



Making Everyday Easier

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Scream Energy

We had previously reported on using ambient energy waves to charge our cell phones, but who would have thought renewable-energy might lie in our natural ability to talk?

The Korea IT Times is reporting that "new research promises a way to recharge phones using nothing but the power of voice." A researcher at a South Korean university proposes using the sound of our voices and the cacophony around us to "trickle charge" batteries.

Sang-Woo Kim of the Institute of Nanotechnology at Sungkyunkwan University in Seoul is doing this pioneering work in the field of "scavenged energy." Evidently, the science identifies power sources generated by everyday life--such as the electricity generated by cars passing sound walls near busy freeways.

The technology turns sound into electricity by employing strands of zinc oxide sandwiched between electrodes. "A sound-absorbing pad on top vibrates when sound waves hit it, causing the tiny zinc oxide wires to compress and

release," Kim reports. "This movement generates an electrical current that can then be used to charge a battery."

A prototype system was able to convert around 100 decibels--the equivalent of noisy traffic--to 50 millivolts of electricity. The technology could prove useful, for example, if you forgot to charge your phone and could do so just by chatting with a friend on the way to work.



Of course, Kim worries about an already noisy world growing louder so we can all get an extra jolt out of life. He envisions people shouting louder into their phones (and into people's ears) to keep their phones up and running. Could this lead to an energy race searching for the loudest and most annoying people to keep our batteries charged? What if we could somehow hook up power cells to the noise of a happy, boisterous crowd? Then we might not need to ever build another windmill or solar panel.

Tech Tip Of The Month - Silence Is Golden

Whether they're feeding paper, moving print arms, heating toner, or spraying ink, printers are highly mechanical devices that create noise. But the last thing anyone needs is to have a loud printer breaking their concentration. Fortunately, you have a few ways to reduce the sound coming from a printer.



Try Silent Mode

In general, the faster the printer, the louder the sound. Some printer models offer quiet mode. This makes the printer arm move more slowly to reduce noise levels, but the pages will come out at a reduced speed.

Choose a Laser Printer

If you're buying a new printer, consider a laser printer. It is quieter than an inkjet because the printer fuses toner to the entire width of the paper across a drum using electricity, rather than constantly moving a print arm back and forth as an inkjet printer does. Pages tend to come out with less noise (and with sharper text).

Go Wireless or Networked

Moving the printer out of the room where you're working is another way to keep noise at a minimum. But then how do you print? You can get a wireless printer. Or if you are at work, you can connect to the network printer.

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Southern California Edison's Summer Discount Plan

Southern California Edison (SCE) is offering a Summer Discount Plan for families with a Central Air Conditioner.

How It Works

You allow SCE to remotely turn off your central Air Conditioner a maximum of 15 times (up to 6 hours per day) during the summer season. You can also earn twice the bill credits when you allow them to turn off your central AC an unlimited number of times.

Your credit amount will vary depending on the size of your Central AC unit, the amount of energy you use at home, and your SCE domestic rate schedule. When you join, an SCE authorized contractor will install the turn-off (cycling) device at no charge to you. They will verify that it's working. Then SCE will activate it.

Program Participation Requirements

The Summer Discount Plan requires a minimum of one-year participation. After one year, renewal is automatic unless you call them to terminate your participation.

The program is not recommended to people with health problems or who are unable to tolerate high temperatures.

Check Your AC First

Before enrolling in the Summer Discount Plan, be sure your AC is in good working order.

Important Information

- If you plan to replace your AC, call SCE and they will schedule someone to come and install the cycling unit on your new AC.
- If you have more than 1 AC unit, cycling units will need to be installed on each one.
- Electricity to your entire home is not reduced during a cycling period. Only the AC compressor is affected. The AC's fan may continue to run. If you don't want the fan to run, ask the installer to attach the fan to the device.
- You will know SCE has cycled off your AC when you see a green LED light flashing on the device installed on your AC unit.
- Your AC might be turned off more than one time on some days. Base plan participants will only have their AC's cycled off a maximum of 15 times in a summer season. Enhanced Plan participants may have theirs turned off an unlimited number of times, up to a maximum of six hours per day.

