

enel x

Get More from Commercial and Industrial Demand Response

Software and Managed Services for Utilities



Today's market dynamics—rising power plant construction costs, the need for transmission and distribution upgrades, increasing renewable generation, new environmental regulations, electricity price volatility—make resource planning with traditional supply-side resources more difficult, expensive, and uncertain than ever. To address these challenges, many utilities, grid operators, and power retailers use demand response (DR) to secure reliable and cost-effective resources that support grid reliability, manage risk, and deliver customer value.

Demand Response Is What We Do

Enel X is the global leader in commercial and industrial (C&I) demand response. Utilities, system operators, and retailers turn to us for a diverse range of capacity, economic, and ancillary service DR resources, using our advanced software and technology platform as well as our proven approaches to program design and C&I customer engagement.

Dozens of utilities have partnered with Enel X to implement cost-effective DR programs. Enel X understands that each utility faces unique challenges. That's why clients engage us to design and deploy DR solutions that are custom-tailored to meet their specific needs and objectives.

A Resource You Can Count On

Utility control rooms count on resources showing up when dispatched. With Enel X's patented software and technology platform, you can view the performance of DR assets in real time, so there's no guesswork. Our clients benefit from Enel X's continued investment in technology and nearly two decades of delivering firm, C&I DR resources, which gives utilities reliability without the expense of building new infrastructure.



Effective Program Design and Deployment

Designing and implementing a successful C&I DR program that maximizes customer participation and optimizes resource performance requires effectively balancing a number of elements related to resource reliability, customer satisfaction, and cost-effectiveness. Enel X can help you maximize the value of your DR program by partnering with you to define the ideal approach to deployment that takes into consideration both your needs and those of your customers.

Once your needs are defined, we leverage our years of experience implementing a wide range of DR programs to build a portfolio of DR resources that meets your needs and objectives. Our capabilities span the DR customer lifecycle, and include activities such as:

- > Lead generation and marketing
- > Customer recruitment and contracting
- > Site enablement, audits, and curtailment plans
- > Dispatch management notifications and performance management
- > Performance measurement and verification (M&V)
- > Portfolio management, settlement, and customer payments

Throughout our engagements, our program managers hold regular progress meetings with your team to ensure successful program execution.

Engage Your C&I Customers in Demand Response

A successfully executed DR program can help enhance your customers' satisfaction. In fact, Enel X's C&I customer satisfaction surveys consistently find that DR helps maintain and improve customers' overall opinion of their utility.

We have engaged C&I customers like yours in a range of DR programs worldwide. With deep experience focused exclusively on the non-residential market, Enel X has successfully enabled thousands of sites for active program participation across a wide range of industries. Utilities that engage us to manage their DR portfolios consistently achieve reliable resource performance.

Your Brand Front and Center

We understand your customers are just that—YOUR customers. You can white-label our software and all marketing initiatives with your brand identity to support customer relationship and satisfaction objectives.

Tailored, Proven Strategies

The diverse and often complex load profiles across C&I segments can make it difficult to design and execute a program with appeal to a broad cross-section of customers. That's where Enel X's experience making DR work for thousands of C&I sites can help. Engagement strategies for a Fortune 500 manufacturer, for example, differ from strategies to engage a grocery store chain or farm. Our experience working with a range of C&I organizations—from hospitals and universities to manufacturers and retailers—enables us to build DR programs that can meet your program's unique needs and effectively engage your customers.

Flexible, Customer-Friendly DR

The capabilities of specific C&I customers will not often provide an exact match to a utility's resource needs whether because the customer has operational constraints relative to dispatch duration, frequency, or other variables. Our expertise in managing aggregated DR portfolios accommodates for customer diversity while, at the end of the day, delivering your contracted resource volume.

Because Data Quality Matters

Our metering and control hardware serves as a secure communications gateway that facilitates data transfer, automated load control, and continuous real-time monitoring of each site in your program portfolio.

Easily connected to your customers' existing electrical meters, the Enel X Site Server (ESS) is equipped to read and record interval data, typically through KYZ pulse outputs. The ESS communicates this data back to our Network Operations Center using secure protocols via either wired or wireless communications. All ESS interaction with the utility meter is one-way, read-only communication, so there is no risk of interference with utility meter readings or power quality. Enel X also offers specialized hardware options for irrigation load applications.

