

Greenovations

Energy-Conscious Tech

by Nathan Lake

The electronic devices that make our lives easier also produce some unwanted side effects on the environment. Fortunately, many consumer electronics manufacturers are working to create products that keep us productive while reducing energy demands to lessen our impact on the environment. Here, we take a look at the newest environmentally friendly technology initiatives.

An App That Pinpoints Electric Charge Sites



If you or your business is interested in electric vehicles, you'll want the free PlugShare app (free; www.plugshare.com) from Xatori. It shows you a local, up-to-date network of public charging stations that are compatible with today's newest EVs (electric vehicles). The app is currently available for the iPhone, iPad, and iPod touch; an Android app is expected soon. As a PlugShare user, you can choose to publish the location of your outlet and share it with others in the PlugShare community. Users can contact you via the information you choose to share with PlugShare, such as address, type of outlet, phone, and preferred time of contact, to set up a charging appointment. This way, those with EV outlets can also help to further aid the EV revolution.

When using the app, you can enter a destination to see a map of the locally shared outlets. Xatori's founders expect that sharing your electricity won't add too much to your electric bill. For example, in the San Francisco area, it would cost around 15 cents an hour to charge an EV. Xatori reports that most people will use the app to top off a vehicle, rather than charge it fully, so as to ensure they can make it to their destination if they've miscalculated how far the EV could go on one charge.

Wave Motion Energy

The PB150 PowerBuoy from Ocean Power Technologies (www.oceanpowertechnologies.com) can generate up to 150 kilowatts (enough to power approximately 150 homes) of clean, renewable power from waves between 4.9 feet and 22.9 feet high. OPT will install the PB150 PowerBuoy around 33 nautical miles from Invergordon, Scotland, for ocean trials, and a second PB150 is under construction in Oregon. The trials will examine how the PowerBuoy structure and mooring system responds to the waves and how much power the onboard generators produce. The PB150 has already received independent certification from Lloyd's Register.

Fuel Cells That Power Homes & Businesses

ClearEdge Power (www.clearedgepower.com), manufacturer of fuel cell technology, introduced the ClearEdge5, which is a fuel cell that converts natural gas into electricity and heat. Instead of burning the gas, which creates greenhouse gases such as carbon dioxide, the hydrogen is processed in the fuel cell. Then, the fuel cell transfers the electricity to the AC panel and the generated heat is sent to the building. Benefits include reduced energy costs and a significantly lower carbon footprint.

Overall, the ClearEdge5 consumes around 40% less fuel than what the power and heat you receive from the grid uses. The electricity generated also costs around six cents per kilowatt-hour; utility rates may be as high as 50 cents per kWh, ClearEdge claims. Using heat from the ClearEdge5 will reduce carbon emissions by 35%. ClearEdge Power indicates that the ClearEdge5 is available for government incentives and utility rebates, including the Federal Incentive Tax Credit, to help reduce costs. The ClearEdge5 will generate around 120kWh per day, and the efficiency of the unit is around 90% when customers use both the electricity and waste heat.



Digital Power

Green Plug (www.greenplug.us) is creating a power adapter that would be compatible with a variety of devices (no matter the power needs), provide power at all times, and power down when not needed. The digital power adapter would eliminate vampire power drain (energy used when no devices are connected or in use) for all connected devices. Recently, Green Plug announced its GPP (Green Power Processor), which electronics manufacturers can use to create power adapters that communicate with the power source and connected device to determine when the device needs energy and when power should be cut. The GPP can also work with Green Plug's GLP (Green Load Processor) to communicate with and control the power adapter.

The EcoATM

A new kiosk system lets you recycle your portable devices and get money or store credit in return. Place your portable device in the ecoATM (www.ecoatm.com), and it will inspect your device for working functionality and assign the gadget a secondary market value. After the EcoATM inspects and accepts the device, it issues payment, which retailers can configure to deliver as a gift card, cash, trade-up coupon, or charitable donation. Most recently, ecoATM announced that it offers kiosks with a built-in, ATM-like cash dispenser for complete consumer self-service. The goal of ecoATM is to reduce eWaste by providing a convenient and incentive-based way to recycle gadgets, which helps to lower the toxic eWaste in landfills.



Eco Navigation

In an effort to help you become more fuel-conscious when driving, Earthrise Technology created the Eco-Navigator (\$189.90; www.eco-nav.com)—a GPS navigation device you can connect to your vehicle's onboard diagnostics port to provide real-time efficiency from the engine. The information from the engine is more accurate than the projected values from traditional GPS devices. The Eco-Navigator tracks fuel consumption, carbon emissions, speed, and other items to help you reach optimum gas mileage. Turn-by-turn navigation is available with Navteq maps for the U.S., Canada, Europe, and China. The Eco-Navigator also keeps a record of vehicle service reports to remind you of scheduled maintenance.

Environmentally Friendly Mobile Phone Guide

GoodGuide (www.goodguide.com) is a Web site that rates the environmental, health, and social performance of products, including food, household items, and apparel. Recently, GoodGuide added ratings for mobile phones, and the Nokia C6 received the highest rating of 7.7 out of 10. The testing took into account environment scores assigned to the phone by environmental indicators, such as energy management and environmental disclosure, as well as company-level environmental scores and corporate social performance. Overall, the site considers 150 different factors for the final score. Other top-rated models were Samsung's Blue Earth, Motorola's Citrus, and Palm's Pixi.



Energy-Efficient Incandescent Bulbs

Halogen bulbs are now starting to replace incandescent bulbs on store shelves, but if you prefer the look and light of incandescent bulbs, check out GE's new incandescent halogen bulbs (prices start at \$5 for a two-pack; www.gelighting.com). The combo bulbs dim and turn on instantly and operate 22% more efficiently than traditional incandescent bulbs. Clear and Reveal versions are available in two-packs of 29-, 43-, 53-, and 72-watt varieties.