



# Reducing Electricity Demand

The demand for electricity continues to grow throughout the country. In fact, the federal Energy Information Administration has projected there will be more than a 36 percent increase in usage by 2030. The Office of the Ohio Consumers' Counsel (OCC), the residential utility consumer advocate, supports measures that will reduce the demand for electricity for several reasons, including:

- ▶ Reducing prices – When demand increases, the price of electricity can increase. The volatility for the price of natural gas, which is used to fuel some power plants, also can have a major impact on electricity prices. Reducing demand will lower customers' electric bills and help a utility avoid having to purchase extra power during the hottest summer days when it is very expensive.
- ▶ Reducing cost risks associated with future environmental impacts – New legislation has been introduced in Congress that if passed will control the amount of greenhouse gases, such as carbon dioxide, released by power plants. These new rules would help the environment but cost the utilities money to comply. A likely result will be higher prices paid by consumers for the electricity they use.
- ▶ Improving reliability – When demand for electricity increases, strains can be placed on an electric utility's system. Lowering the demand helps reduce the strains, thereby delaying expensive transmission and distribution upgrades and reducing certain congestion problems.
- ▶ Helping prevent new power plant construction – Building new power plants as a response to increases in demand is very expensive. If demand is reduced, a utility could avoid having to build a new power plant. This would help prevent additional negative impacts on the environment and avoid the higher rates that could result from the construction of new plants.
- ▶ Promoting local economic development – Lowering consumers' bills and allowing them to keep more of their income can spark economic



growth. In addition, Ohio would decrease its reliance on energy from sources primarily imported from other states and instead, produce jobs in areas related to energy efficiency efforts (for example, contractors to install insulation and manufacturers of products designed to save energy).

## What is demand side management?

Demand side management, of which energy efficiency is a subset, is the ability for consumers to manage their electricity based on the overall need for power. The OCC advocates that Ohio's electric utilities

have comprehensive demand side management programs. These programs can include a variety of tactics to help reduce electricity usage, including funding to help consumers make energy efficient upgrades.

Since the price of electricity purchased by a utility can be very expensive during times of peak demand (for example, on hot summer days), new optional rates can be offered by utilities to encourage customers to use less power during these hours. This type of rate or other incentives to lower usage during peak hours is generally called demand response. The rates may be referred to as "time of use" but vary as to how many daily pricing periods occur (for example, daytime and nighttime; multiple blocks of time; or instantaneous real-time pricing).

Since energy efficiency programs cost money to implement and maintain, the OCC believes that they should pass a test designed to ensure that program benefits outweigh costs. If it is less expensive to have programs to lower electric usage than the cost of the power that would otherwise be needed, consumers will stand to benefit through savings.

Ohio legislation signed into law in 2008 requires Ohio's electric utilities to reduce their demands by 16 percent by 2018 and reduce their sales through efficiency efforts by 22 percent by 2025. Utilities

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throughout the state have started to offer programs aimed at reducing demand and increasing energy efficiency. Consumers should check with their local utilities to find out what programs they may be able to use to reduce their need for electricity.

## Elements of a demand side management program

Examples of the types of programs that are offered by Ohio utilities in order to comply with the state's energy efficiency standard include:

- ▶ In-home energy audits to provide residential consumers the most cost-effective ways they can improve the efficiency of their home. From insulation to appliance upgrades, consumers would be shown which areas of the home should be targeted to help lower their usage.
- ▶ Incentives for air conditioner tune-ups and for purchasing energy efficient central air conditioners and heat pumps. The incentives would include rebates on new equipment and payments to residential consumers to lower the cost of the tune up. This would help ensure that equipment that uses the most electricity in residential homes is running efficiently.
- ▶ A voluntary "load control" program that would provide consumers with incentives for allowing the utility to turn off the compressor in their air conditioners for brief periods when electricity is in high demand. The compressor is the system that cools the air and is separate from the fan, which can remain on. A participating consumer likely would experience just a temporary one or two degree rise in the home's temperature and would have options as to the maximum length of time the interruption would occur.
- ▶ Rebates for purchasing Energy Star products at local stores. Products such as refrigerators, washers and lights qualify to use the Energy

Star logo by meeting federal energy efficiency standards and would be eligible for the rebates.

The OCC has developed fact sheets that provide consumers with information about the energy efficiency programs now available from each Ohio utility.

## Smart meters and new rate options

Smart meters are devices that display the price of electricity, allowing consumers to better understand how much power actually costs during times of high demand. Once installed in a home or apartment by the utility, this information would empower customers to shift energy usage into low-priced periods. The use of smart meters could be combined with new rate options that provide a lower rate during times when electricity is in low demand and a higher rate in times of high demand.

American Electric Power and Duke Energy will be the first Ohio utilities that will implement this type of rate and equipment. The programs resulting from smart meter implementation will give customers control over their energy purchases by allowing them to program electric-intensive appliances like an air conditioner to automatically respond to price signals.

## Least-cost option for consumers

Numerous studies show that it is cheaper to reduce the usage of electricity than to buy more power, especially with the recent increases for the price of electricity. With lower bills and a more reliable electric system as its goal, the OCC will continue to advocate for comprehensive programs designed to reduce consumers' electric usage.

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