ENERGY WISE

for your Business

Companies are facing huge growth rates in data storage, resulting in a 20–30 percent increase in energy consumption each year, according to the Environmental Protection Agency (EPA).

CONSERVATION REBATES FOR DATA CENTER & COMPUTER ROOM EFFICIENCY

Whether you are operating a full-scale data center or a small computer room for your small business, energy efficiency is more important than ever.

The good news for all businesses is that adopting energy-saving, environmentally friendly data center practices can be both financially attractive and easy to implement.
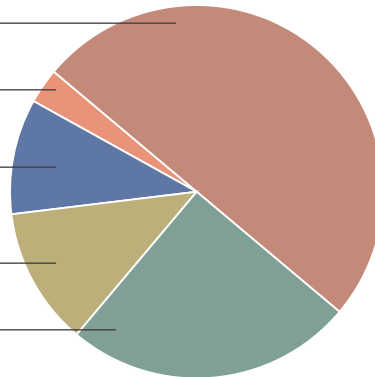
TYPICAL DATA CENTER ENERGY USE

IT hardware 50%

Lights 3%

UPS 10%

Air distribution 12%

Cooling 25%

Examples of Energy-Efficiency Improvements

While the news may seem daunting, there are many things you can do to reduce the energy consumption of your data center – and Dakota Electric Association can help with the following:

High-Efficiency Servers
Experts estimate that new servers are 25 percent more efficient than standard servers, and ENERGY STAR® rated servers can be even more efficient.

Server Virtualization/Consolidation Historically, software programs have been dedicated on a one-to-one relationship with servers. Virtualization software eliminates the need for dedicated servers. Consolidating allows servers to operate at a much higher load factor. Virtualization and consolidation can increase server load factors from a typical 10 percent to 50–70 percent without experiencing any loss in reliability and may result in a reduction in energy use up to 80 percent.

DAKOTA® ELECTRIC ASSOCIATION
Your Touchstone Energy® Cooperative

ENERGY WISE MN

Energy-saving, environmentally friendly data center practices can be both financially attractive and easy to implement

Airflow Improvements

Efficiently manage the proper amount of air needed to cool servers in a data center. Strategies include optimizing air inlet and return, minimizing the mixing of hot and cold air, and directing air only to where it is needed. All will improve the efficiency of air flow, which has a significant effect on the amount of fan energy and outside air needed to cool appropriate equipment.

High-Efficiency Cooling

Install the most efficient computer room cooling equipment, whether through direct expansion cooling or a central chiller.

Humidification

Best practices for data center operation have relaxed humidity controls to a range of 25–60 percent. Also, more efficient methods of humidifying include evaporative and ultrasonic humidifiers.

Power Systems

There are opportunities to save – from the transformer to UPS (uninterruptible power supply) to high-efficiency power supply – in some cases up to 15 percent more efficient than similar systems that are five or more years old.

High-Efficiency Lighting Equipment and Controls

Although lighting is generally a small portion of total energy use in a data center, there is opportunity to install higher-efficiency lighting when retrofitting existing or designing new data centers. Monitor and occupancy controls can also reduce overall energy use.

Rebates and Incentives from Dakota Electric

Find out how Dakota Electric can assist you with rebates and incentives for data center efficiency improvements.

Programs are subject to terms, conditions and change without notice.

DAKOTA ELECTRIC® ASSOCIATION
Your Touchstone Energy® Cooperative

CONTACT THE ENERGY EXPERTS®
Dakota Electric Association
4300 220th Street West
Farmington, MN 55024
651-463-6243 • 800-874-3409
www.dakotaelectric.com

01/19

ENERGY WISE MN