gridx®

From Complexity to Clarity

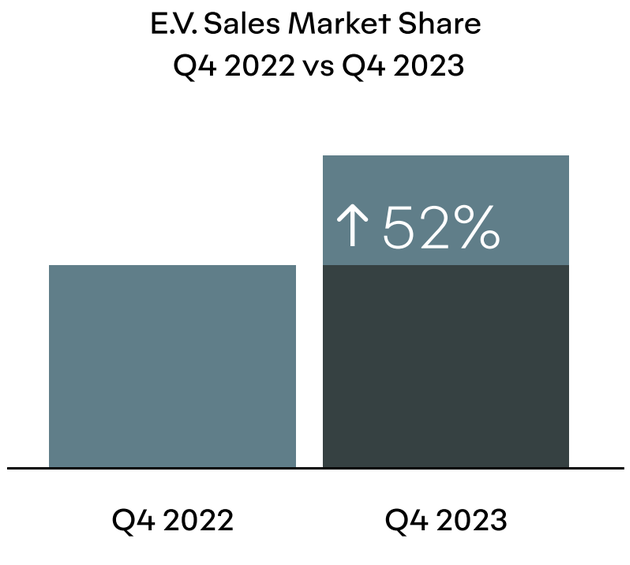
The Business of Utility Rates: It’s Time to Get It Right

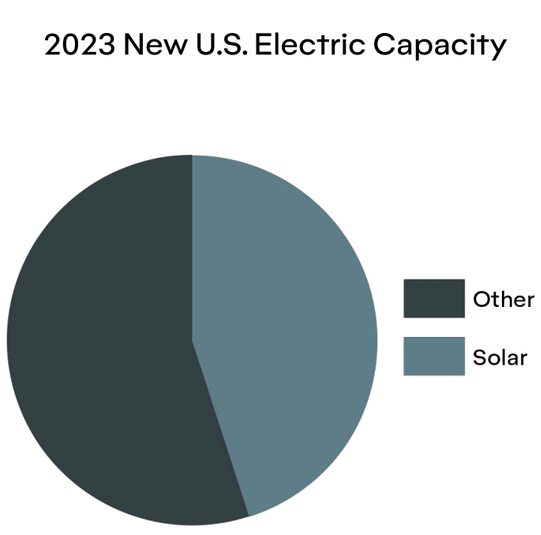
1

This is the first white paper in the GridX Thought Leadership Series, “From Complexity to Clarity,” which highlights the importance an Enterprise Rate Engine (ERE) plays in modernizing electric rates at utilities.

The Transition Is Now

The United States and much of the world are undergoing a clean energy transition, moving from heavy reliance on fossil fuels to a more sustainable mix of renewable energy sources. As part of this transition, utilities across the United States are striving to meet their existing renewable portfolio standards (RPS) while also setting broader clean energy goals. For example, in 2023 Minnesota increased its RPS targets to achieve 55% renewable electricity by 2035 and 100% carbon-free electricity by 2040. Several states have also been setting emissions-based targets for the power sector or the state's economy more broadly. Delaware lawmakers adopted a new statewide target to achieve net-zero carbon emissions by 2050 and Colorado legislators set a goal of achieving a 100% reduction in statewide greenhouse gas emissions (over 2005 levels) by 2050.