For more details and to sign up, visit: <http://www.sce.com/residential/rebates-savings/heating-cooling/summer-discount-plan.htm>

ENERGY STAR® Tankless Water Heater Rebate

The Southern California Gas Company is offering a rebate of up to \$200 on ENERGY STAR-qualified tankless water heaters.

- \$200 rebate for models with an Energy Factor of 0.90 or higher
- \$150 rebate for models that meet a minimum Energy Factor of 0.82
- Must be replacing a conventional tank-type water heater

How to Get Your Rebate

Discount is offered by participating tankless water heater manufacturers through licensed contractors.

View Tankless Water Heater Fact Sheet (pdf)-
<http://www.socalgas.com/documents/rebates/TanklessWaterHeaterFactSheet.pdf>

- Contact your tankless water heater manufacturer directly for any questions regarding tankless water heaters.

View List of Participating Manufacturers (pdf)-
<http://www.socalgas.com/documents/rebates/TanklessManufacturers2011.pdf>

Some Manufacturers in Southern California:
Chofu in Lake Forest, Navien America in Irvine, Noritz American in Fountain Valley, Paloma Industries in Oxnard, Rinnai in Aliso Viejo, Quiet-side in Santa Fe Springs

Fill out the rebate application provided by your contractor or download the Application here:
<http://www.socalgas.com/documents/rebates/SFApplication2011.pdf>.

Tankless Water Heater Rebate - Continues on pg. 6 ...

Weather Bug - Predicting Weather & Tracking Greenhouse Gas Emissions

This falls into the category of ‘why didn’t someone think of this before?’ AWS Convergence Technologies of Germantown, Md., better known for its Weather Bug observation services, is joining forces with Scripps Institution of Oceanography to deploy what it is describing as the largest greenhouse gas (GHG) observation network in the world.

AWS, which has changed its name to Earth Networks, plans to invest \$25 million over the next five years to build out more than 100 advanced GHG sensors, according to Earth Networks CEO Robert Marshall. The network will use sensor technologies from Picarro, based in Sunnyvale, Calif., he says. AWS has been tracking weather since 1993.

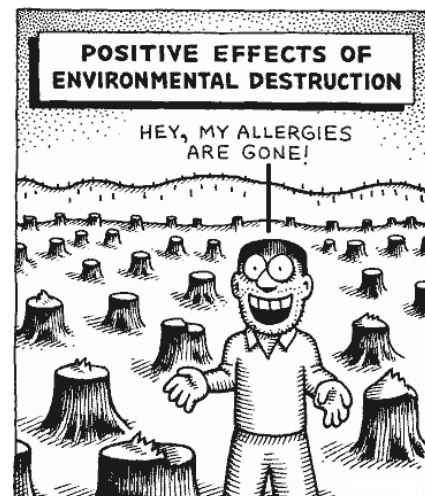
Marshall says these sensors will offer a new level of “environmental intelligence” that can be used by governments and corporations to more closely measure the fluctuations of GHG emissions in given regions. Because Earth Networks is an expert in weather services, the new network will be able to help scientists and communities study the impact of weather patterns on the global ebb and flow of GHGs. This is a new level of “environmental intelligence” that Marshall says simply isn’t available today. There currently are only a few dozen instruments around the world measuring GHG data, the most famous of which is the Scripps observatory on the Mauna Loa volcano on the Big Island of Hawaii. “This installation alone was

responsible for finding out that there is an issue in monitoring rising levels of greenhouse gasses,” Marshall says.

The data collected by the planned GHG network will be available to the research community, government policy makers and companies from the private sector. Among other things, this network will help governments verify GHG levels in accordance with ongoing emissions reduction goals that have been embraced around the world. “Verification and reporting are a key issue for many countries,” he says.

The first 100 sensors should be in action within 12 months. The first 50 of those sensors will be deployed in the continental United States, followed by Europe. The measurements will focus on carbon dioxide and methane, using calibration standards from the National Oceanic and Atmospheric Administration. Earth Networks will integrate data from its Weather Bug service with the GHG readings in order to provide richer climate information.

