

INDUSTRIAL TECHNOLOGIES PROGRAM

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



**U.S. Data Centers
Save Energy Now**

U.S. Data Centers Save Energy Now



In Cooperation with:



Why Data Centers

Annual source energy use of a 2MW data center is equal to the amount of energy consumed by 4,600 typical U.S. cars in one year.



2MW data center

=

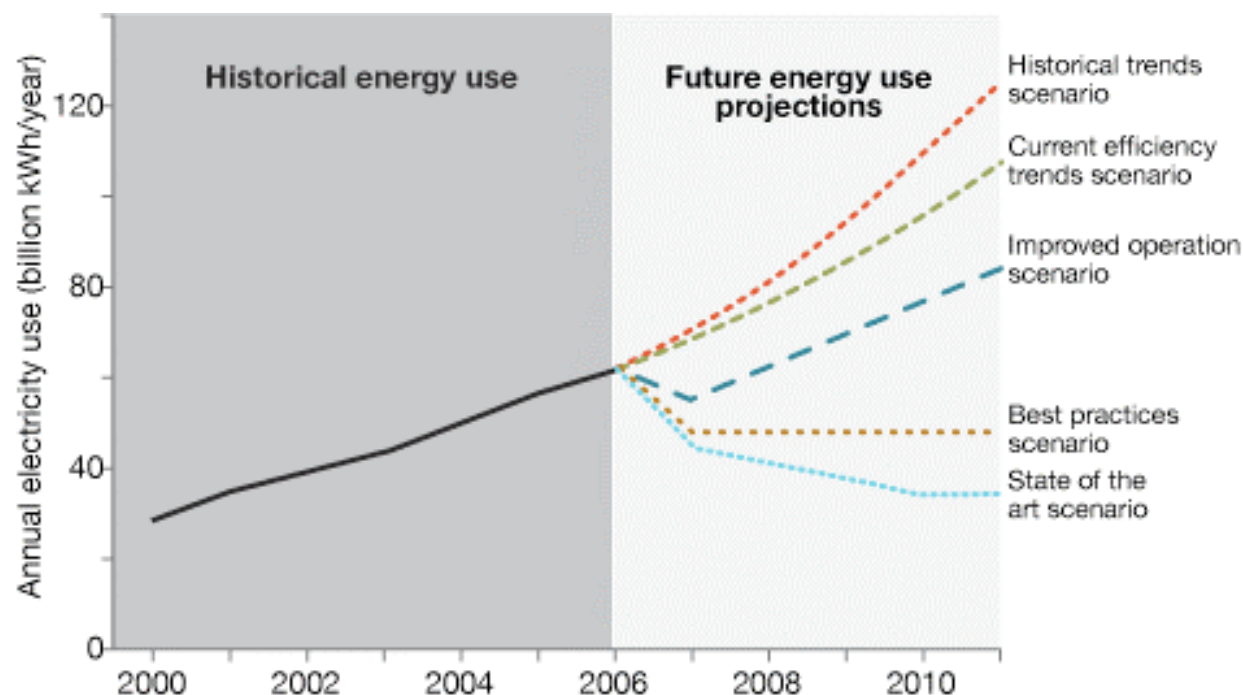


4,600 typical U.S. cars

Why Data Center Efficiency Now?

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U.S. data center energy use could double to more than 120 billion kWh from 2006 to 2011, equal to annual electricity costs of \$7.4 billion.

“Data center power and cooling infrastructure worldwide **wastes** more than **60 million megawatt hours*** per year of electricity that does no useful work powering IT equipment. This represents an enormous **financial burden** on industry and is a significant public policy **environmental issue**.”

-Neil Rasmussen, Founder of American Power Conversion Corp.

* Cost of wasted energy estimated at \$4 billion US per year.

What Difference Will it Make?

Improving data center efficiency can help your company:

- Reduce business risk
- Lower utility bills
- Reduce carbon emissions
- Become more socially responsible



“If we **do nothing** to change our data center consumption, **10 more power plants** need to be built (over the next four years) to the tune of **\$2 billion to \$6 billion** each and their cost is ultimately going to get passed on to IT through **increased utility bills**.”

