IBM

Fact Sheet: It Will Be Easy for You to be Green and Save Money Doing It

Imagine being able to program your home with a profile saying that you want to keep your electricity charges to under $100 per month but if the outside temperature hits 90 degrees you want to cool the house to 75 degrees between 6 PM and 6AM. A range of "smart energy" technologies will make it easier for you to manage your personal "carbon footprint".

As data begins to run through our electrical wires, dishwashers, air conditioners, house lights and more will be connected directly to a "smart" electric grid, making it possible to turn them on and off using your cell phone or any Web browser. Imagine if you leave the air conditioning or the lights on, you get to work, and then you remember that you didn't turn them off, and they are wasting energy at home, while you are sitting in your office. You will no longer have to get in your car and drive home to turn them off, you can use your cell phone or computer Web browser to shut them off – saving you energy, time, and money.

In addition to alerting you about leaving appliances on when they could be off to conserve energy, technology will also provide you with up-to-date reports of electrical usage, so you can monitor how much you are spending and how much energy you are putting out, just like you can track your cell phone minute usage today. Using this, you can tell your electrical provider how much carbon output you are willing to live with each month or how much money you are willing to spend and it will automatically tell you the best times to run your appliances, or alert you when you are using too much energy and should turn some lights out.

You could say "If I were to reduce my carbon footprint by 25%, how could it be done with minimal impact on my lifestyle?" You will have the possibility of pre-evaluating the long term effect of decisions – something that is almost impossible now.

Additionally, intelligent energy grids will enable utilities to provide you with the option to use green energy like solar and wind to fuel your home, and innovations in solar and wind technology will bring cost-efficient options to a utility near you in the near future.

- **Today's Utilities Getting Smarter:** Today, IBM is working with utility companies on intelligent energy initiatives that will make this future vision a reality. CenterPoint Energy of Houston, for example, plans to install 2 million Internet-capable electric meters over the next five years. The meters contain wireless chips that communicate with Internet-enabled appliances in the home, letting consumers use a simple Web-based program, say, to control home appliances when they are away from home. In the Netherlands, Oxxio is providing its customers with a digital meter that can be read remotely, so that Oxxio customers don't need to send in meter readings manually. This "smart meter" is helping customers keep track of their energy usage more easily.

- **Devices Coming to a Store Near You:** The ZigBee Alliance has developed devices that look like lamp timers and can turn appliances on and off according to commands that consumers send over the Web

- **Making Solar More Accessible to You:** IBM is currently developing technologies to make solar equipment more affordable and efficient for consumers to use in the future. For example, IBM recently invented a new way to repurpose scrap semiconductor wafers -- thin discs of silicon material used to imprint patterns that make finished semiconductor chips for computers, mobile phones, video games, and other consumer electronics -- to a form used to manufacture silicon-based solar panels.