HCLTech | Supercharging Progress™

Customer engagement and Asset management convergence

Point of View

CONTENTS

Overview

With the increasing penetration of distributed energy resource (DERs), the lines between customer and asset management are becoming increasingly blurred. Customers are no longer just a consumer of energy, but also producers of energy through their own DER systems. The integration of customer and asset management is becoming more important for energy and utility companies, particularly with the growing penetration of distributed energy resources (DERs) such as solar panels, wind turbines, and batteries.

Customer management involves understanding the needs and preferences of customers and delivering services that meet their requirements. Asset management, on the other hand, involves managing and maintaining physical assets such as power plants and distribution systems to ensure they operate effectively and efficiently. At the same time, digital technologies such as IoT sensors, data analytics, and machine learning algorithms can help companies manage their assets more effectively and adapt to the changing energy landscape. By developing flexible and adaptive asset management strategies, companies can maximize the benefits of DER and ensure the reliable and efficient operation of the energy grid.

DER impact on customer engagement

One of the primary impacts of DER penetration on customer engagement needs is the need for greater control and visibility over their energy usage.

Customers who generate their own electricity want to understand how much energy they are producing, how much they are using, and how much they are exporting to the grid. They also want to be able to manage their energy usage and storage to minimize their reliance on the grid and reduce their energy bills.

To meet these needs, utilities are developing new customer engagement strategies, such as energy management apps, online portals, and smart home devices. These tools allow customers to monitor their energy usage, set energy goals, and receive personalized recommendations on how to reduce their energy consumption. They also enable customers to participate in demand response programs, where they can earn incentives for reducing their energy usage during peak demand periods.

Another important impact of DER penetration on customer engagement is the need for greater transparency and flexibility in energy pricing. Customers who generate their own electricity want to be able to sell their excess energy back to the grid at fair market prices. They also want to be able to choose from a range of pricing plans that reflect the true cost of energy at different times of the day.

Key focus areas of the new customer engagement model

The new customer engagement model should focus on four key areas: education, empowerment, collaboration, and innovation.

Education
Customers need to understand how DERs work, how they can benefit from them, and what impact they have on the grid. Utilities should provide customers with educational resources, such as videos, articles, and webinars, to help them make informed decisions about their energy usage.

Empowerment
Customers who generate their own electricity need tools and information that enable them to manage their energy usage effectively. Utilities should provide customers with energy management apps, online portals, and smart home devices that allow them to monitor their energy usage, set energy goals and receive personalized recommendations on how to reduce their energy consumption.

Collaboration
Utilities must collaborate with customers, DER providers, and other stakeholders to develop new solutions that meet the evolving needs of customers. Collaboration can take the form of working groups, focus groups, and surveys to identify customer needs and preferences.

Innovation
Utilities must be willing to innovate and experiment with new business models, pricing structures, and engagement strategies to meet the evolving needs of customers. Innovation can involve pilot projects, partnerships with DER providers and investments in new technologies.

As with every other major change in a business operating model, this presents new opportunities and challenges for energy and utility companies, as they need to manage not only their traditional centralized assets but also a growing number of distributed assets owned by their customers.

Opportunities and challenges

One of the key challenges for energy and utility companies in integrating customer and asset management is the need to understand and manage the energy flows between the grid and their customers' DER systems. With traditional centralized assets, energy companies have a high degree of control over the energy flows in the grid. However, with DER, the energy flows can be more complex and difficult to manage.

To address this challenge, energy and utility companies are turning to advanced technologies such as smart meters and data analytics to gain greater visibility into the energy flows between the grid and the customers' DER systems. Smart meters can provide real-time data on energy consumption and production, enabling companies to better understand the energy flows. This helps them optimize their operations accordingly.

Another challenge in integrating customer and asset management is the need to develop new business models that account for the changing role of customers in the energy ecosystem. With DER, customers can play an active role in the energy market by selling excess energy back to the grid or participating in demand response programs. This requires energy and utility companies to develop new business models that account for these new sources of revenue and integrate them into their asset management strategies.

To address this challenge, energy and utility companies are exploring new business models such as energy-as-a-Service and peer-to-peer

energy trading. Energy-as-a-Service models allow customers to purchase energy services rather than physical assets, while peer-to-peer energy trading allows customers to trade energy directly with each other, bypassing the traditional energy companies.

Changes to customer engagement to support DER

In this section, let's explore how the adoption of DER presents a significant opportunity for energy and utility companies to engage with their customers in new and innovative ways. By empowering customers with data, providing flexible pricing, streamlining the installation process, collaborating with third-party providers, and leveraging customer feedback, energy and utility companies can support their customers' transition to a more sustainable energy future.