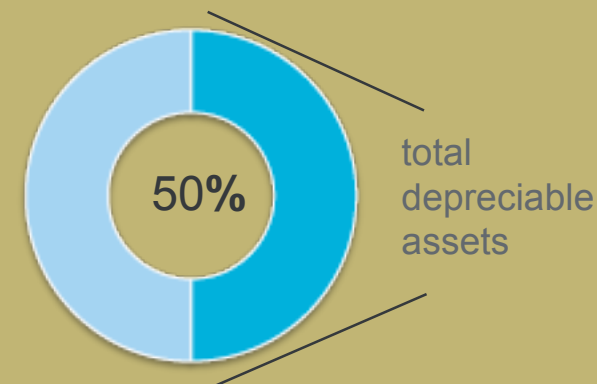
-Ken Brill, Forbes Magazine

Why CEO's Need to Get Involved

- Improve company performance
- Integrate IT decisions into strategic plan
- Be a leader in your industry in environmental sustainability and energy management



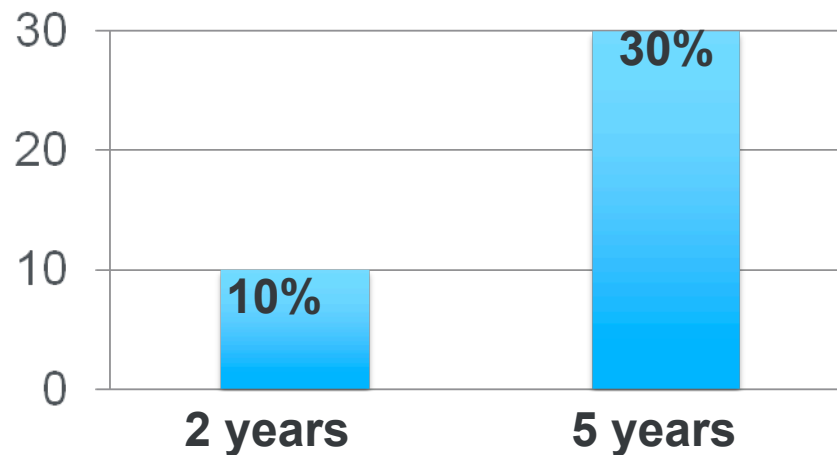
IT assets now represent 50% or more of total depreciable assets of the corporation.*



Improving data center efficiency increases ROI for all IT related purchases.

*See notes.

- Improve data center energy efficiency by **10% in 2 years; 30% in 5 years**



- Integrate data center efficiency goals into business strategy for the next **3 to 5 years**
- Assign a corporate data center lead

Data Center Efficiency Questions to Ask Your IT/Facilities Manager

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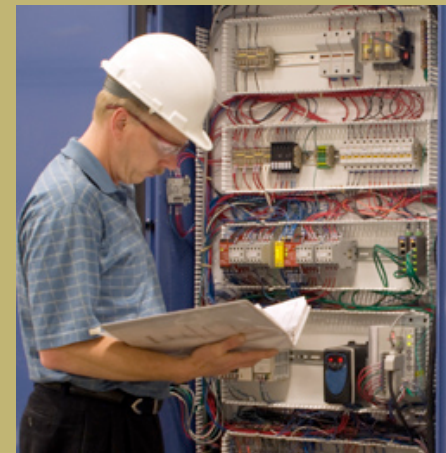
- How are we currently monitoring and measuring energy use?
- What are the annual energy expenses for data center operations?
- How can we reduce costs and improve efficiency now?
- What investments can we make with a reasonable ROI to improve efficiency?
- What best practices can we put in place to encourage continuous improvement?



