

Demand Response Energy Reduction Strategies



Demand Response

Energy Reduction Strategies

PG&E's demand response programs reward customers who voluntarily reduce their energy use during peak demand events. When an event day has been called, your designated contact person will be notified so you can begin making changes to routine activities that will reduce your energy demand to enhance system reliability and help you earn incentives.

This brochure offers simple, industry-specific tips to help you respond during peak events by making small adjustments to your business operations. These pre-planned events are opportunities for you to earn incentives when demand for electricity could outpace supply. You should implement these measures at your discretion only after careful consideration of their effect on business operations and safety within your facility.

Getting Started

There are a few things any business can do to make an impact:

- Turn off all non-essential indoor/outdoor lighting, signage, window displays and office equipment not in use (i.e., printers, copiers, shredders, coffee makers).
- Turn off all decorative features, such as fountains, lighting and ambient audio and video displays.
- Pre-cool work areas, then cycle constant air volume heating, ventilation and air conditioning (HVAC) units or temporarily reset static pressure in variable air volume HVAC units, and turn off ceiling fans and room fans.
- Some facilities with package AC units can do load-cycling, temperature reset, and possibly pre-cooling.
- Turn off beverage vending machines and shift use of ice makers before or after an event.
- Conduct meetings during events to minimize use of equipment.
- Charge batteries and battery-operated equipment prior to an event, then unplug battery chargers and use only pre-charged equipment during an event.
- Adjust employee schedules and shifts so that times of increased production or energy use occur before or after planned events.

Please see inside for curtailment strategies specific to your industry. For additional information, visit www.pge.com/demandresponse, contact your account representative, or call the Business Customer Service Center at **1-800-468-4743**.

Doing More in Your Industry



Office Buildings

- Complete dishwashing and housekeeping activities before or after an event.
- Turn off or turn down boilers, pumps, fans and equipment not in use, especially in printing facilities.
- Turn off excess elevator banks and escalators (as permitted).
- Turn off or turn down chillers, and reset chilled water temperature.
- Adjust variable speed drive controls to reduce load from fans, pumps and chillers.
- Apply ventilation control – temporarily reducing outside air flow can help reduce cooling demand.



Warehouses

- Turn off all unnecessary warehouse lighting, and dim lighting where possible.
- Charge batteries and battery-operated equipment before or after an event.
- Schedule non-essential operations before or after an event.
- Apply ventilation control – temporarily reducing outside air flow can help reduce cooling demand.

Health Care

Hospitals and Medical Office Buildings

- Reduce use of non-essential testing and diagnostic equipment.
- Conduct dishwashing, housekeeping, waste processing and laundry activities before or after an event.
- Turn off all non-essential food preparation equipment not in use.
- Reduce lighting and air conditioning in back office areas.

Hospitality

- Turn off decorative lighting, fountains, saunas, pools, hot tubs and exercise equipment.
- Complete dishwashing, housekeeping and laundry before or after an event.
- Turn off excess elevator banks and escalators (as permitted).



Schools

- Turn off food service equipment, non-essential office equipment, excess elevators and escalators (as permitted).
- Perform dishwashing and housekeeping tasks before or after an event.
- Turn off pool heating and pumps.



High-Tech

Server Rooms and Data Centers

- Leverage "power capping" software or slow down workloads during an event.
- Use Cassatt, VMware or other software applications to maximize server workload efficiency.
- Power down servers that are not needed.
- Turn off extra elevators or escalators (as permitted).
- Pre-cool and float air temperature.
- Reschedule server maintenance to occur before or after an event.
- Perform housekeeping tasks before or after an event.
- Use virtualization software and cloud computing.

Manufacturing Plants

- Turn off all non-essential process and pumping equipment.
- Reduce or reschedule production.
- Curtail process loads that can be served by generators or alternative fuels.
- Schedule testing before or after an event.
- Move batch and continuous processes before or after an event, or to another day.
- Stockpile inventory prior to an event, then stop production during the event.
- Produce extra product a day ahead, and do only packaging on event day.



Biotech

- Turn off all non-essential process and pumping equipment.
- Shut down or cycle air compressors, air handlers and ventilation systems.
- Turn off or turn down chillers, and reset chilled water temperature.
- Adjust variable speed drive controls to reduce load from fans, pumps and chillers.
- Curtail process loads that can be served by generators or alternative fuels.
- Produce extra product a day ahead, and only do packaging on event day.