Empowering customers with data: DERs generate a vast amount of data, such as energy usage, production, and storage. Energy and utility companies can leverage this data to provide their customers with insights into their energy consumption and production. By empowering customers with this data, they can make informed decisions about their energy usage and understand how their DERs are performing. Energy and utility companies can also use this data to offer personalized recommendations and incentives that encourage customers to adopt more sustainable practices.

Providing flexible pricing: With DERs, customers could generate their own energy, reducing their reliance on the grid. This presents a challenge for energy and utility companies, who must now compete with their own customers for market share. To remain competitive, energy and utility companies need to provide flexible pricing structures that incentivize customers to stay connected to the grid. For example, companies could offer time-of-use pricing that reflects the real-time cost of energy, providing customers with a financial incentive to use energy during off-peak hours.

Streamlining the installation process: The installation process for DERs can be complex and time-consuming. Energy and utility companies can streamline this process by providing customers with a one-stop-shop for installation, financing, and maintenance services. By offering these services, energy and utility companies can reduce the barrier to entry for customers looking to adopt DERs. This also creates an opportunity for energy and utility companies to build a long-term relationship with their customers, providing ongoing support and maintenance services for their DERs.

Collaborating with third-party providers: DERs are not limited to solar panels and energy storage systems. Customers may also adopt electric vehicles, smart home technologies, and other IoT devices that generate and consume energy. Energy and utility companies can collaborate with third-party providers of these technologies to provide a seamless customer experience. For example, a customer may purchase an electric vehicle from a third-party provider, but the energy and utility companies could provide the charging infrastructure and energy management services.

Leveraging customer feedback: Finally, energy and utility companies should leverage customer feedback to continuously improve their DER offerings. By soliciting feedback from customers, energy and utility companies can identify pain points and areas for improvement in their customer engagement strategies. This feedback can then be used to refine their offerings and provide an even better customer experience.

New features required in customer engagement to support DER

DER management tools
One of the key challenges for customers with DERs are managing their energy usage and production. Energy and utility companies can provide DER management tools that allow customers to monitor their energy production and usage in real time. These tools can help customers optimize their energy usage, reduce their reliance on the grid, and maximize their savings.

Billing and payment options
DER customers may generate excess energy that they can sell back to the grid. Energy and utility companies need to provide billing and payment options that support these transactions. Customers may also have more complex billing requirements, such as billing for both energy usage and energy production. Energy and utility companies need to provide flexible billing options that meet the needs of DER customers.

Customer service and support
DER customers may have more complex support requirements than traditional energy customers. Energy and utility companies need to provide customer service and support that is tailored to the needs of DER customers. This may include technical support for DER installation and maintenance, as well as support for billing and payment issues related to DERs.

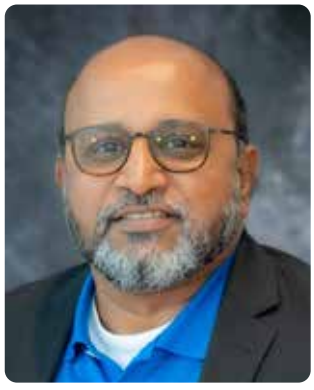
Community engagement features
DER customers may also be interested in participating in community energy initiatives, such as virtual power plants or energy sharing programs. Energy and utility companies can provide community engagement features that allow customers to connect with other DER owners and participate in these programs. These features can also help customers understand the impact of their DERs on their communities and the environment.

Integration with smart home technologies
As more customers adopt DERs, they may also adopt smart home technologies such as connected thermostats, lighting systems, and appliances. Energy and utility companies need to integrate with these technologies to provide a seamless customer experience. For example, customers may want to control their DERs through a smart home app or use smart home data to optimize their energy usage.

Real-time energy market data
As DERs become more widespread, energy markets will become more dynamic and complex. Energy and utility companies need to provide customers with real-time energy market data that allows them to make informed decisions about their energy usage and production. This data can help customers optimize their energy usage and take advantage of opportunities to sell excess energy back to the grid.

Conclusion

The integration of customer and asset management is becoming increasingly important for energy and utility companies, particularly with the growing penetration of distributed energy resources (DERs). By developing flexible and adaptive customer management alongside its asset management strategies, companies can maximize the benefits of DER. They can ensure the reliable and efficient operation of the energy grid and give customers greater control over their energy usage. This will create new opportunities for personalized services and advice, driving innovation in new products and services to support a vision for sustainability.



Author

Prakash Menon
AVP & Industry Principal – Utilities
Prakash.menon@hcl.com

HCLTech | Supercharging Progress™

hcltech.com

HCLTech is a global technology company, home to 222,000+ people across 60 countries, delivering industry-leading capabilities centered around Digital, Engineering and Cloud, powered by a broad portfolio of technology services and software. The company generated consolidated revenues as of $12.3 billion over the 12 months ended December 2022. To learn how we can supercharge progress for you, visit hcltech.com.