement

All told, it's less about the technology and more about the people using it.

Finding and retaining the best people is a **vital imperative** for energy companies.

As new business models require different and evolving skillsets, it is increasingly key to recruit, train and retain strategically. Tied in with this opportunity is a culture of entrepreneurship—fostering a work environment that encourages a proactive mindset, incentivizes individuals to take on ownership, and empowers them to be bold in taking risks (within reason).

Fostering a digitally enabled workforce brings this to life. Empowering the workforce with digital technologies has the potential for significant cost take out, for example, as greater data visibility leads to more effective coordination. It also translates into a better customer experience as the digitally enabled workforce has greater potential to deliver services that meet and exceed the expectations of the customer. This applies to not only the front and back office, but also to the field force—where digital enablement (e.g., for work management and asset management) can not only enhance operational efficiency, but also improve safety.

COMMON CHALLENGES AND GUIDELINES FOR EXECUTION



With these critical capabilities in mind: What common challenges arise, and what are the corresponding guidelines to execute? We observe several key points to consider:

CHALLENGE

Bundling can be tricky. Packaging emerging products and services along with established offerings like commodity tariffs can cause churn, unexpectedly eroding the bottom lines of traditional models. Multiple overlapping and uncoordinated customer bundles can bombard customers with too many and conflicting options (e.g., a solar + storage bundle being marketed in parallel with a conflicting EV charging + tariff bundle).

Serving the SMB segment with connected energy services can be costly and complex.

The extensive process to close a sale with a typical SMB customer can be difficult to cover by revenues due to the comparatively small deal sizes.

Pushing digital customer solutions can be difficult—customers historically prefer live or telephone support, and even more so for energy services. Getting them to switch to digital can feel like an uphill battle.

GUIDELINE

To realize the significant value of bundling—increasing customer stickiness and reducing churn, creating turn-key service propositions that meet customers on their terms, and increasing perceived value for customers—first verify that the customer journey for each service is working well end to end. Craft meaningful bundles that represent a cohesive, intentional menu of options, and preserve a 360-degree view of customers to confirm coordination. When acquiring service partners to execute, it is even more critical to first stabilize their independent journeys before bundling.

Strike a balance between customer personalization and standardization, which will vary across segments. Larger deals from C&I customers will continue to warrant higher-touch interaction, and small residential deals will continue to require more standardization as mass-market offerings. To achieve profitability in the SMB segment, focus on digital customer sales and engagement approaches to reduce the cost to acquire and close.

Embrace consumer adaptability and digital as the new normal, seizing digital opportunities generated by the accelerated upheavals of the post-COVID world. While live support can in some cases offer advantages over digital, these are in practice often minimal and rarely represent a competitive advantage the digital alternatives. And in many cases, digital alternatives prove to be superior.²⁵ Now more than ever, an acceptable digital solution can be sufficient and preferred. It's time to challenge orthodoxies which have hamstrung digital customer support, while customers are open to the changes.

CHALLENGE

Time to market for new business models and offerings can be slow. Building everything in-house can incur large investments and fail to produce a differentiated capability as competitors move faster and with more agility. Partnering with third parties can introduce risk for theft of intellectual property, trade secrets or data.

Pilots and proofs of concept can be uncoordinated, lack prioritization tied to business strategy across initiatives and **can get “stuck” before achieving execution at scale.**

The tipping points for connected energy business models can feel as if they are still far in the future. It can feel as if it will be impossible to capture returns in a reasonable timeframe comparable to those of a commodity business.

GUIDELINE

To achieve scale fast, energy companies can buy (acquire another player in the space) or borrow (partner to fill the gap) rather than having to build on their own. The optimal choice depends on individual company and market specifics such as internal skills, available capital, technology, vendor landscape and targeted time to market, as well as the nature of the capability in question. This is an opportunity to commit to core differentiated capabilities. Partnering can introduce risk, but with the appropriate approach and governance has the potential to realize outsized benefits.

