

# Why **energy efficiency** matters for mid-sized company **growth**

GOING GREEN IS MORE THAN  
A SOCIAL STATEMENT

**N**ot sure that going green matters to your business? Think again. Resource issues once considered the sole domain of environmental causes are now becoming major operational concerns for many mid-sized companies. Spiraling energy prices, increased regulations and environmental worries are just a few of the consequences that stem from the decreasing supply of inexpensive energy and increased demand for more power.

Research from the Forrester Group says that three percent of all energy consumption in the United States now comes directly from servers, storage devices and desktop computers in corporate environments. That's slightly more than all the power the U.S. Department of Energy says the state of Indiana consumes. And with the meter running on overtime, costs increase. According to its *Worldwide Server Power and Cooling Expense 2006–2010 Forecast*, research firm IDC says that for every dollar spent on IT equipment, 50 cents goes to energy. By 2010, according to the same IDC report, 70 cents of every IT dollar will be devoted to powering and cooling these devices.

But here's the good news: These problems are surmountable and even reversible. New insights into the manufacture and use of technology are revealing how IT can keep up with business demand, consume less energy and leave a smaller environmental footprint.

## Project Big Green takes on real-world energy problems

Some of the most exciting discoveries in the field of IT energy research can be found in an IBM initiative called Project Big Green. Staffed by over 300 full-time researchers, the ambitious program is dedicated to making business technology more energy-efficient, cost-effective and, of course, environmentally responsible.

Making these discoveries accessible to mid-sized businesses is also a key part of the Project Big Green mission. To gain an understanding of some of the energy problems these companies now experience, consider a recent incident at Devon Health Services, Inc., a healthcare claims processing company based in King of Prussia, Pennsylvania.

"One day our IT staff was in the middle of a project to upgrade a mission-critical application for our business—a repricing software product that handles 80 percent of the company's workflow—when we made an alarming discovery," recalls company President Charles Falcone. "We had literally run out of power."

The cause of this unexpected interruption? Devon Health was drawing more power than its circuit breakers could handle. Most of the problem could be traced to the company's electricity-hungry servers, a common source of energy overconsumption in business environments.

## See your power needs more clearly

If you're not certain how much power your IT infrastructure uses, you're not alone. Research firm IDC says that most data center managers are unsure of how many watts per square foot their data centers currently support.

IBM® PowerExecutive™ enables you to see your power needs more clearly—so you can use power more efficiently, helping to increase your productivity and manageability, remove guesswork in budgeting electricity cost and maximize price performance per watt for every square foot.

According to Info-Tech Research Group, most servers are only called on to perform at 10 to 20 percent of their capacity even though they run full time, as was the case at Devon Health. As Falcone recalls, "We got in the rhythm where we were buying a new server with every application."

Yet like most midsized companies, Devon Health had no way of knowing its IT infrastructure was on the verge of meltdown, or how to have its technology match business expansion.

Project Big Green sheds light on energy consumption in a number of ways that are accessible to companies like Devon Health. Power-monitoring products, such as Electric Green, automatically detect servers not in use and put them into standby mode, thereby reducing energy consumption by as much as 80 percent.

And for midsized companies that operate data facilities or lease space in these buildings, IBM® Cool Blue™ tools—another result of Project Big Green research—analyze every inch of a facility's energy efficiency by measuring temperature distributions and other heat-related issues key to preventing future power outages.

### Large data center research results in midsized business lessons

To make the next generation of servers and other business IT components more efficient, Project Big Green research leans heavily on analyzing today's large enterprise data centers. These buildings—which typically contain thousands of racks of servers consuming massive amounts of energy—have proven to be ideal laboratory environments for studying IT efficiency.

Not every midsized business operates a data center, of course. But Project Big Green research has resulted in the energy-efficient IBM Cool Blue line of server products meant for small computer rooms as well as large data centers:

- **IBM BladeCenter®** energy efficient system design can decrease power consumption, while multiple blades can reduce server count. Devon Health addressed its power issues by migrating its main enterprise applications to a single IBM BladeCenter system made up of just six blade servers.
- **Virtualization** improves server and storage utilization, which can reduce the number of devices and associated environmental impact. In driving utilization up, annual power costs go down. Virtualization also allows for more efficient power distribution, backup and regulation. According to Info-Tech Research Group, a virtualized server running at full capacity usually requires no more energy to run than a server idling at 15 percent utilization.

- **New liquid cooling systems** can reduce the amount of power required by traditional systems to keep servers from overheating. This is an important innovation, considering a significant portion of IT-driven energy costs typically come from cooling systems. New approaches to temperature control, such as the IBM Rear Door Heat eXchanger, can reduce heat at the source by up to 60 percent, benefiting both large data centers and small computer rooms.

### Recycling IT equipment: Environmental responsibility, compliance and planning

To make the transition to energy efficiency and greener business practices both cost-effective and environmentally compliant, IBM offers two asset recovery programs designed for midsized businesses. In many cases, IBM will buy back or provide credit for future purchases in exchange for old servers, storage devices, laptops and desktops—regardless of the manufacturer of these machines.

Both programs provide complete disk-wiping services based on U.S. Department of Defense overwrite standards and ensure that all old equipment is recycled and disposed according to federal, state, provincial and local regulations. By calling the Green Data Asset Recovery Hotline, midsized business managers can get immediate quotes for older equipment, as well as speak with financing specialists.

Smaller businesses that operate computer rooms in office buildings can receive cash and credit for old equipment from IBM Express Asset Recovery Solutions. Unlike other asset recovery organizations, the Express program has no minimum equipment requirement and will pay for the shipping of up to 250 machines.

For larger companies that operate data centers, the asset recovery arm of IBM Global Financing provides credits and cash back on most data center hardware.

### Going green gets easier

From turning to more energy-efficient products to using products more efficiently, saving power is a business imperative. It's a hidden cost in all businesses running servers and other IT equipment. Midsized business can take steps today toward incorporating the green technologies that matter—and allow uninterrupted business operations and growth while increasing overall profitability. ●

Make the transition to energy efficiency: Recycle your old IT assets and receive cash and credit today at [ibm.com/expressadvantage/learnmore3](http://ibm.com/expressadvantage/learnmore3)