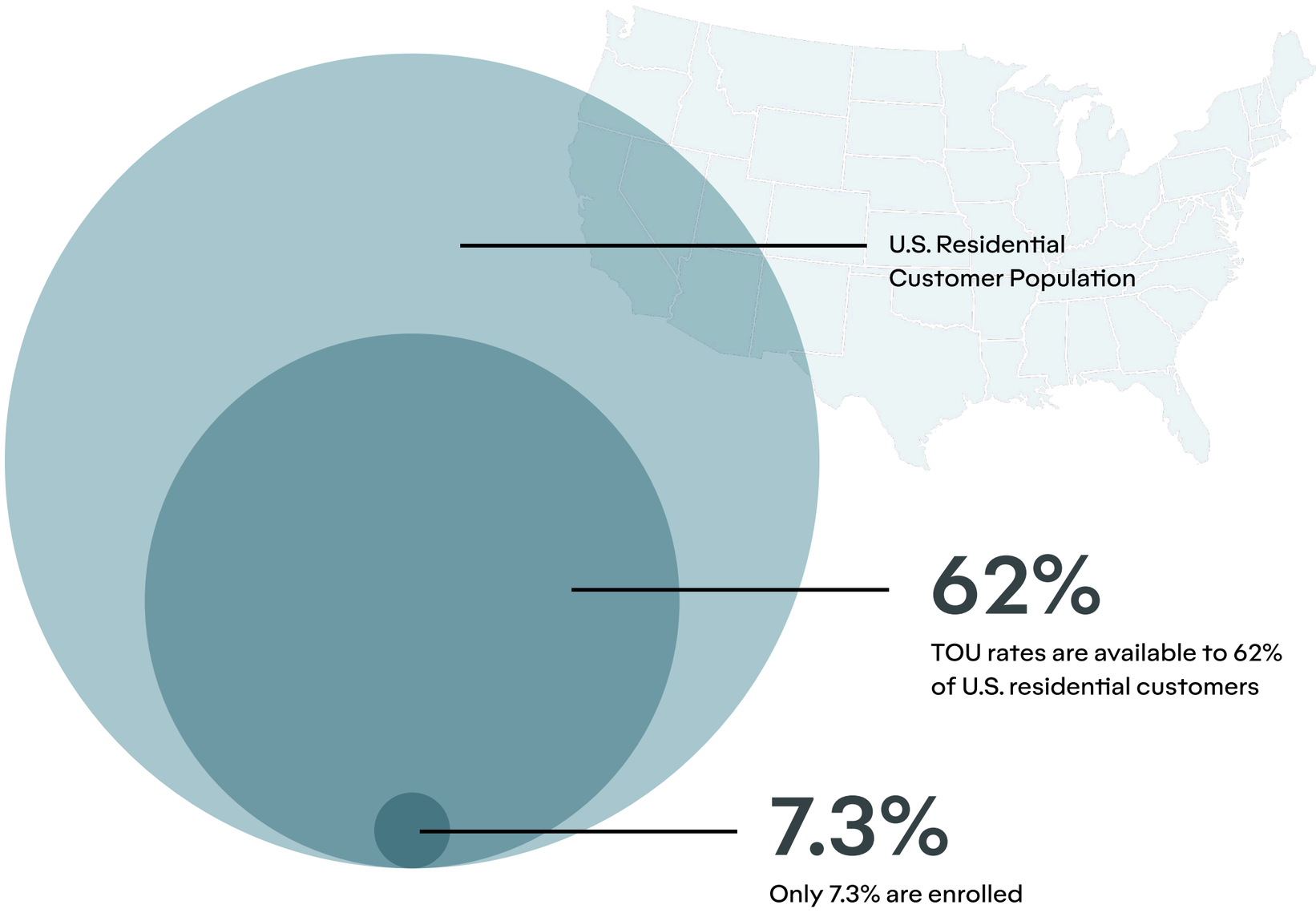




Since 2023's Inflation Reduction Act, states have worked to design rebate programs that support home electrification and energy efficiency. In New Jersey, the Governor signed an executive order setting a goal to electrify 400,000 additional residential units and 20,000 commercial or public facilities by 2030. Maine's Governor, after the state met its previous heat pump installation goal early, set a new goal to install 175,000 more heat pumps by 2027. Additionally, electric vehicles (EVs) represent the fastest-growing car sales category with Q4 2023 EV sales hitting both volume and market share 52% higher than the fourth quarter of 2022. In 2023, a whopping 45% of all new electric capacity added to the US grid was solar. These are just a handful of examples of this nationwide trend.