Tony Hayment, director of the Scripps Institution of Oceanography in La Jolla, Calif., said: “This network is going to measure the most important greenhouse gases, which are sometimes created as a result of industrial activities. We’ll be able to comprehend a regional level that has not previously been examined. It is about building an extensive top-down network that measures the gases that exist,



INNOVATIVE News

EV Drives More Than 200 Miles on Single Charge

Japanese electric car developer SIM-Drive (Shimizu In wheel Motor-Drive) says its SIM LEI



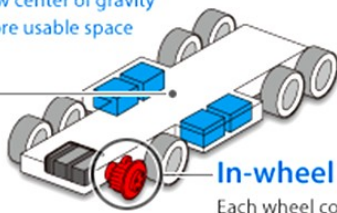
prototype EV can travel 206 miles on a single charge in general urban traffic conditions, and 190 miles while going 62 mph.

SIM-Drive's prototype was built with the cooperation of 34 groups and companies, including Mitsubishi Motors. The four-wheel drive SIM LEI has in-wheel motors. The technology has been made feasible by developing a compact,

Component built-in frame

Batteries, inverters and controllers are installed below the floor

- Light weight
- Low center of gravity
- More usable space



In-wheel motor

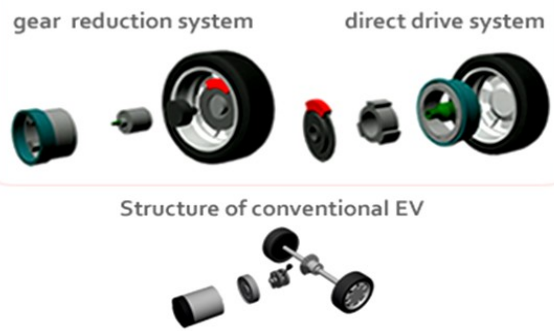
Each wheel contains its own motor

- High efficiency
- Light weight
- More usable space

high-efficiency motor - mounting all the important components for running *inside* the wheels and in a rugged frame structure located under the vehicle floor.

The core technologies are the in-wheel motor located inside each wheel and the componentized frame, located under the floor and having a rugged hollow structure. These can be used in New or Used Existing cars and in 2,4 or 8 wheel drive vehicles.

Structure of In-wheel motor system



The main advantages are the high energy efficiency, large usable space in the vehicle body, and highly simple vehicle structure. The body design has low drag to reduce efficiency, and a top speed of about 93 mph. The car can do zero to 100 kilometers per hour (62 mph) in 4.8 seconds, according to the firm. The SIM LEI project is aiming for mass production of an EV in 2013.

Move Over Segway - The Uno is Coming

BPG Motors was started when high school student Benjamin Gulak took a trip to China and saw the pollution from motorbikes and scooters. He started designing an electric scooter that would be cool and cleaner.

At CES, the company he founded will show off a prototype of the Uno III, which folds up to operate as a Segway-like unicycle. That allows it



to fit into tight spaces, such as an elevator, or move through mixed-use city spaces with pedestrians.

When the front wheel pulls out, it becomes a regular

scooter, viewed here from the back. But the styling is definitely meant to look more like a motorcycle.

The scooter is projected to go about 35 miles per hour and have a range of about 30 miles.

The company plans to start making these scooters in about a year on a limited production run.

Production Uno bikes will be priced similar to a high-end scooter: \$5,000 – \$7,500.



Screen-shot of how the scooter can transition from upright mode to its "motorcycle" mode while still riding.

INNOVATIVE News

Eragy - A Partner For a New Era of Energy Awareness

What is one of the big issues we need to solve?

Energy Consumption. We need to practice conservation by controlling the amount of energy we use and managing "how" we use it.

How Eragy works to help you:

Eragy energy monitoring software, **Energy Monitoring Plus**, provides Control4 users the ability to monitor both their whole house/building energy consumption as well as energy used by individual circuits within their homes/buildings.

