

Understanding—and Reducing—Peak Demand Charges on Your Company's Energy Bill

Your energy utility's peak demand charges account for up to 70% of your company's energy bill. Here's how they work and how you can reduce or eliminate them.

There are two types of charges shown on your company's monthly energy bill: **Consumption** and **Demand**.

- **Consumption charges** are the total amount of energy in kilowatt-hours (kWh) used, multiplied by your utility's cost per kilowatt-hour for this energy (\$/kWh). This is your company's total energy use during the billing period.
- **Demand charges**, which account for 25-70% of monthly energy costs for commercial and industrial businesses, are based on "time of use" pricing. Your utility provider charges your company more for energy used during times of peak demand—for example, during summer daylight hours when most businesses are in full operation. Demand charges are the maximum amount of energy in kilowatts (kW) drawn by your company during specific high-demand time periods of the day, multiplied by a rate per kilowatt (\$/kW) that is higher than ordinary consumption charges.

HOW DEMAND CHARGES ARE SET

Utilities set demand charges annually, usually based on their peak demand requirements during the summer months. Demand charges are applied to your bill to help utilities cover the cost of building out their generating capacity, or buying extra capacity from other utilities, to cover high-demand periods. Think of these two charges on your company's energy bill as your car's speedometer and its odometer:



Like your car's odometer, which shows total miles driven, regular **consumption** charges show your company's total energy use.



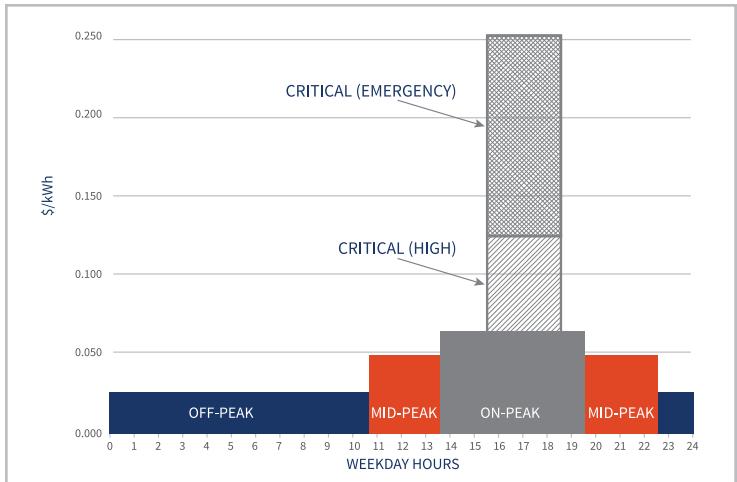
Like your speedometer, which shows how fast you are driving, **demand** charges indicate your company's maximum rate of energy use during peak demand periods in a monthly billing cycle.

DEMAND CHARGES ARE EXPENSIVE

Demand charge rates, priced in dollars per kilowatt (\$/kW), are higher than consumption charges, and they're usually the second-largest cost on your energy bill. Demand charges are applied to a customer's highest daily usage at any 15-minute interval during peak time periods (e.g. noon to 9:00 P.M. during the months of April through October). Your business is charged for this peak usage (as a demand charge), in addition to your total energy usage (consumption charge).



Some types of businesses incur higher demand charges than others, based on the amount of energy their equipment uses. For example, one manufacturer using a small number of low-draw machines at a consistent rate throughout the day will incur lower demand charges compared to another manufacturer using different equipment, such as a large curing oven, which draws much more electricity when it is turned on for a short time during peak demand periods. Because demand charges are applied when you need energy the most, your company is paying these higher demand charges even if its energy use doesn't spike during this time, as shown in this diagram.



HOW TO REDUCE PEAK DEMAND CHARGES

Because demand charges can account for up to 70% of your company's monthly energy bill, cutting costs here gives you an opportunity to achieve significant long-term savings on energy costs.

One effective way to significantly reduce your peak demand charges is through the use of on-site power. Simply put, distributed generation or on-site power is non-grid supplied power that is instead produced at the site of your business. On-site power generation options, such as Combined Heat and Power (CHP) and solar, can generate a significant share of a facility's power needs, reducing the risk of utility pricing volatility (like peak demand charges) and providing long-term savings in electricity costs.

By generating your own on-site power during peak demand periods, you can meet your facility's energy needs and offset—or even eliminate—the amount of energy your facility draws from your local utility during these peak demand periods.

GEM Energy provides a variety of on-site power options to help reduce your energy costs:



CHP, using compact microturbines fueled by inexpensive natural gas, helps your facility generate its own electricity and usable thermal energy. This prevents your company from relying only on utility power during peak demand periods.



Solar power, a fast-growing and effective option for a variety of facility types, generates energy during peak summer utility periods to help your company offset peak demand costs.

GEM Energy is the chosen energy partner for multiple facilities in a wide variety of industries. All aspects of an on-site power project are handled by GEM Energy, including identifying and procuring federal and state tax incentives to help reduce or eliminate capital costs.

From assessing and evaluating your company's energy use, to configuring the right system, to structuring the funding options, to installing and maintaining your system, GEM Energy brings experience and resources to implement an on-site power system that will reduce both energy costs and reliance on the grid.