Whether building, buying, or borrowing—execute pragmatically. Adopt a structured approach to innovation; i.e., an innovation funnel with gates to systematically determine which initiatives should be pursued further—and which should fold. Operationalize a structured approach to execution, to coordinate and manage rollout of initiatives across diverse stakeholders and business segments—helping verify that the rollout remains coordinated in the periods between innovation gates. And retain scaling with pace to profit as the end goal. By focusing on scaling up from the minimum viable implementation wherever possible, energy companies can increase their scale for the appropriate opportunities.

Timing of market entry is crucial (see Figure 8). In new markets such as EV and flexibility, it's necessary to enter in time to build a position—but there is also a need to be patient, before the volumes start to scale and the business case works out. In the first few years, an energy company may lose money, but this can prove to be a worthwhile investment. In the meantime, the commodity business represents a steppingstone to bridge the gap.

Also, look beyond EBITDA. For example, consider impacts on future company value (e.g., market share price, company market valuation), the power of which are evidenced by fast-growing players like Tesla and Enel X.

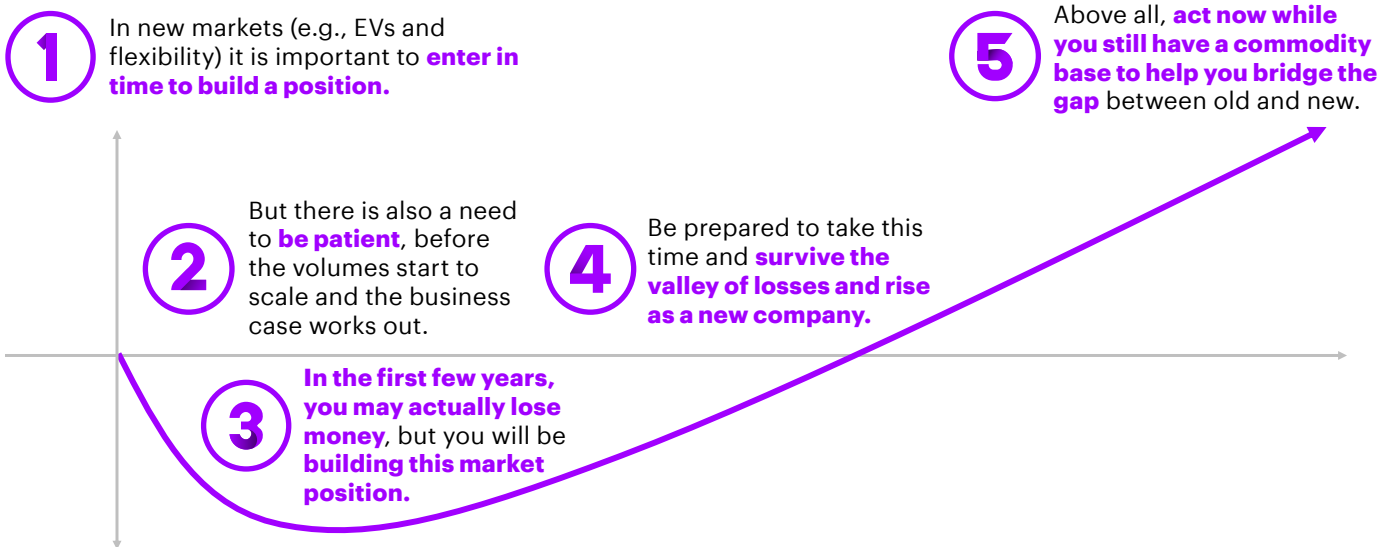
CHALLENGE

In some cases, existing energy regulation supports the commodity business and legacy power model but is not compatible with and/or does not effectively incentivize newer connected energy business models, such as those that require longer-term, trust-based customer relationships.

GUIDELINE

Collaborate to evolve market structures—this is a necessary investment to be made now in the interest of future returns. Work closely with regulators, policymakers and consumer associations to evolve market structures that foster better integration and participation of DERs and EVs into the system. These efforts can also help define new sets of KPIs to measure competitive retail markets, thereby promoting trust-based relationships between energy service providers and consumers for the adoption of connected energy services. Now more than ever, governments and policymakers are open to change.