How DOE Can Help

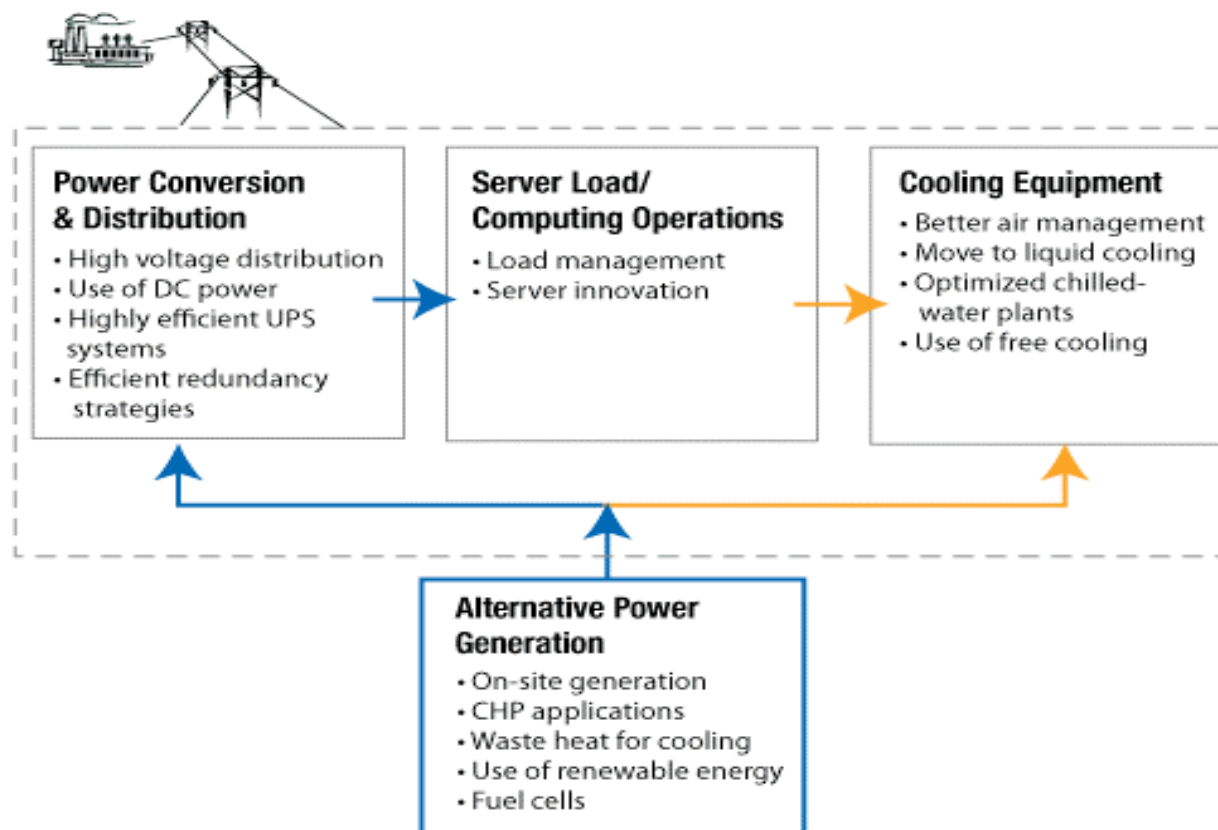
- Save Energy Now: national initiative of the U.S. Department of Energy (DOE) Industrial Technologies Program (ITP)
- Provides energy efficiency resources, services, and tools to help reduce industrial energy intensity 25% in 10 years
- Similar tools and methodologies are being applied to reduce data center energy use

- More than 2,200 assessments completed since 2006
- \$1.3 billion identified energy cost savings
- \$209 million implemented cost savings



Strategy for Data Center Energy Efficiency

Through Save Energy Now, DOE aims to reduce energy use in U.S. data centers 10% by 2011 and is actively targeting energy savings potential in four main data center areas:



Save Energy Now Activities

- DC Pro Software Tool Suite for identifying and measuring data center savings
- Energy assessment protocols and methodologies
- Metrics to benchmark and track performance of overall data center energy intensity
- Data Center Certified Energy Practitioners
- Training curriculum for data center personnel



Save Energy Now Case Studies



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Data center efficiency improvements
helped these companies save:



Verizon ([PDF](#))

- Cost Savings: \$181,500/year
- Payback: 1.3+ Years



Lucasfilm ([PDF](#))

