

# What Is Demand?

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Demand (measured in kilowatts – kW) is the rate at which electricity is used at any one given time, as opposed to energy (measured in kilowatt-hours – kWh), which reflects the amount of electricity that is consumed over time. For example, ten 100-watt light bulbs consume electricity at the rate of 1000 watts, or one kilowatt. If these bulbs were left on for two hours, they will have used two kilowatt-hours of electricity. Each additional hour the bulbs are left on, the energy usage will increase by one kilowatt-hour, while the demand will always be one kilowatt. If the ten light bulbs were left on for two hours each, but only one at a time, after twenty hours, the energy consumed would be two kilowatt hours, as in the previous case. However, since only one light bulb was on at any given time, the demand would have been a tenth of a kilowatt.

## *Why is there a demand charge?*

While customer load levels vary over time, your utility must have the transmission and distribution capacity to meet the maximum demand of all

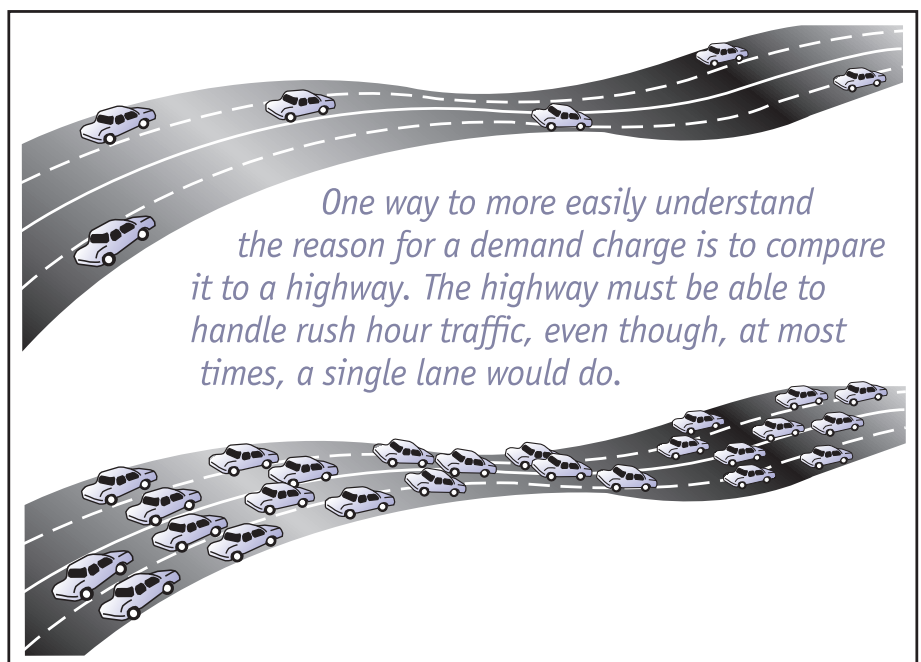
customers at any given time. These facilities represent a fixed investment, which must be recovered through rates, whether a customer uses his full electrical capacity continuously or once in a while. The purpose of the demand charge is to recover the cost of having the facilities available to provide the maximum amount of electricity customers may require.

Demand charges are designed to recover each customer's share of the utility's costs of owning these facilities. Those customers with high demand, even if the demand is not constant, must contribute towards the costs of having the capacity that is needed when they call on those resources.

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Thus, it is both the rate and the quantity at which you consume electrical energy that affects how much it costs the utility, and ultimately you, to deliver electricity.

Given this, it is clear that there is more to managing the use of electricity consumption than just using less of it. While most conservation programs will reduce your energy costs and may affect demand, a deliberate effort to control your demand load management – can have a significant impact on reducing your bill.

### *How is demand determined?*

Meters can measure both demand (rate of use) and energy (amount of use). Demand meters monitor demand on a continuous basis and record the highest average demand that occurs in any predetermined time interval.

This demand level is used for calculating the monthly demand charge as it represents the highest rate of use for the month. The meter reader resets the demand register when the meter is read because the highest demand is re-established each month.

A common misconception concerning demand is that there is an in-rush of current when electrical equipment or appliances are started. In fact, this is only the case with electrical motors.

Another frequent misunderstanding is that an in-rush is recorded as the peak demand. For example, if your meter only records the average demand for 15 minutes, and the in-rush for motors lasts only a few seconds, the in-rush caused by starting motors will have very little impact on peak demand. The in-rush load will be averaged into the 15-minute demand, but the demand level of the spike itself will not be recorded as the peak.

### **Want more information?**

For answers about your bill or your electric service, phone the Call Center for Businesses at: **1-800-565-3181**

To report problems with your electric service, an outage or an emergency:

Call: **1-800-696-1000**

Hearing or speech-impaired customers may use the following number for business and emergency calls:

Call: **1-800-445-5631**