gridx

THE DEMAND

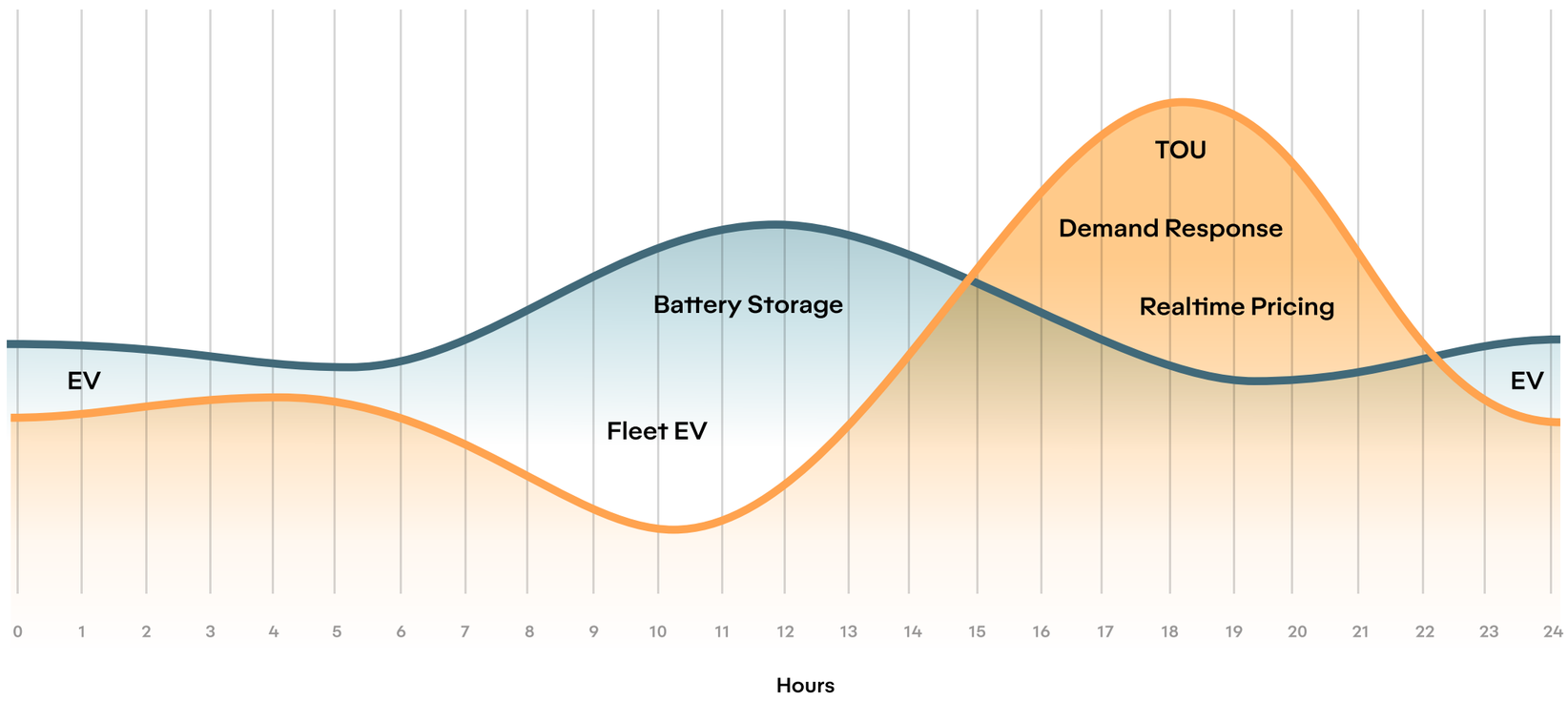


While distributed energy resources (DERs) continue to ramp up and RPS commitments are necessary for our clean energy future, this massive transition to a highly distributed grid is not without challenges for energy providers. Utilities need to continue to provide reliable, affordable, and safe energy as they create demand flexibility. Simultaneously, they need to meet decarbonization goals, improve operational efficiencies and enhance the customer experience. The task is immense but achievable.

Rates play a significant role in a utility customer's experience and impacts the ability to reach decarbonization goals. Utility leaders recognize this and strive to align their rates strategy and execution to complement broader business goals. Providing accurate rate and cost data from an ERE enhances a utility's ability to influence customer behavior and places the customer squarely in the middle of the energy transition. GridX provides the only Enterprise Rate Engine that is purpose-built for the energy transition, resulting in less strain on the grid, happier customers, and greater engagement with the products and services needed to make meaningful change.

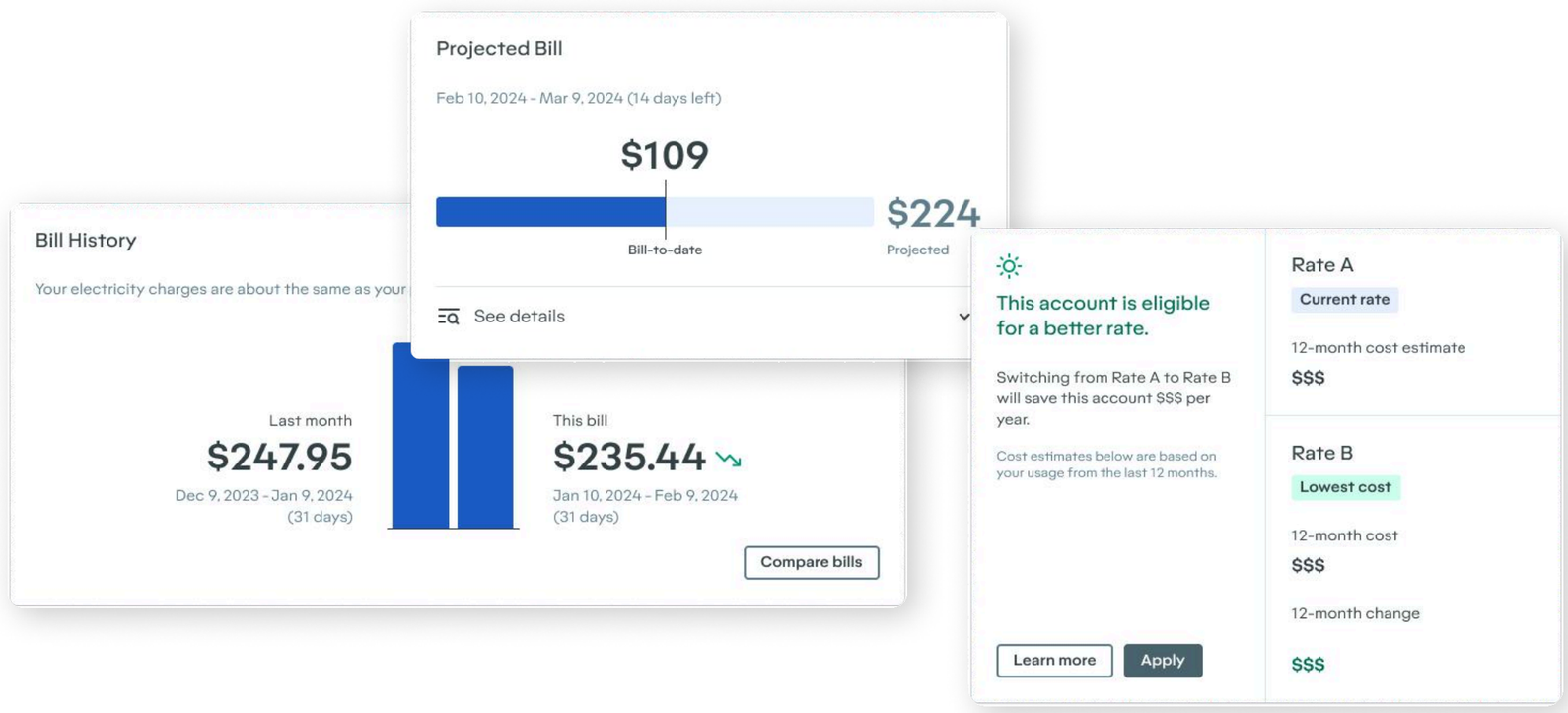
Unlocking Demand Flexibility with Complex Rates