Dispatch Management Control Center

Similar to a utility control center, Enel X's Network Operations Center (NOC) continuously monitors each site's connectivity and energy consumption. During a DR dispatch, the NOC tracks energy reductions at each site, and gives you real-time visibility into aggregated load reduction data as the event unfolds. Throughout the event, patented software tools continuously evaluate performance, automatically identifying underperformers and initiating remediation protocols.

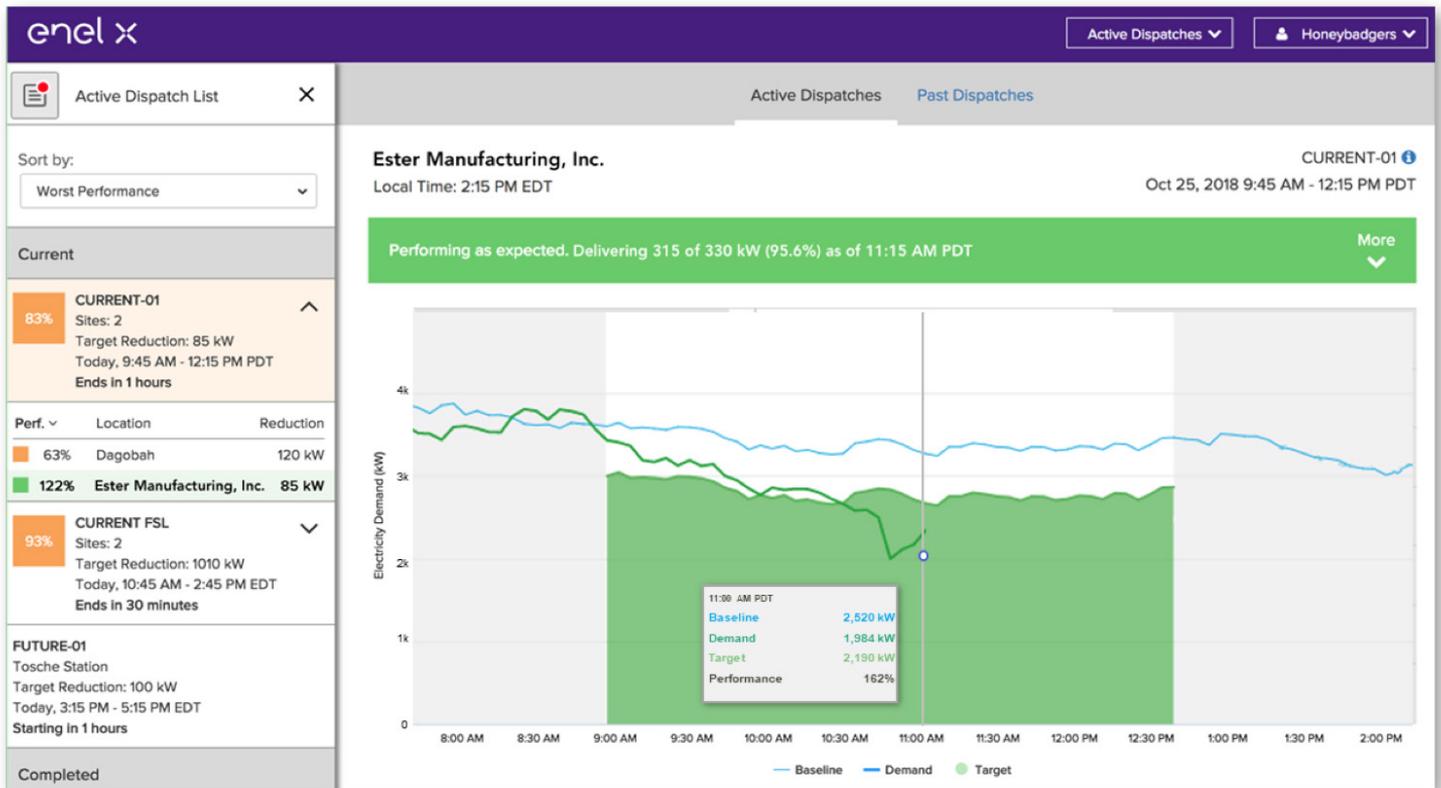


Software-Enabled Program Visibility

You and your customers gain visibility into DR event performance. Built on a secure and scalable web services-based architecture, our software analyzes and presents real-time data—typically in one- or five-minute intervals—captured by Enel X's Site Server devices.

