

Getting efficient

Technology firms help companies reduce their carbon footprints

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A growing number of companies are taking steps to help save the planet — and not just for altruistic reasons. Going green can cut power costs and qualify companies for a growing number of procurement deals that require bidders to meet environmental and energy-efficiency standards.

Nonetheless, becoming a greener corporate citizen isn't all that easy. "In our experience, we find that companies want to do the right thing, but they are a little bit lost on how to move forward with their goals," says Neal Spungen, president of Got Green Energy, a Vienna-based consulting firm. "It can quickly become quite daunting to them, and many of them don't really even know where to begin."

Fortunately, there's an emerging cottage industry of technology-based firms in Virginia that are focused on helping companies reduce carbon emissions, manage energy consumption and maximize power-hungry assets without losing productivity. Here is a look at three of these firms.

Got Green Energy

In today's tough economic environment, going green isn't likely to get a go-ahead without showing a clear return on investment. That's where Got Green Energy comes in. The firm helps companies go through the steps necessary to become more sustainable and then clearly defines the types of financial savings that an investment will bring.

The company takes a three-step approach to the greening effort. First, consultants analyze a company's energy expenditures (including not just power consumption but also business travel, commuting and processes that contribute to a carbon footprint).

That information is then put into a Web-based tool developed by Got Green Energy called GHG Insights. "The application allows companies to measure and track their carbon impact continuously, so when executives are in a board meeting and someone asks, 'What's the company's carbon footprint this week?' they can state '89,000 tons' or whatever," says Spungen, who co-founded the company with CEO Larry Poltavtsev in 2007.

Got Green Energy consultants then work with clients to set up green programs, educate the work force and define the expected ROI. "Typically, we will provide them with some very detailed information that says, 'If you do this, you will save this amount of kilowatt usage each month, and here's the upfront capital expense that will be required,'" Spungen explains.

Once a company has a strong carbon reduction plan under way and is seeing savings, many want to take the final step and become carbon neutral. Got Green Energy helps them achieve that goal with guidance on purchasing renewable energy credits and carbon offsets.

The price charged for these consulting services can vary. Spungen notes that companies that go through the entire Got Green Energy program typically save 10 to 25 percent in energy costs but can also reap other green benefits such as a major reduction in emissions related to business travel. Satisfied customers have helped Got Green Energy grow its revenues at a 50 percent annual clip since the firm's founding in 2007.

MiserWare Inc.



Computers boost business productivity, but they are also major energy hogs, says Kirk Cameron, CEO of MiserWare Inc., a Blacksburg startup that is set to sell products designed to help data centers reduce energy consumption. The 44 million servers housed in the world's many data centers represent one-half of a percent of all electricity consumption, according to a study by global management consulting firm McKinsey and Co. That consumption is expected to quadruple during the next decade.

Until now, most efforts to curb energy consumption in data centers have involved turning the machines off or putting them in sleep mode when not in use. Cameron says that approach is counterproductive. His solution? Save energy even while the servers are hard at work. "The truth is that many data centers operate 24/7 at a near 100 percent utilization rate, so there is very little opportunity to reduce energy consumption by shutting off machines," he explains.

By managing the power consumption of internal server components, the company's Intelligent Software Power Management product helps data centers reduce energy consumption, curtail heat output and save operational costs, he says.

The software (which is also available for free download from the company's Web site for use in personal computers and laptops) also gives users more control. "Many users disable power management capabilities because it can slow down an application, and they don't know if and when that will happen," Cameron says. "With our system, users can set a policy to say, 'Performance is really critical on this server, so save as much energy as you can, but don't hurt performance.' Or they can set a standard that says, 'I'm okay with a little performance loss but no more than this.'"

The company tested its products at various types of companies during the past year and is slated to begin a full-blown sales push in the second quarter of 2010. In pilot projects, the ServerMiser product — which will have an annual licensing fee of \$25 or \$50 per server, depending on the amount purchased — has been shown to shave up to 35 percent off of an

annual data-center electric bill. That means companies are experiencing a payback on their investment in 1.5 to 3 months.



ADMMicro

Many companies try to control costs by investing in energy-management systems. These systems allow companies to automatically modify set points in heating, cooling and refrigeration units and turn lights on or off based on a schedule. While important in reducing energy consumption, many of these control systems are akin to driving a car without a speedometer, tachometer and windows, says John Clark, executive vice president and managing director of ADMMicro, a Roanoke-based business unit of GridPoint Inc. "You can hit the brakes or you can hit the gas, but you really can't tell what's going on around you," he says.

To get more insight into what's really driving energy costs, ADMMicro developed a "submetering" product that allows companies to see — via a Web-based enterprise-management tool — how energy is being consumed.

Business owners learn, for example, that although their control system is supposed to turn off a cooling system at night, one air-conditioning unit still is kicking on at midnight and running continuously. They also might discover that all of their heat pumps come on at the same time in mid-morning, causing peak usage costs to spike. Or they might find one refrigeration unit is suddenly using a lot more electricity and needs to be tuned up. Submetering also informs a company of power-quality issues, such as a voltage imbalance that can reduce the life and efficiency of an expensive piece of equipment.

ADMMicro sells a package of energy-management and submetering systems to companies with small- and medium-size facilities, including retailers, pharmacies and quick-serve restaurants. Clark says that demand for the company's solutions has been high — sales doubled in 2009 and will more than double again in 2010 — because customers are realizing energy savings of 10 to 20 percent, which allows them to get back their investment in just 18 to 24 months.

Cameron, Clark and Spungen all say that despite the economic climate, internal cost-cutting efforts and the scarcity of credit, many companies see the handwriting on the wall and recognize that they need to invest in services and products that can help cut energy costs and increase their overall green status.

"It just makes business sense for most of these companies," says Spungen. "They realize that energy costs are only going to increase over time and that being seen as a more green, sustainable business is going to be necessary to compete effectively. So although the economy is in a tough place right now, companies are jumping on the bandwagon and seeking out help for these types of initiatives."