The time to plan and think differently about the ever-evolving electric grid is now. Understanding and prioritizing the role of the rates, programs, and price incentives is paramount to achieving a successful energy transition. Rates and programs like time-of-use (TOU) rates, off-peak electric vehicle (EV) charging, demand response, and a host of other initiatives, must be deployed to incentivize customers to help manage the shape of the load curve (and save them money). Utility companies need to leverage pathways rooted in customer-based behavioral, price- and rate-based programs to improve grid flexibility and keep up with the ever-evolving energy landscape.



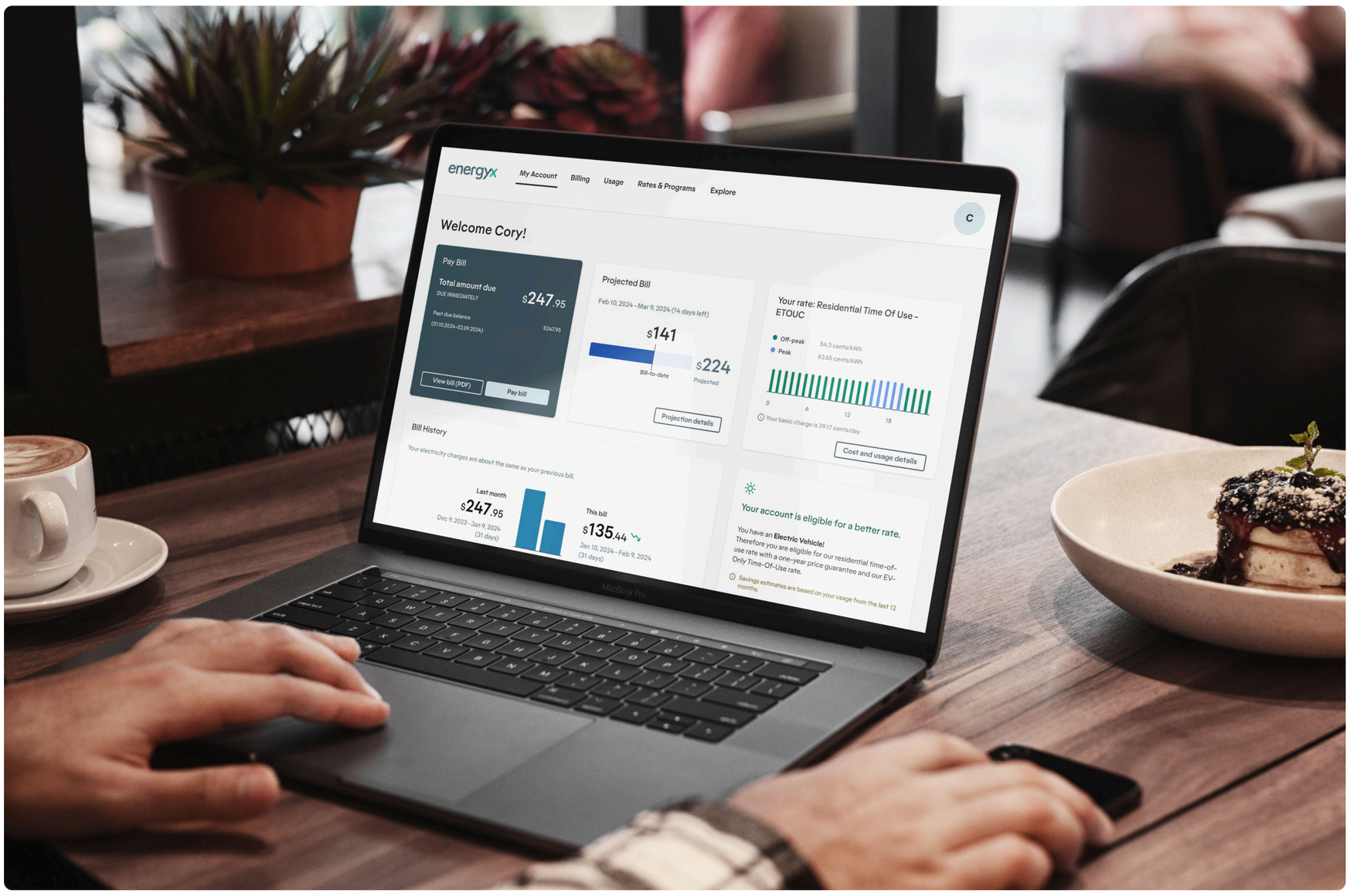
Flexible demand looks beyond historical applications to new ways of modifying demand to lower costs and reduce pollution as the needs of the power grid – and resources on it – evolve. Business models and customer-based rates and programs like behavioral, price-exposed, and subscription models are a pathway to mobilize the customer to shift usage and improve grid flexibility. Getting the right rate options to customers, and ensuring they succeed on them, creates a win-win for everyone. But first, customers must understand those options.