Figure 8. To succeed in new connected energy markets, timing is crucial and market position takes investment.



CONCLUSION

For energy companies, the inflection point is now. The coming decade will be one of tumult marked by dramatic changes in customer preferences, expanding possibilities afforded by digital technology, sharply shifting regulations and the need to manage an energy system forced to keep pace.

As the global population collectively reshapes its habits and ways of living, energy companies have a unique opportunity to harness this tumult and leverage it to “pivot to the new” and embrace the change. This opportunity goes beyond profit—accelerating the energy transition represents the only viable path forward to ensure a livable world for future generations.

To assume this mantle, energy companies must take decisive action. Mastering innovation, adopting a digital mindset and positioning the right technologies at the core, leveraging AI at scale, and empowering the next-generation workforce will determine the new energy leaders of this decade.

Success in transforming to a digital connected energy company will be determined by the scale and quality of execution, as well as the collective efforts of the ecosystem—it is fundamentally contingent on collaboration. It is only by acting and working together that we have the potential to successfully evolve—and ride the wave of change that the coming decade will bring.

Sources

- ¹ Leading Energy Transition in Tough Times, Accenture 2020, www.accenture.com.
- ² Ibid.
- ³ New Energy Consumer: Thriving in the energy ecosystem, Accenture, 2016.
- ⁴ Seeking Shared Success: Empowering customers in the energy transition, Eurelectric and Accenture, 2020, <https://cdn.eurelectric.org>.
- ⁵ New Energy Consumer: New paths to operating agility, Accenture, 2017; New Energy Consumer: Serving small and medium-size businesses, Accenture, 2019, www.accenture.com.
- ⁶ Seeking Shared Success: Empowering customers in the energy transition, Eurelectric and Accenture, 2020, <https://cdn.eurelectric.org>.
- ⁷ Accenture post-COVID energy consumer survey, June 2020.
- ⁸ Germany, France, Spain, the Netherlands, United Kingdom, Italy—per Accenture analysis.
- ⁹ Solar power by renting solar panels, Helen Ltd., <https://www.helen.fi>.
- ¹⁰ “Repsol launches Solmatch, the first large solar community in Spain,” Repsol press release, April 30, 2020, <https://www.repsol.com>.
- ¹¹ Solar PV and batteries, Australian Government, Department of Industry, Science, Energy and Resources, <https://www.energy.gov.au>.
- ¹² NREL Q4 2018/Q1 2019 Solar Industry Update, National Renewable Energy Laboratory, May 2019, <https://www.nrel.gov>.
- ¹³ Accenture analysis.
- ¹⁴ Utilities: Lead the charge in eMobility, Accenture, 2019, www.accenture.com.
- ¹⁵ Accenture post-COVID energy consumer survey, June 2020.
- ¹⁶ Flex and Balances: Unlocking value from demand-side flexibility in the European power system, Accenture, 2018, www.accenture.com.
- ¹⁷ Ibid.

Sources

- ¹⁸ Accenture analysis.
- ¹⁹ “Pricing intelligently for competitiveness and growth,” Accenture, 2019, <https://www.accenture.com>.
- ²⁰ “From Me to We: the Rise of the Purpose-led Brand,” Accenture, 2018, <https://www.accenture.com>.
- ²¹ “We’re brighter together:” Client: Electric Ireland, ROTHCO—part of Accenture Interactive, <https://rothco.ie/work/electric-ireland-were-brighter-together>.
- ²² App EV.X, EDP, <https://www.edp.com/en/app-evx>.
- ²³ “AGL launches new product offer to make home batteries more affordable for customers,” AGL media release, August 21, 2019, <https://www.agl.com.au>.
- ²⁴ How can I electrify my vehicle fleet? UK Power Networks Services, <https://www.ukpowernetworksservices.co.uk>.
- ²⁵ “Five Strategies Every Leader Must Embrace to Harness Disruption,” MIT Sloan Management Review, August 27, 2020, <https://sloanreview.mit.edu>.

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