A Customer-Centric Approach to Distributed Energy Resources

How utilities can benefit from engaging customers in the future of energy

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chapter 1: DISTRIBUTED ENERGY RESOURCES AND CUSTOMER EXPECTATIONS
Utilities have historically been a service delivery business, with a product that flowed in one direction only: from the utility to the customer. But today, as distributed energy resources (DERs) are putting more power in the hands of the consumer, the landscape is shifting. Utilities now need to approach their business from a far more customer-centric mindset.

With more and more customers producing and storing their own electricity through distributed wind and solar, electric vehicles, combined heat and power, and batteries—while also shifting their energy usage with demand response (DR) tools like smart appliances and programmable thermostats—the relationship between utilities and their customers is now a two-way street.

These new customer-generated resources provide plenty of benefits to utilities. For instance, they can reduce demand onpeaker plants, even out grid variability, and make it easier to maintain steady energy pricing while increasing use of green energy sources. But they also come with their fair share of challenges—namely an entirely new approach to modeling grid resources that now must take into account resources that consumers themselves are providing. This is causing utilities to begin looking at distribution systems that change the definition of customer-centric.

Shifting customer expectations

Of course, utilities have always held their customers front and center in the service they provide, but that means something vastly different today than it did even a decade ago.

Part of the reason for this shift is that customers have become accustomed to a level of service we couldn’t have fathomed 10 years ago. Consumers now expect instant and constant communication with the businesses they support. Instant gratification—whether that means immediate responses to a communication or receiving products and services quickly—has become a hallmark of “good business.” Customers now expect the same level of service from their utilities as they have come to anticipate in other areas of their life, like online shopping portals, grocery delivery services and other 21st-century commerce experiences.

The DIY energy revolution

In addition to an overhaul in customer service expectations, the distributed energy landscape is transforming the way consumers interact with their utilities.
Now that customer-generated electricity is more accessible because of the lower price of solar panels, battery storage, electric vehicles and more, customers have become accustomed to being active players not only in electricity consumption, but also in electricity generation. The result? A far more active and involved customer who expects much more from their utility.

The DER “tipping point”

As more and more energy customers adopt DERs, utilities face a pressing question: Where is the tipping point? What is the point at which utilities must make major changes to adapt before it’s too late?

The answer isn’t entirely clear, but research shows that customer-driven shifts in energy consumption and generation are on a steep incline. According to the report Planning for a Distributed Energy Future by West Monroe Partners (WMP), 15 percent of customers surveyed in 2018 said they were using renewable energy resources to provide electricity to their homes, which is a hefty increase from just 3 percent a mere three years prior.

At the moment, adoption of DERs like renewables is seriously outpacing utility planning for these changes. In fact, the report notes that upwards of 90 percent of utilities are seeing the impact of DERs on their operations or revenue. But some 60 percent of those utilities had no specific management services available to handle DERs. That’s about the same figure that WMP saw three years ago in their 2015 study, Keeping the Lights On. That’s not to say that utilities’ outlook has not shifted at all in the three years since the original report.

In 2018, 41 percent of utility representatives saw DER as an opportunity rather than a challenge. That’s up from 31 percent in 2015!
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But while more and more utilities are appreciating the opportunities that DERs provide, many are struggling with how to parlay that opportunity into an improved customer experience. Eighty percent of the customers who responded to the WMP study stated that they had not yet been approached by their utilities with any alternative energy options.

It’s clear that as utilities revamp their approach to the distribution grid, they must take new consumer realities—including DERs and an expectation of on-demand information—into account in order to continue providing truly customer-centric service.
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CASE STUDIES IN CUSTOMER-ORIENTED DER

As utilities are adjusting to the new distributed energy reality, two utilities stand out for their innovative and diverse methods of rising to the challenge while keeping customers at the forefront of their efforts, according to a report from the National Renewable Energy Laboratory.