A survey conducted by the Smart Energy Consumer Collaborative (SECC), found that 71% of consumers stated they either didn't have a choice in rate plans or were unsure if they had options. Respondents were also asked if they had heard of 12 different rate plans, and no single type of plan was known to most respondents. The lack of rate knowledge in an environment where 80 percent of United States customers are served by an energy provider with a 100% carbon-reduction target is a major challenge for net zero initiatives. This creates a tangible opportunity for utilities to educate customers on the role of complex rates and programs in enabling a successful energy transition.



Breaking Down Barriers for Better Utility Communication

Customer facing communication via web-based, self-service tools and real-time rate education are critical in today's energy landscape. "Digital is the first stop for utility customers when they experience a problem or need more information related to billing or special programs, but more often than not, their digital inquiries are leading to dead ends and phone calls to customer service," said Jon Sundberg, director of digital solutions at J.D. Power. "At a time when many industries are focused on developing consumer websites and apps that are updated in near real-time, the static, reactive approach to digital being taken by utilities is falling far short of current customer expectations."



To educate consumers on the rates and programs available to them via digital channels, utilities need to create a digitized, single-source-of-rates-truth that breaks down barriers and increases customer engagement. A digital rate operationalized within an Enterprise Rate Engine (ERE) Platform allows various utility departments, which usually operate in silos, to collaborate to design rates, analyze them against the whole customer population then ultimately implement and bill customers on those rates. A recent success story of this operationalization is within PSEG Long Island, who successfully leveraged GridX's platform powered by the ERE. The ERE's capabilities were used across as many as 17 departments within the utility throughout PSEG Long Island's rate-modernization initiative.

A digitized approach is proven to ensure the long-term scalability and resiliency of rates as technologies shift, the adoption of DERs increases, and the complexity of rates grows. **When rates and their end-to-end processes are digitized and done right, we can accelerate our clean energy future.**

gridx

THE VALUE

Positioning Utilities for Better Customer Interactions

How can utilities better educate and engage customers to take advantage of the rate and program opportunities available to them? In many cases, the answer lies with an ERE. It ingests massive amounts of customer and smart meter data to enable electric utilities to design, analyze, implement, and market new rate structures, increasing customer engagement in sustainable technologies and managing the complex billing needs of a distributed grid. The more customer data is leveraged by an ERE, the more custom and compelling the customer experience becomes.

An Enterprise Rate Engine brings clarity to the confusion of meeting complex, dynamic rate, and billing changes. Exploring the various capabilities in an ERE allows the utility to be a trusted rate advocate and energy advisor.

Better Rate Design & Analytics

Learn More about Better Rate Design & Analytics at GridX

HERE

An ERE manages and organizes the massive amounts of data collected from smart meters, sensors, and other systems into a single system. Using this sophisticated software empowers business users to easily analyze data to quickly derive insights, make decisions, and maintain the accuracy and transparency required for regulatory rate filings. By conducting a full population analysis of proposed rates and programs, utilities can identify customers or segments of the population for a complete understanding of rate impacts and ensure they are not affected negatively. Utilities can also build and optimize rates, programs and products that benefit customers and support revenue goals with unmatched accuracy and flexibility.

