



Highlights of [GAO-04-844](#), a report to the Chairman, Committee on Government Affairs, U.S. Senate

## Why GAO Did This Study

The efficient and reliable functioning of the more than \$200 billion electric industry is vital to the lives of all Americans. As demonstrated in the 2003 black-out in the Northeast and the 2001 energy crisis in the West, changes in the cost and availability of electricity can have significant impacts on consumers and the national economy. The Federal Energy Regulatory Commission (FERC) supports using demand-response programs as part of its effort to develop and oversee competitive electricity markets.

GAO was asked to identify (1) the types of demand-response programs currently in use, (2) the benefits of these programs, (3) the barriers to their introduction and expansion, and (4) instances where barriers have been overcome. Additionally, GAO examined the federal government's participation in these programs through the General Services Administration (GSA).

## What GAO Recommends

GAO recommends that (1) FERC consider demand-response in making decisions about wholesale markets and report to Congress on any impediments to doing so and (2) GSA make demand-response a key factor in its energy decision making.

[www.gao.gov/cgi-bin/getrpt?GAO-04-844](http://www.gao.gov/cgi-bin/getrpt?GAO-04-844).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Jim Wells at (202) 512-3841 or [wellsj@gao.gov](mailto:wellsj@gao.gov).

# ELECTRICITY MARKETS

## Consumers Could Benefit from Demand Programs, but Challenges Remain

### What GAO Found

There are two general types of electricity demand-response programs in use: (1) market-based pricing programs enable customers to respond to changing electricity prices and (2) reliability-driven programs allow either the customer or the grid operator to adjust electricity usage when supplies are scarce or system reliability is a concern. The federal government's GSA participates in both types of programs.

Demand-response programs benefit customers by improving the functioning of markets and enhancing the reliability of the electricity system. Some recent studies show that demand-response programs have saved customers millions of dollars and could save billions of dollars more. The GSA—as only one example of federal involvement in these programs—has reported saving about \$1.9 million through the participation of only a few of its buildings in demand-response programs during the past 5 years. However, GAO estimates that GSA could potentially save millions of dollars more with broader participation in these programs.

While benefits from demand-response are potentially large, three main barriers limit their introduction and expansion: (1) state regulations that shield consumers from price fluctuations, (2) a lack of equipment at customers' locations, and (3) customers' limited awareness about the programs and their benefits. Regarding prices, customers do not respond to price fluctuations because the retail prices they see do not reflect market conditions but are generally set by state regulations or laws. In addition, in recent years, moderate weather conditions and other factors have kept overall electricity prices low, reducing the benefits of participating in these programs. According to GSA, its participation in demand-response programs has been limited because it lacks specific guidance on participation and tenants have little incentive to reduce their consumption since current leases do not provide a way to share in the savings that might occur.

Two demand-response programs that GAO reviewed illustrate how the barriers GAO identified were overcome and also point out lessons on how to cultivate new programs. Lessons learned include the necessity to provide sufficient incentives to make participation worthwhile, working with receptive state regulators and market participants to develop programs, and designing programs to include appropriate outreach materials, necessary equipment, and easy participation.

In commenting on the report, FERC and GSA agreed in general with the report's conclusions and recommendations, but GSA expressed concern about one recommendation to share potential savings with its tenants.