Sacramento Municipal Utility District (SMUD)
The sixth-largest municipal utility in the United States, SMUD has long been a leader in clean energy. To understand the impact the rapid increase in adoption of DERs among its customers would have on the grid, SMUD launched an innovative planning study. What set this study apart from others is that it didn’t look at just one technology. Instead, it simultaneously analyzed the effects of multiple DERs on the grid.

While each utility is unique, the SMUD study had some takeaways that can help inform across the board. According to the NREL report, the SMUD study "highlighted the importance of creating, frequently improving, and updating a customer database for better analytics and modeling specificity."

Con Edison
Facing aging infrastructure, rising consumer electricity rates and a rapidly growing population in some of its service areas, Con Edison endeavored to find an alternative to the billion-dollar grid expansion that would be necessary with a business-as-usual approach. By focusing on the new reality of how customers are using energy, Con Edison was able to create a DER-forward plan that would cost approximately $200 million and defer grid expansion several years. This customer-centric plan devoted 75 percent of the budget to customer-side solutions (including 41 MW of customer-side DERs), allowing Con Edison to meet and invest in solutions customers already want, while also managing major budgetary and infrastructure challenges.

These are just two examples of how utilities are turning DER challenges into opportunities, all while prioritizing customers’ experiences. In the next chapter, we’ll look at how your utility can engage customers in DER efforts.
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ENGAGING YOUR CUSTOMERS IN DER
As DERs proliferate and consumer attitudes and expectations change, utilities will need to engage with their customers in entirely new ways. By adopting the persona of trusted partner and advisor—rather than traditional service provider—utilities have a unique opportunity to build lasting, mutually beneficial relationships with their customers.

The outlook is promising for forward-looking, customer-focused utilities, according to a brief by Bain & Company. “Customers’ enthusiasm for generating and managing their own electricity suggests a demand for new and competitive businesses that can help customers—particularly commercial and industrial ones—meet those needs.”

But what exactly does it look like to meet these evolving needs? According to the Bain & Company brief, utilities should start small—with pilot programs backed by their regulators. “These trials give utilities a platform to develop an understanding of regulatory requirements, learn how to measure the impact of DERs, experiment with different compensation models and begin to adapt their own internal processes to accommodate the changes,” the authors write.
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UNDERSTANDING BARRIERS TO ENGAGEMENT

While many customers are interested in DERs like solar, demand response and energy efficiency tools, some hesitate to make the move past the research stage. The information can be overwhelming, and when utilities don’t help guide their customers through the process, it can feel like they’re going it alone.

In the role of trusted advisor and partner, utilities can overcome barriers to engagement by:

- Helping customers understand which DERs are available and providing personalized guidance about which measures are the best fit for them.
- Addressing the cost barrier by facilitating rebates and other financial incentives.
- Providing home energy reports, which can lift customer engagement in energy efficiency and other utility programs by 11 percent. When those reports include targeted program promotion, the participation lift goes up to 30 percent.¹
- Using digital communication tools—not only relevant emails and user-friendly websites, but also social media—to provide customers with the information they want, when they want it.

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HOW TO ENGAGE CUSTOMERS IN DER PROGRAMS

When Con Edison was seeking to engage customers in its DER programs, they worked with an energy efficiency customer engagement platform similar to Franklin Energy’s NGAGE. Below are some of the priorities the team set for overcoming barriers to engagement.

Identifying communication methods

To increase both participation and customer satisfaction, it's important to communicate with customers through all the right channels. Those include large-scale outbound communication like personalized reports and recommendations, emailed energy insights, and high-bill alerts with recommendations for DER options.

Making it easy to shop for DER products

An online marketplace provides customers the instant information and always-on shopping experience that today's customers expect. A fully integrated marketplace can provide personalized recommendations for energy savings, demand response and other DER products while also automating the rebate process.

Understanding the customer journey

Using customer engagement data such as which links are clicked in emails or whether a customer has scheduled an energy audit, utilities can target their communications to meet customers where they are on the DER journey.