Targeted Marketing & Customer Conversion

Learn More about Targeted Marketing & Customer Conversion at GridX

HERE

The ERE allows utilities to simplify and enhance targeted communications with real-time billing grade insights and analysis of customer consumption, usage, and cost data. Utilities are empowered with the data to identify the best rate and program options for individual customers or segments of the population to craft and deploy targeted marketing initiatives and personalized messaging. When the utility iterates on communications content and leverages a rate comparison tool to show customers exactly what they could be saving with a multi-faceted marketing approach (including website and video content, email awareness, and nurture campaigns) enrollment in rates and programs increases.

Personalized Customer Education & Engagement to Spur Program Adoption

Learn More about Personalized Customer Education & Engagement at GridX

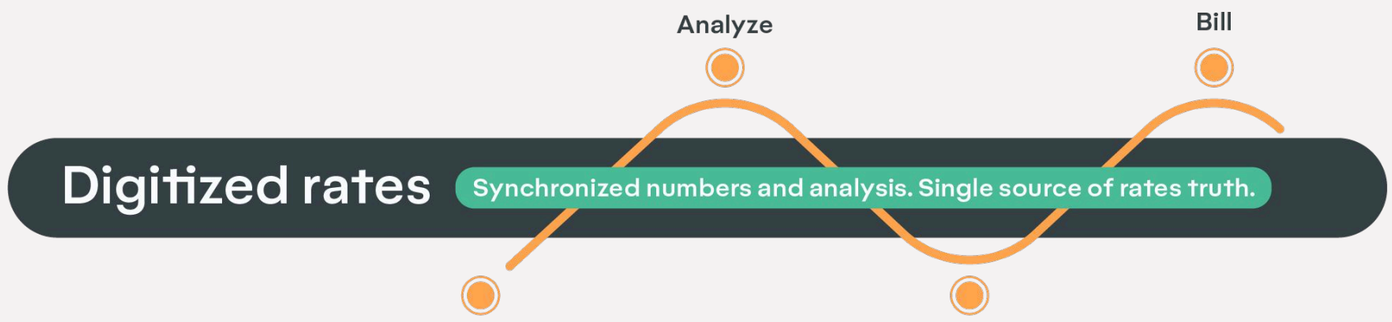
HERE

As noted above, this new energy environment requires a variety of programs that will encourage an explicit, active level of participation from customers. These can include programs for demand response, EV charging, net metering, and other emerging utility services. The percentage of utility customers using websites and mobile applications as their primary contact channel has surged, from 20% to over 50% in just 7 years. With a streamlined single-source-of-rates-truth, utilities can quickly access scenario and usage-based cost analysis and insights to find the best rates and programs for homes and businesses and offer those on-demand insights visually through APIs (application program interfaces) and widgets across various engagement and marketing strategies. As customer expectations become more demanding, utilities can be responsive to their needs, or even anticipate them, by modeling, designing, and offering flexibility in their programs and pricing that best fit customer needs on a personalized basis in traditional and digital format. When personalized insights are integrated in the customer journey on MyAccount pages, rate comparison tools, ‘what-if’ calculators and an array of digital properties, customers are empowered to take an active role in their energy usage and costs.

Fast Operationalization of Rates to Maximize Investment

Traditional in-house developed solutions and manual spreadsheet-based rate processes are time-consuming, inefficient, and expensive solutions to a dynamic problem. An ERE supports a set of applications across the utility product lifecycle and leverages a single-source-of-rates-truth using the same data throughout the utility rate lifecycle from design, implementation, marketing, and billing. Legacy utility processes and systems can be a drain on in-house resources in addition to the costly third-party programming and integration that are typically required to “get it right.” The massive spreadsheet or custom in-house approach is not a long-term solution as these are typically understood by very few people in the organization and become very unwieldy as data sets grow.

These labor-intensive methods and practices were never designed to handle complex rates and calculations, nor the amount of data available from AMI meters. The dynamic and scalable approach of an ERE complements legacy systems and replaces manual processes with flexible rate analysis, processes, and calculation capabilities to take the onus off a utility and keep pace with the changing landscape.



An Enterprise Rate Engine creates digitized rates during the design process, enabling users to leverage the full power of their customer and smart meter data in a single-source-of-rates-truth to:

- easily create robust rate and tariff structures,
- quickly model proposed tariff structures that integrate customer analysis,
- allow instant re-calculation of pricing and customer impacts of any changes,
- determine proposed pricing based on user-input cost of service and price calculation rules
- design rates that incentivize consumer behavior change.

