

SPECIAL REPORT: Efficient Technology Solutions

What's In a Green IT Assessment?

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According to Jessica Vreeswijk, Founder, Terrabytes IT, a green IT consulting firm in British Columbia, Canada, identifying an agency's key information sources and gaps is an important first step in assessing energy consumption for green IT initiatives. Specifically, federal organizations must gather the following information:

**Inventory of all IT equipment including workstations, monitors, printers, multifunction devices, photocopiers including the models and ages where possible;*

**Inventory of server room equipment including servers, backup devices, uninterruptable power supplies, air conditioning units (including model information);*

**Organizational information including number of employees, number of sites and total energy consumption in kWh (or MWh);*

**Inventory of paper consumption including total paper purchases, maintenance costs of printers, toner purchases, etc.;*

Educated guesses can be made on any missing elements of this information, and assumptions can also be built into the assessment. Partners and suppliers may also be pulled into the assessment for outsourced operational functions. "The baseline generated by the assessment will give a starting point for measuring the potential impacts of implementing green IT practices," a key ingredient for any business case, Vreeswijk explained, adding "the baseline gives an opportunity to show the results of improvements made both intentionally to reduce environmental impact, and those for which it is an unintended consequence."

Here are some practical tips, tools and techniques to help federal agencies 'go green' and gain greater operational efficiency by incorporating innovative technology solutions and best practices to help them achieve greater energy efficiency.

Use Energy Star and EPEAT when purchasing new desktops, laptops and monitors.

EPEAT (Electronic Product Environmental Assessment Tool) will help federal agency users choose the most environmentally respectful electronic products available today. More than 1,000 products are registered there. Meanwhile, a long list of Energy Star rated products including computers, workstations and notebook computers is also available at: www.energystar.gov/ia/products/prod_lists/computers_prod_list.xls.

Measure the current level of power consumption.

Using the EPA's energy calculator (see below) federal agencies and departments can estimate

the energy that could be saved by turning on the power management features on agency computers. See the Low Carbon IT Savings calculator at:

www.climatesaverscomputing.org/images/calculators/LowCarbon-ITSavings-Calc.xls.

Consider a Green IT assessment or audit.

A green IT assessment can help federal organizations identify information sources and gaps, identify performance metrics, set a baseline for reporting results and set expectations and quantify the importance of energy management for the agency or department. According to [Jessica Vreeswijk, Founder, Terrabytes IT, a green IT consulting firm in British Columbia, Canada, establishing a baseline for energy use, and getting recommendations on how to save both energy and money will allow IT administrators to measure conservation efforts and engage employees in lowering energy costs. Terrabytes Consulting, and other sustainability-focused service providers offer affordable services to aid in assessing energy use for better energy management.](#)

Turn off monitors and PCs at night.

Turning off PCs at night can save up to 60% of an agency's IT energy consumption costs. For organizations that need the ability to remotely apply updates overnight, power management solutions are available. The average desktop PC wastes nearly half of the energy it consumes as heat. This wasted electricity translates to higher electricity bills and increased greenhouse gas emissions. Users can make simple changes to a computer's power management settings with a few mouse clicks, so a computer can be set to automatically go to "sleep" when not in use. Using power management features can save nearly half a ton of Co2 and more than \$60 a year in energy costs, according to the Climate Savers Computing Initiative (CSCI). Meanwhile, Wake on LAN technology allows a network administrator to remotely turn on or 'wake' a computer from a sleep state. Remotely powering on computers to perform scheduled maintenance tasks allows them to be turned off over night, reducing power consumption without interrupting maintenance processes.

Reduce employee travel by conducting virtual meetings.

Air travel is one of the most significant contributions to green house gas emissions. Virtual meeting services such as GoToMeeting, Webex, and Windows Live Meeting are extremely popular and easy to use and provide an interactive platform for online meetings that can reduce that amount of travel for federal agency employees.

Reduce paper consumption.

The average office employee prints 6,000 pages a year. Printing less can be accomplished in many ways, from simply printing on both sides of a sheet of paper, to using Ecofont, a tool that can help conserve printer ink, to using services such as EchoSign, which enables a wide range of commercial organizations to use secure digital signatures, and could probably help some agencies conduct more of their daily operational business electronically.

Include environmental questions in purchasing requests.

Questions such as 'Is your product Energy Star certified?' or 'Do the devices meet energy or environmental certifications?' encourage federal IT suppliers to demonstrate their environmental credentials and increase the energy efficiency of products purchased.

Industry experts estimate that IT energy consumption can represent between 10% and 30% of an organization's overall energy consumption.

Consolidating large numbers of personal printers into fewer central models can improve print

cost management, while saving on energy and paper use. A managed print service can further help cut waste by printing only when the employee is present and when a print copy is truly necessary.

Extend the working life of IT equipment.

Where possible, it's a good idea to reduce, reuse and recycle IT products, to lower the environmental consequences of mining, manufacture, packaging, shipping and disposal. When IT solutions must be replaced, consider whether others inside the organization would benefit from the technology. If not, charities and refurbishing organizations may extend the product's life. Some manufacturers are willing to take equipment back and recycle components.

Did You Know?

**Desktop computers are available via Energy Star that use 70% less energy.*

** Energy efficient servers use up to 25% less energy, but deliver the same performance, saving up to \$200 per year, per server.*

**Energy efficient servers can also increase compute capacity by enabling organizations to put five servers in the same power envelope as four.*

**Spot cooling solutions can help an organization focus on 'hot' spots in a data center, saving up to 30% by not inefficiently cooling an entire room.*