Measuring success

Before launching a customer engagement program, it's important to understand your metrics for success. Con Edison's success metrics included market animation, stakeholder sentiment, new revenue, and co-benefits. The benefits for each utility will differ, but it's important to understand what they are at the outset.

Communicate the benefits of DERs to customers who don't use them

Customers who don't engage in DERs—and particularly renewables—may see utilities’ investments in things like solar adoption and electric vehicle rebates as a subsidy for the well-to-do. After all, why should their utility costs help fund someone else's Tesla?
But according to new research summarized in Forbes, investment in renewables benefits all utility customers—not just the ones who drive electric cars, use a smart thermostat or install solar panels.¹ Take electric vehicles, for example. The owners benefit by saving on fuel and maintenance. But all electric ratepayers benefit from reduce fixed costs, and society as a whole benefits from reduced carbon emissions.

In fact, utility customers—not the vehicle owners—are far and away the biggest winners when it comes to electric vehicle adoption. "One study by M.J. Bradley & Associates shows $265 in annual benefits from a plug-in EV operating in New York: $18 for the owner, $166 for the utility customer, $81 for society in reduced emissions," according to the Forbes article.

Communicating these benefits to all utility customers—not just the ones engaged in DER initiatives—can go a long way toward building customer satisfaction even among people who may never take advantage of new distributed energy offerings.

By engaging all customers in DER strategy, utilities can head off objections and instead establish themselves as trusted, forward-looking advisors in the transforming energy landscape. That will not only help improve customer relations, but it will also make sure utilities are making fully informed decisions as they plan for a new, more distributed electrical grid.

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6 STEPS IN DER LIFESTYLE MANAGEMENT

In an article he wrote for CIO Review, Oracle Utilities’ senior vice president and general manager Rodger Smith outlines six steps in the DER lifecycle management process, and provides ways utilities can keep today’s customers in mind at each stage:

STEP 1: CONNECTING AND ENERGIZING
In this step, Smith encourages utilities to not only capture information about DERs, but also to engage customers by informing them of all programs and services available to them.

STEP 2: OPERATIONS AND CONTROL
DER is generating mountains of data. In the operations and control step, utilities must find ways to make this data usable. Automated information management processes will help utilities integrate the growing number of DER technologies being added daily.

STEP 3: SERVICE AND MAINTENANCE
In order to provide customer-centric service in step three, utilities should focus on communicating with customers via their preferred methods, alerting them to problems with their distributed energy resources, and engaging them in programs like demand response.

STEP 4: RISK ANALYSIS AND PLANNING
DER data needs to be integrated into the overall planning process. It’s especially important to account for the full value of the ERs in terms of feed-in tariffs and net-metering retail rates.

STEP 5: OUTAGE AND DISTRIBUTION MANAGEMENT
The effects of power outages range from the inconvenient to the truly catastrophic for utility customers. To lessen the impact outages have on customers’ lives, utilities can capitalize on DERs to power parts of the grid using energy generated and stored by connected, distributed devices.

STEP 6: CUSTOMER INTERACTION
Continuing and more in-depth engagement is made possible by consistent, accessible information and communication. We’ll cover this idea in much more detail in the coming chapters.
One of the main reasons consumers install solar panels is to save money on their electricity bills. Unfortunately, the savings potential is often oversold—which can lead to unhappy customers. In addition, the impact of solar on the electricity bill can often be hard to interpret. The result? Long and frequent customer service calls.

To address this, utilities need to be proactive partners to their solar customers. Here are some ways to do that:

- Communicate with customers at every stage of their solar adoption journey. Provide information about products and incentives while customers are researching solar. Once they install their panels, send them “welcome” communications that help them understand what to expect, how to read their bill, etc. Continue communicating with them throughout the solar journey, providing relevant information at every step of the way.

- Give them the data they need. Let them know what they’ve saved, what they’ve contributed toward the grid, and how they compare to neighbors.

- Drop the jargon. Speak to your customers in a language they understand. Make bills easy to understand. Show their savings with visuals.
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It's clear that as consumer expectations change and more residential and commercial customers take control of their own energy usage, storage and generation, utilities can no longer get by with good service. They need to provide more than just energy; they need to provide a truly customer-centric energy experience.