gridx

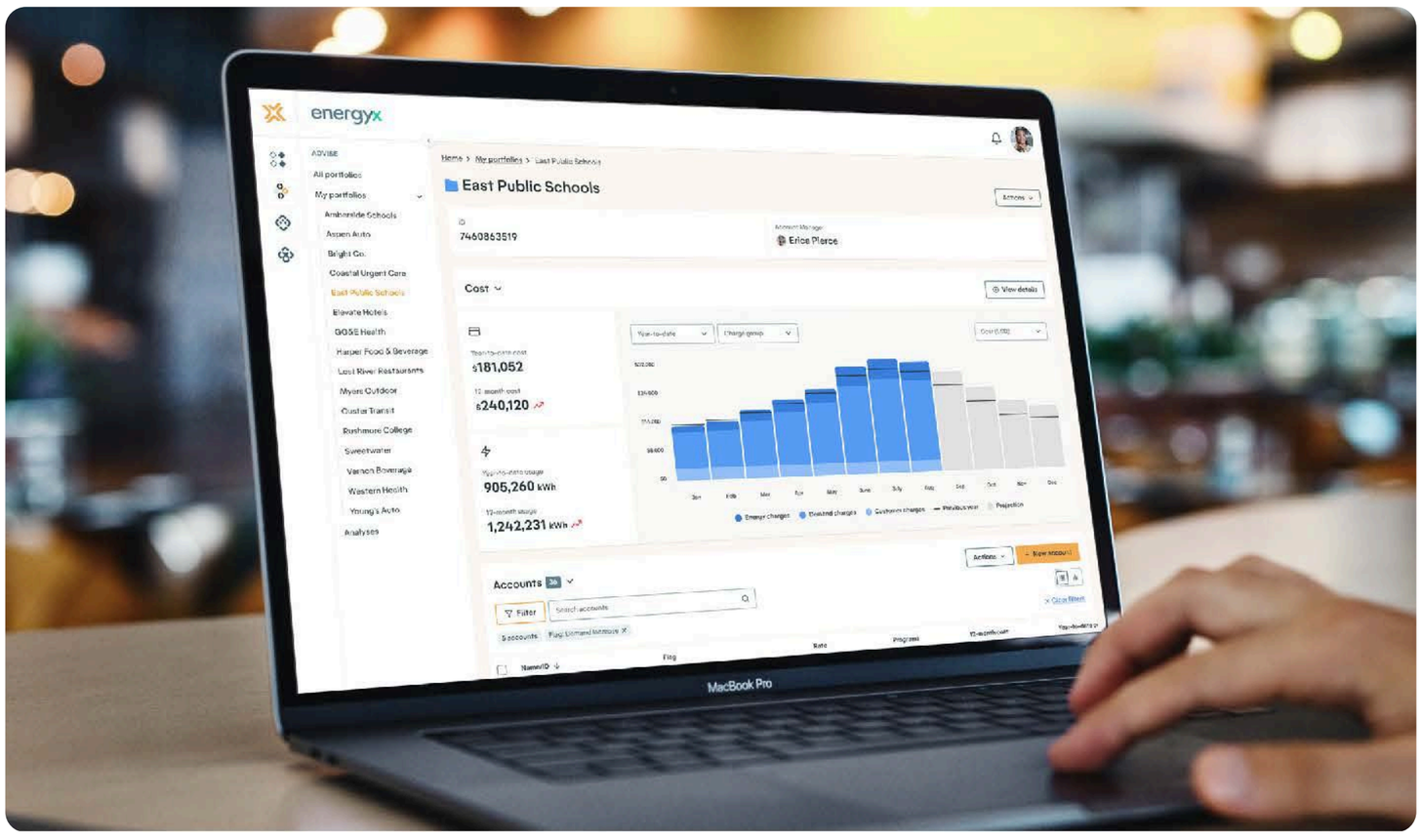
PROVEN SUCCESS

“We better get GridX in here!”

As with other technology solutions, the ultimate test of an ERE is how the solution performs when used in solving real-world business challenges. To this end, consider the experience of the Director of Customer Experience Delivery at a large US municipal utility that is moving towards a carbon-free grid.

While this carbon-free journey has many dynamics, one area that the utility’s board of directors was clear about at the initiative’s outset was the importance of understanding how various customers would be impacted, especially as the utility implemented TOU rates. One metric that the board laid out was a “5% rule” whereby the goal with the new TOU pricing is to keep a bill change at 5% or less for no more than 5% of their customers.

With this lofty goal as part of their strategy, the director and his team embarked on a search for a tool to help analyze the impact of new rates for their customers. Their search led them to GridX which, among other capabilities, enabled them to model and plan to meet the “5% rule.” In fact, it was in this journey that the director exclaimed, “We better get GridX in here!”