Retail

Small Retailers and Restaurants:

- Turn off excess cash registers and computers.
- Shut doors and windows to pre-cool, then turn off air conditioning during an event.
- Perform housekeeping-related tasks before or after an event.

Product Retailers (in addition to above):

- Reduce lighting and decrease air conditioning in back-office and unused spaces.
- Turn off excess elevators and escalators (as permitted).

Grocery Retailers (in addition to above):

- Delay use of electric resistance defrost controls and the use of anti-sweat heaters.
- Shift use of electrically-operated equipment before or after an event.
- Back-store refrigerated storage and refrigerant compressors can be turned down, cycled or turned off, and may safely float for hours with little temperature change.





Manufacturing

- Turn off all motors, vertical lifts and other non-essential process and pumping equipment.
- Reduce or reschedule production to avoid unnecessary use of compressed air.
- Turn off or turn down chillers, and reset chilled water temperature.
- Adjust variable speed drive controls to reduce load from fans, pumps and chillers.
- Reduce or reschedule production.
- Shift melting (kilns), finishing (grinders) and other tasks to either before or after an event, or to another day.
- Pre-cool, then float or cycle refrigeration.
- Delay use of scrap grinders, bailing and other non-essential equipment.
- Stockpile inventory prior to an event, then stop production during the event.
- Move batch and continuous processes to either before or after an event, or to another day.
- Produce extra product a day ahead, and do only packaging on the event day.



Minerals and Chemicals

- Turn off vertical lifts, conveyor belts, crushers and all non-essential process and pumping equipment.
- Stock pile or overproduce inventory prior to an event, then shut down production and resume operations after the event.
- Move batch and continuous processes to either before or after an event, or to another day.
- Produce extra product day ahead, and do only packaging or transport on the event day.
- Reduce, slow down, or shut down operations completely.

Petroleum

- Turn off pumping units.
- Postpone post-extraction pumping, transportation and storage activities.



Water and Wastewater Treatment

- Shut off all or most pumps during an event.
- Some agencies have permits to operate internal combustion engines (backup generators) that can be used for the event duration.
- Pump water into storage tanks prior to an event, and use this water during an event.
- Shut off operations completely during an event, then store and collect untreated water for processing after the event.
- Decrease use of aerators during an event.

Agriculture and Food Processing



Food Processing

- Turn off vertical lifts and conveyor belts and all non-essential process and product transportation equipment.
- Shut down or cycle air compressors, air handlers and ventilation systems.
- Turn off or turn down chillers, and reset chilled water temperature.
- Adjust variable speed drive controls to reduce load from fans, pumps and chillers.
- Turn down, turn off or cycle blowers, pump motors, and any other air circulation motors.
- Pre-cool, then float or cycle refrigeration.
- Reduce or reschedule production.
- Stockpile inventory before an event, stop production during the event and store for packaging processes after the event.
- Move batch and continuous processes to either before or after an event, or to another day.



Dairies

- Pre-cool, then float or cycle refrigeration.
- Shift irrigation tasks to take place before or after an event.
- Instead of running at full operation, conduct only certain processes and delay the rest until after the event or the next day.
- Turn off barn and yard lights.

Greenhouses

- Turn down or turn off any and all greenhouse lights.
- Turn down or cycle cooling fans, ceiling fans, blowers, chillers, or any other air circulation equipment and motors.
- Adjust variable speed drive controls to reduce load from fans, pumps and chillers.
- Shift use of non-essential electrical equipment, such as pumps, fans and ventilation controls, to before or after an event.



Industrial Refrigeration

- Pre-cool, then float or cycle refrigeration. Certain products can safely float for hours.
- Turn down, turn off or cycle evaporator and condenser fans, some or all compressors and all non-essential motors.
- Alternate cooling methods between cold storage areas to lower simultaneous demand.

Wineries

- Turn off or turn down chillers, and reset chilled water temperature.
- Adjust variable speed drive controls to reduce load from fans, pumps and chillers.
- Turn down or turn off pumping equipment, conveyor belts, vertical lifts and all non-essential process equipment.
- Stockpile inventory prior to an event, and reduce production, packaging or storage functions.
- Move batch and continuous processes to either before or after an event, or to another day.
- Decrease use of aerators during an event.