

*Companies have been managing the supply side of their energy costs for years. In the past, load management programs have helped consumers leverage demand-side opportunities, but these strategies have had the downside of curtailing usage when the utility calls for it. Today, however, new alternatives in load management are delivering commercial and industrial users the benefit of supply flexibility through customized strategies that reduce costs and consumption while potentially earning revenues through energy contracts. This paper provides an overview of these programs, outlining how consumers can work together with adept suppliers to assess capabilities and build the right strategy for their business.*

## **Reducing Costs and Consumption While Maintaining Supply Flexibility – and Earning a Profit**

A new alternative in load management strategies is now available to large commercial and industrial consumers, and it's bringing innovative concepts – and the potential to earn revenues – to the fundamental practices of buying electricity.

In the past, load management programs, although economically advantageous, have had the downside of curtailing usage when the utility calls for it, regardless of the customer's operational requirements.

Today, large commercial and industrial consumers can benefit from products offered by retail electricity providers that combine supply expertise, market knowledge, and demand response capabilities. The result is customized strategies specific to each user's unique business model, delivering the ability to reduce costs and consumption while maintaining supply flexibility – and earning revenues through energy contracts.

The premise is simple: Utilities in most markets throughout the United States need consumers to cut back, especially in times of high electricity demand, in order to maintain grid reliability. There are a number of ways consumers can do that, and many utilities actually pay users for reductions in consumption.

## **Determining Load Management Capabilities**

The first step to taking advantage of these programs is assessing the customer's capability to manage its electric load. Key energy usage patterns and other unique operating factors are evaluated, including maximum load, the business' share of peak load on the electric grid, the energy consumption of major building equipment and systems, other energy-consuming and/or energy-producing resources, and automation systems.

This assessment ultimately identifies the operational priorities and constraints that may affect a business' willingness or ability to reduce load. Adept suppliers can compare individual customer assessments with industry norms and provide feedback to each customer.

## **Building the Right Strategy for Your Business**

With this knowledge, suppliers can build a strategy aimed at reducing consumption and costs for customers through programs that earn them revenues from wholesale electricity markets.

Large commercial and industrial customers can specifically benefit by:

1. Selling capacity, usually referred to as demand response, where the consumer commits to reducing its load at times chosen by the grid operator, typically for a matter of hours during emergency conditions. The compensation earned for providing this service is generally fixed months or even years in advance.
2. Selling energy, where the consumer reduces its consumption at times of its own choosing. Through these transactions, a certain amount of energy is sold at a predetermined price during a defined hour or block of hours. If the market price is at least as high as the price specified by the consumer, the offer is accepted, and the consumer is paid the market price for providing the promised amount of electricity.

3. Selling synchronized reserves, where the consumer provides energy by curtailing consumption for a brief period on relatively short notice by the grid operator.

Aside from the obvious benefit of generating revenues, large commercial and industrial customers with the assets and the willingness to take part in these programs benefit by avoiding spikes in wholesale electricity prices and by reducing risk premiums. Such customers are an asset to the grid and to any retail supplier.

Large energy users without load management capabilities – those under fixed-price contracts – pay to be protected from price spikes. However, consumers equipped to respond to those spikes and take action to avoid them don't need to buy that protection.

### **Other Cost-Savings Opportunities**

Another cost-savings opportunity that businesses can leverage through these load management strategies is by reducing certain charges known as “pass-through costs,” which originate with the utility or the system operator and are passed to the supplier and then to the customer. These price components vary from region to region and typically include the grid operator's cost to ensure capacity, the costs of transmission and distribution infrastructure maintenance and upgrades, and ratepayer-supported energy efficiency and renewable energy programs.

The key to reducing these charges is to understand exactly how they are calculated, which varies from market to market. For example, a charge may be based on the customer's demand during certain peak hours on either the regional power grid or the local utility's distribution grid. By working with retail electricity providers to understand exactly how these charges are set, large commercial and industrial users can take advantage of load management strategies to reduce those costs or prevent increases.

Measuring and monitoring peak utility demand can also assist in achieving maximum savings for each billing cycle. By establishing thresholds and taking into account current market conditions, consumers can trigger reductions in consumption during periods of peak demand. The idea is to maximize the amount of load shed within the flexible load amount throughout the month so as to increase the customer's chances of avoiding high usage during peak periods.