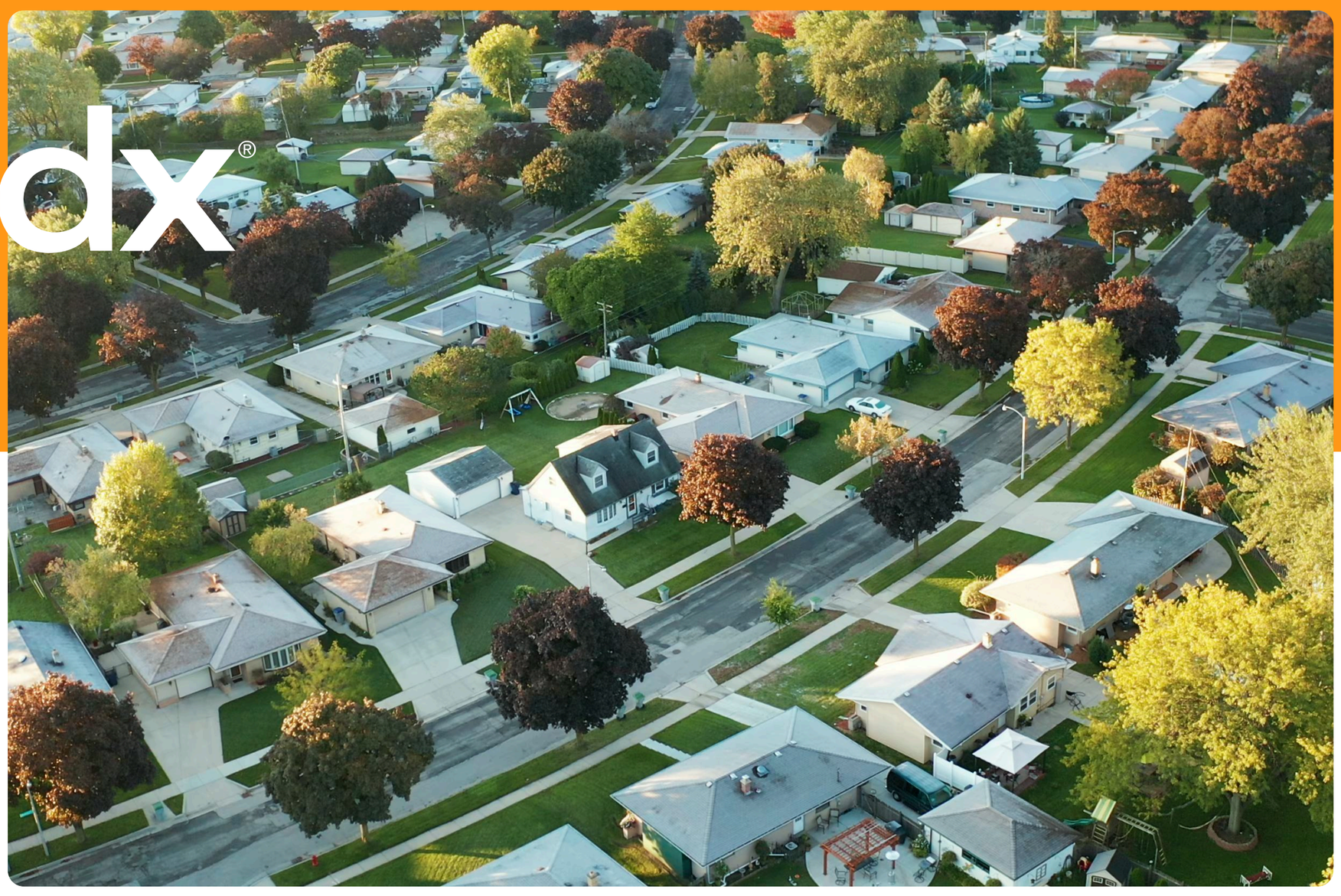
In working with this utility, the GridX team modeled the new TOU rates, helped identify segments of customers impacted more than others, and collaborated with the utility's customer team to create rate comparison reports that have become an industry best practice. The director added that, "We've also been using GridX for our CSRs (customer service representatives) for a few years to answer questions and run analyses for customers who are considering solar, EVs (Electric Vehicles), and more." Of note, these questions are typically answered in real-time and accurately by the CSRs while on calls with customers, underscoring the dynamic nature of these challenges and that they require a dynamic solution."

"We knew that TOU rates would be new and confusing for customers. GridX has enabled us to understand the implications of the new rates and communicate these effectively to our customers and stakeholders."

Working with GridX and the solution's modular approach, the utility was also able to help customers better understand the new rate and mitigate some of the challenges that a new rate structure brings. This also pointed the utility's customer teams towards solutions that could be tailored to meet a customer's specific challenge. The GridX scalable approach also enables utility customer teams to focus on specific problems and grow on the GridX platform as needed.

In summing up his utility's experience with GridX, the Director said that "the reason we worked with GridX is that we simply didn't have a good tool to explain the rate transition to our customers. This enabled us to opt customers into the best rate for them. We knew that TOU rates would be new and confusing for customers. GridX has enabled us to understand the implications of the new rates and communicate these effectively to our customers and stakeholders."

gridx®



To learn more about how GridX can help you meet your customer and decarbonization goals, **visit here.**

This series is produced in collaboration with KLN Group.

Mike Smith | Principal

KLN GROUP

Find out more at gridx.com