- Cost Savings: \$343,000/year
- Payback: 1.2 Years

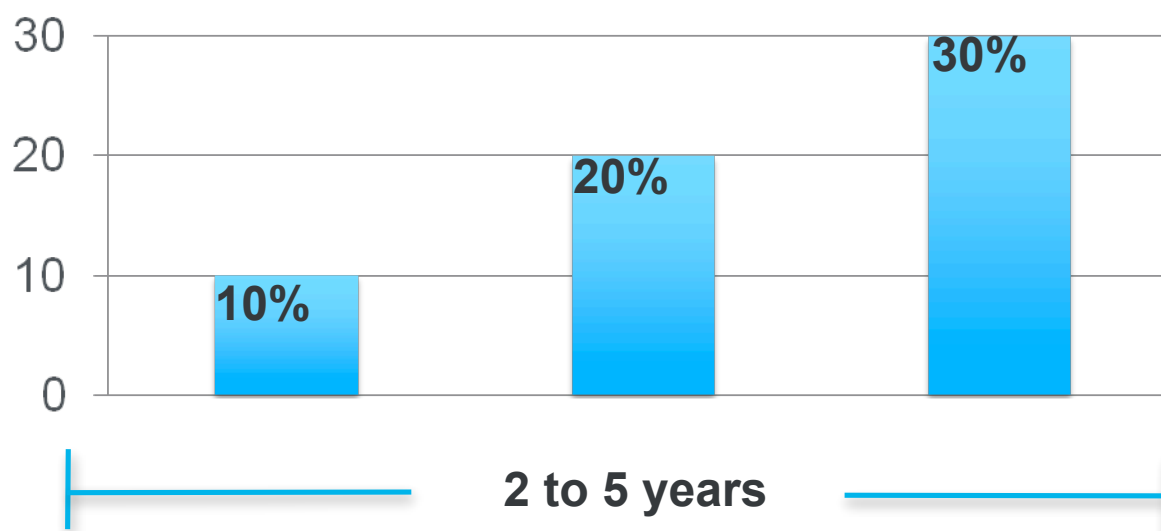


Sybase ([PDF](#))

- Cost Savings: \$262,000/year
- Payback: 2.2 years

What Next?

Can you publicly commit to **reducing** your company's data center energy use by **10%, 20%, or 30%** over **2 to 5 years**?



Send an [e-mail](#) to DOE with your company name, PR contact, and Web site.

Companies that make this commitment will be recognized on DOE's Data Centers Web site at www.eere.energy.gov/industry/datacenters.

Partner with DOE

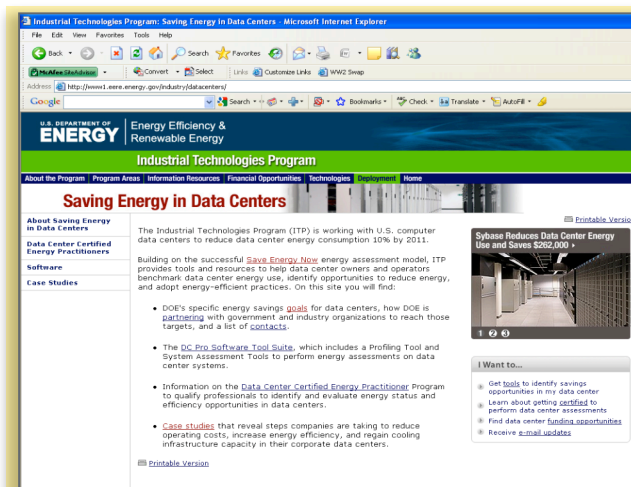
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Are you interested in partnering with DOE to help U.S. industry reduce its energy intensity 25% in 10 years?

If so, [contact ITP](#) about becoming a Save Energy Now Leader.

Save Energy Now Leaders receive technical assistance from DOE to implement energy-saving methods.



[www.eere.energy.gov/
industry/datacenters](http://www.eere.energy.gov/industry/datacenters)

Visit DOE's Web site
for:

- DC Pro Software Tool Suite
- Case studies and other best practices publications
- Data center e-mail updates
- Events and training
- Information from DOE partnering organizations.



Thank You

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www.eere.energy.gov/industry/saveenergynow

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