Consumers can generate significant benefits by monitoring Peak Load Contributions (PLC) as well. This is achieved by targeting the highest usage hours on the transmission grid and curtailing consumption at those periods. By using a predictive model to analyze load, weather, and wholesale prices, customers can identify likely PLC days, allowing for appropriate planning to reduce peak load and electricity costs.

### **Summary and Conclusions**

In the end, choosing the right supplier will play a key role in making the best decision for your business. Be sure to talk with a retail electricity provider like GDF SUEZ Energy Resources NA who delivers comprehensive solutions by taking the time to understand the important factors influencing your operations, including major building equipment and systems, and load management capabilities.

Through a joint alliance with Viridity Energy, GDF SUEZ Energy Resources provides customized decision-making tools to help commercial and industrial customers build strategies that align their operations with load management programs and provide opportunities to reduce energy-related costs.

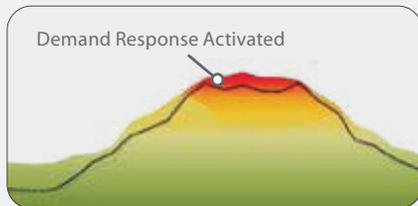
The market knowledge and supply expertise of GDF SUEZ Energy Resources – combined with the customer load optimization capabilities of Viridity Energy – gives buyers the potential to mitigate peak energy costs and decrease capital expenditures, while limiting greenhouse emissions and earning revenues through wholesale energy contracts.

By working together with a supplier like GDF SUEZ Energy Resources, large commercial and industrial customers can access the right knowledge and insights to achieve key energy targets and build a plan specific to their operational priorities. Only when your energy strategy aligns with your unique organizational drivers can you make the best choice possible for your business.

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# Which load management strategy is right for your business?

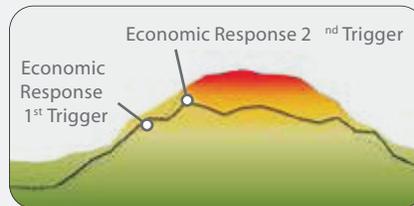
Different types of energy markets create different kinds of opportunities. Where your business falls depends on your specific operational priorities and capability to manage electric load. Whether buying for one location or a thousand, it's important to choose a supplier who takes the time to understand the important factors driving your company and build a strategy that best aligns organizational objectives with the right load management program for your business.



## Reliability Markets

Capacity or Emergency Markets

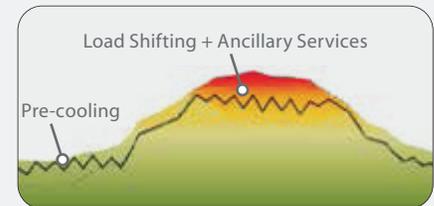
- **Successful Customer Type**  
Those able to reduce or eliminate electricity load for a number of consecutive hours a few times per year
- **Program Trigger**  
Reliability: When grid is experiencing instability or supply shortage
- **Program Frequency**  
Historically activated only a few times per year (1-5), but can be called at higher frequencies
- **Payment Structure**  
Monthly availability payments plus energy payment for energy used if program is activated (varies slightly by region)
- **Typical Benefits**  
Additional revenue stream, awareness of grid instability ahead of any brownout or blackout



## Economic Markets

Energy or Pricing Markets

- **Successful Customer Type**  
Those able to reduce or shift electricity load frequently for short or long periods of time at any point during the year
- **Program Trigger**  
Prices: When energy supply prices are high and it is more economical to pay consumers to use less energy, or when supply is intermittent
- **Program Frequency**  
Participation frequency based on voluntary bid. Multiple opportunities per month.
- **Payment Structure**  
Energy payment for energy used if bid is accepted (varies slightly by program and region)
- **Typical Benefits**  
Additional revenue stream, energy reductions when prices are high, supply savings if peaks are reduced



## Ancillary Markets

Synchronized Reserves

- **Successful Customer Type**  
Those with qualifying energy load or equipment that are able to reduce energy with little notification time
- **Program Trigger**  
Grid balance and reliability
- **Program Frequency**  
Participation frequency based on voluntary bid. Multiple opportunities per week.
- **Payment Structure**  
Payments based on voluntary bid acceptance
- **Typical Benefits**  
Additional revenue stream, energy reductions when prices are high