California Businesses Benefit from Automated Demand Response (FAQ)

What is automated demand response?
Demand response is a system that pays you to temporarily reduce energy use at your facility in order to balance the electric grid when it is under stress or prices are spiking. Automated demand response, or Auto-DR, is a platform AND program that is used by California’s Investor Owned Utilities (IOUs) to automate this energy curtailment process at select facilities. Automating your facility’s energy curtailment sequence makes it easier to participate in demand response programs and helps you maximize your DR earnings, while increasing your value to the grid by making your energy reduction more reliable. Using modern control equipment such as building management systems and lighting control systems, utilities can send a remote signal to your facility to initiate an automatic curtailment sequence that you have pre-configured for your business.

In exchange for allowing the utility to send you these remote curtailment signals, you are not only enrolled in a demand response program that pays you for each month of participation, but you are also eligible for a substantial one-time incentive to pay for control system equipment upgrades.

Who controls energy curtailment at my facility?
While the utility will remotely trigger the energy reduction, you control exactly what is curtailed. By working closely with EnerNOC’s world class energy engineering team, we will jointly design a customized curtailment plan that provides maximum relief to the grid and minimal disruption to your business operations. Curtailment strategies vary for every business, but common measures include turning off non-essential lights, modifying HVAC set-points a few degrees, and temporarily disabling battery charging systems. These curtailment measures are carried out by your building management or SCADA system after being triggered by a signal that is sent from the utility control room to the EnerNOC network operations center, and on to your facility. You can choose between pre-authorized and opt-in dispatch options, and you always retain the ability to override the curtailment sequence in the event that you cannot participate in a specific demand response dispatch.

How much incentive funding am I qualified for?
In April of 2012, the California Public Utilities Commission approved $71M of incentive funding to reimburse businesses for control systems upgrades in order to enable participation in Auto-DR. While the terms of eligibility vary by utility, you can generally earn up to $300 per kilowatt of demand that can be reduced through automated controls. Thus, a 100 kW reduction in electricity demand would be eligible for up to $30,000 of incentive funds that could be spent on a wide range of control systems and services.

I’m already enrolled in a DR program. Am I still eligible for Auto-DR incentives?
Yes. Auto-DR incentives are designed to pay for control system upgrades to support automated curtailment. Any electric load that you can remotely curtail through control system upgrades is eligible for these incentives. You will only receive Auto-DR funds for the load that can be remotely initiated, but your entire load reduction (whether automatically or manually executed) will be enrolled in a qualified demand response program. You get free money upfront for hardware and services, plus an ongoing incentive for your participation in DR.

What equipment and services qualify for Auto-DR incentive reimbursement?
There is no formal list of equipment and services that are eligible for Auto-DR incentive reimbursement, but any equipment or service that contributes to automated curtailment is likely to be eligible. Common reimbursable items include:

- Energy management systems
- Digitally controlled thermostats
- Automated lighting controls
- Remote controlled switches and pump controls
- Building automation systems
- Curtailment sequence programming
- Any enablement, installation, and measurement and verification services
Check with your EnerNOC Business Development or Account Manager to find out if the items on your ‘wish list’ are eligible for reimbursement.

**Are there any risks in applying for incentives? What happens if I can’t curtail as much as originally estimated?**

EnerNOC will schedule a qualification visit to understand how your facility might use control equipment to automate energy curtailment. Based on a detailed understanding of your business processes, we work together to identify and quantify the amount of load that can be shed and thus the amount of incentives you are eligible for. We then submit an application to the relevant IOU to reserve funds to purchase equipment and services. Once the utility confirms the funds request, you have the green light to begin the implementation process. EnerNOC will work closely with you and any third party control system vendors to support the timely installation of any equipment and to ensure that the load shed verification test meets the expected performance identified in the original site audit. If, for some reason, your measurement and verification (M&V) test does not meet the original load shed estimate, then your reimbursement amount will be limited by the total kW of demand reduction achieved in the test. However, EnerNOC has performed hundreds of site visits and has years of expertise in accurately estimating load shed potential from automation control systems. Our team of experts will provide a realistic estimate that you are likely to achieve.

**Are there any obligations for receiving Auto-DR incentive funds?**

The only obligation you have before receiving Auto-DR incentive funding is to enroll in a qualified demand response program for at least 36 months. EnerNOC will work closely with your facilities team to identify the most appropriate DR program for your operating or production schedules, while simultaneously maximizing the economic benefit to your business.

**How is an automated energy curtailment plan developed?**

EnerNOC has worked with thousands of businesses across every imaginable industry to develop custom energy curtailment plans to reduce non-essential energy use during critical periods on the grid. We maximize your demand reduction potential while minimizing impact on business operations. We coordinate with your facilities management teams to identify areas of high energy demand and then investigate what can be temporarily curtailed without impacting operations. There are nearly always non-critical systems that can be either disabled, or dialed-back to provide meaningful relief to the grid without affecting your day-to-day business. Typical curtailment measures include:

- Turning off lights
- Modifying HVAC set-points a few degrees
- Dialing back motors using variable frequency drives (VFDs)
- Disabling irrigation pumps
- Disconnecting battery charging systems
- Temporarily shifting non-critical production processes by a few hours

**How is an automated demand response dispatch called?**

Auto-DR dispatches are called using an open communication protocol known as OpenADR. The utility anticipates the need for demand reduction on the grid and informs EnerNOC of a pending emergency. EnerNOC in turns notifies our network of providers that a dispatch is pending and then sends an automated dispatch signal from our Network Operations Center (NOC) directly to the EnerNOC Site Server (ESS) which is installed at your facility. The ESS is an OpenADR compliant gateway and it is then able to notify the BMS/EMS or other control systems at your facility to run their pre-programed curtailment scripts. We then monitor your energy reduction in real time and provide visual access to this demand data through our web-based energy intelligence software (EIS) platform.

For more information visit enernoc.com or email info@enernoc.com. Catch up on the latest best practices in energy management on our EnergySMART blog, energysmart.enernoc.com.