With that goal in mind, here are five steps to developing a customer-centric DER strategy:

**STEP 1: GET TO KNOW WHAT YOUR CUSTOMERS WANT**

Understand your customers' thoughts about DERs and what they expect from their utility when it comes to solar, electric vehicles, battery storage, demand response, smart home devices and more.

To do this, utilities need to do market research and analyze customer data to determine ways to provide the services customers want, while also meeting the needs of the electric grid as a whole.

It's useful to look outside the utility space when considering what customers want. For instance, consider how your customers use services like Amazon, DoorDash and Uber. What do they appreciate about those services that makes them so popular? Is it the easy-to-use apps? The at-your-fingertips availability of information, products and services? Learn how your customers do business with other businesses and let that inform how you structure your DER approach.

While it's true that utilities are restricted by regulations that other industries don't need to follow, it's also true that customers don't necessarily recognize that distinction. They still expect the level of service and availability from utilities that they experience in other aspects of their lives.

**STEP 2: PLAN YOUR APPROACH**

Determine your strengths and weaknesses related to new customer expectations, and plan for how you can address those to provide a fully integrated DER strategy.

Factoring in budgetary considerations, your regulatory environment and any other constraints, consider how you can design your DER strategy with customer needs and expectations in mind.

Low-cost options include providing DER information on your website to cement your role as a trusted advisor and partner. Next-level engagement opportunities include in-person events, like electric vehicle “Ride and Drive” events with dealerships. Higher-cost options include incentives, rebates, rates and infrastructure to help change customer behavior.
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STEP 3: IMPLEMENT YOUR PLAN

By communicating with your customers in the ways that make the most sense for them, meet them at their stage of the customer journey—providing the information, tools, resources and offerings they need.

Drawing lessons from the non-utility customer-service darlings mentioned above, you can implement personalized communication strategies using digital tools like automated messaging systems, targeted emails based on pinpointed segmentation, clean and simple online shopping, easy-to-use apps and more.

Third parties can be useful partners when it comes to implementing a DER plan. For instance, as mentioned in Chapter 2, an online marketplace can be a very effective way to usher customers from the consideration phase to the adoption phase, but managing the logistics of an online store is beyond the capabilities of many utilities. Working with a partner like Franklin Energy to implement a turnkey marketplace on your utility’s website provides all the benefits with none of the development or maintenance headaches.

STEP 4: EVALUATE YOUR SUCCESS

Use data insights to determine how your strategy is working and whether you’re meeting the goals you set out to achieve. An integrated, customer-centric approach requires evaluation device-level data and customer satisfaction data, as well as advanced analytics.

Are customers seeing improvements to their bills? Are customer surveys improving? Are more people engaged in DERs? Is your utility seeing reduced peak load demands? Whatever your measures of success, track them closely to see where you’re hitting the mark and where adjustments are needed.

STEP 5: IMPROVE, IMPROVE, AND IMPROVE AGAIN

Once you know what’s working and what isn’t, you can refine your plan to get you closer to your goals. The process of evaluation and improvement isn’t a one-and-done type endeavor. Constant monitoring, lesson-learning and improvement will allow your utility to meet customer expectations—and your internal goals—in an ever-shifting energy landscape.
CONCLUSION

The proliferation of distributed energy resources, combined with a radical shift in customer expectations, presents a challenge to utilities. But the new energy landscape provides opportunities as well—for a more stable grid, improved energy efficiency and elevated customer experience.

By taking a customer-first approach to distributed energy resources, utilities can plan for the future while meeting the changing needs and expectations of today’s electricity customers. As you seek to understand and plan for the grid of the future, Franklin Energy can help you keep the customer experience front and center.

Contact us to learn more about partnering with Franklin Energy to meet your customers’ evolving needs—both now and in the years to come.
Our Purpose
To help all people use our world's precious resources more efficiently

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