You can use our secure, cloud-based software to schedule, monitor, and analyze your DR resource volume. With our flexible event scheduling options, you can manage your C&I program for optimal performance while avoiding customer fatigue. You can also use Enel X's software to access real-time interval data for participating customers during non-dispatch periods to support load research and planning activities.

DR program participants also benefit from access to their real-time energy data. By logging in to view performance, participants can ensure they are achieving their energy reduction targets and track their demand response payments.



The Right Solution for You and Your Customers

Each utility faces unique challenges in implementing and managing its C&I DR program. Whether you are looking for an end-to-end program deployment solution with a firm resource guarantee, or support on specific aspects of your in-house DR program to improve performance, customer satisfaction, and cost-effectiveness, our flexible managed services for DR provide solutions to match your specific needs.

Firm Resources With Enel X's Turnkey Solution

With our full-service turnkey offering, Enel X manages all aspects of DR program deployment and management— from customer recruitment through settlement—with a firm resource guarantee.

Enel X's turnkey solution leverages our deep experience with aggregated portfolios of diverse C&I customers. Similar to a power purchase agreement, Enel X commits to specific resource volume and event performance metrics, backed by our solid financial position and track record of success.

Features of Enel X's Turnkey Solution:

- > **Integrated software, hardware, and infrastructure:** proven tools to achieve program objectives with options to enhance brand experience
- > **Full-service turnkey program implementation:** effective strategies to successfully engage C&I customers in DR for a reliable resource, from sales and recruitment, to contracting and enablement, to performance management
- > **Resource-based contract:** guaranteed resources and performance
- > **Long-term firm pricing:** 100 percent pay-for-performance based on resources delivered

Program Support With Enel X's Software and Services

For internally managed, tariff-based, or interruptible load programs, our software and services based offering can give you the added visibility and tools to more effectively manage your program. Smaller-scale programs or those deployed by competitive retailers that prefer to contract directly with their customers for load reduction can also benefit.

Enel X's software and services supports a broad range of C&I DR programs—leveraging our software as a stand-alone solution or in combination with customer engagement and program optimization support—on a service-level-agreement basis.

Features of Enel X's Software and Services:

- > **Integrated software, hardware, and infrastructure:** industry-leading tools to help improve program performance and cost-effectiveness with options to enhance brand experience
- > **Customer engagement and program optimization support:** choice of a suite of field-proven professional services to design and deploy strategies to maximize customer participation
- > **Program incentives provided via tariff:** utility maintains full ownership of the customer relationship
- > **Services-based contract:** flexibility to tailor the partnership with Enel X to meet specific program support needs

“Enel X was excellent. Their enrollment checklist walked us through the whole process. Their people were incredibly helpful and answered all our questions. And they're always available when we need them. I wish everything went this smoothly.”

— **Robert Garcia**, Ybor City District Cooling,
participating customer in Tampa Electric Networked Demand Response Program



Enel X Has Partnered With Leading Utilities, Grid Operators, and Energy Retailers Worldwide

- > Alberta Electric System Operator
- > AEP
- > Ameren Missouri
- > Ausgrid
- > Australian Energy Market Operator
- > Bonneville Power Administration
- > CenterPoint Energy
- > Consolidated Edison
- > EirGrid
- > Electric Reliability Council of Texas
- > ERM Power
- > Eversource Energy
- > FirstEnergy
- > Genesis Energy
- > Independent System Operator of New England
- > Korea Electric Power Corporation
- > Louisville Gas and Electric and Kentucky Utilities
- > Midwest Energy
- > National Grid
- > New York Independent System Operator
- > ONCOR
- > Ontario Power Authority
- > Pacific Gas & Electric
- > PacifiCorp
- > PECO Energy Company
- > PJM Interconnection
- > Salt River Project
- > Southern California Edison
- > Tampa Electric Company
- > Tennessee Valley Authority
- > Tokyo Electric Power Company
- > Transgrid
- > Transpower