Energy Monitoring Plus supports both the **TED 5000** and **eGauge** power sensors and has the following features:



• **Circuit-level energy monitoring via the eGauge power sensor.** Up to 4 eGauge units can be installed in a single system, supporting up to 48 circuits of energy monitoring.

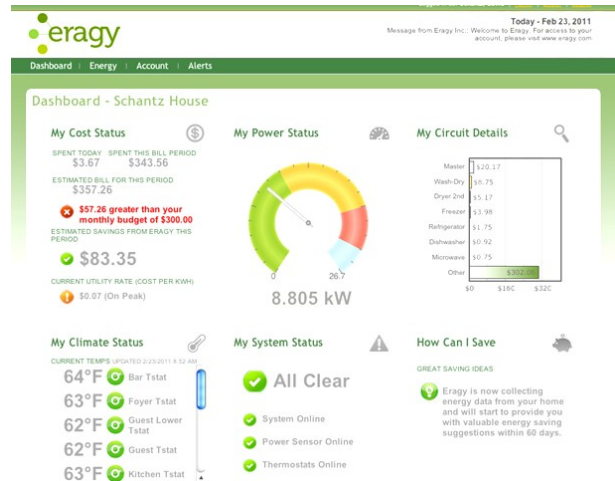
- The eGauge power sensor also supports **3-phase energy monitoring and commercial applications for businesses.**
- Eragy supports monitoring of **solar, wind, gas, and other energy generating sources.** You can monitor electricity that is generated in real-time plus access historical energy and cost data for these systems.
- **Energy Monitoring Plus also supports circuit-level energy monitoring via the TED 5000 power sensor.** Up to 4 TED 5000 MTU's can be used in a system, providing support for whole-house/building monitoring and up to 3 additional circuits.

Eragy Energy Monitoring Plus includes a user web portal. You will see this portal when you login to your Eragy.com account. You will see a "dashboard" that includes high-level information on your energy usage, cost, system status, and other valuable information.

The web portal includes:

- Real-time displays of energy usage and cost, circuit level displays and alert configurations. See how the temp outside directly relates to the energy you use with the outdoor temp overlay on the real time usage screen.

- Eragy Utility Rate Engine and support for utility rate structures. The energy rate structures for all areas in the U.S. are loaded
- Support for multiple circuit types including: Grid, Device and Generating. "Generating" circuits support solar, wind and gas powered generation systems
- Usage and cost analytics for each circuit and circuit type
- Alerts and charts/reports for each circuit, in addition to whole house alerts and charts/reports. Power consumption alerts - no power consumed, excessive power consumed
- Support for Control4 thermostat monitoring and alerts.



You can click on the dashboard "tiles" to see further details in each area

What you need - 4 steps to get you started.

1. Electrical Panel
2. Whole House or multi-Circuit Power Sensor (TED or eGauge)
3. LAN Connection (internet connection)
4. Eragy Control4 Driver (C4 HC 200 or above)

Once you have these hooked up, the Eragy web cloud gives you access to:

1. Eragy consumer portal
2. Eragy 4Store energy ap

Does this sound too complicated? It's not. Take the next step to help the planet (and your pocket book). Give us a call today and we'll help you get started. 909-287-7900.



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- Managed IT Services - Let us help maintain your network and desktops
- Home Theater and Board Rooms - Displays, Projectors, Video and Audio Distribution, Speakers and Surround Sound
- Home and Office Automation
- Security Systems - Access Control, Wired and Wireless, Security Cameras, Monitoring and Remote Connectivity
- Customer Tracking and Accounting Software Solutions
- AltiGen Phone Systems - VOIP, SIP, Fax Servers, Computer Integration and Line Analysis
- DirectTV - Delivering the best HD channels - and more of them than anyone.
- QuickBooks Certified

Visit us online at:

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Tankless Heater - Continued from pg. 2 ...

- Mail the application with a copy of your invoice to the manufacturer of your tankless water heater.
- Instant Rebate Info: <http://www.socalgas.com/for-your-home/rebates/instant-rebates/instant-rebates.shtml>
- You can also Email your Residential Rebates to: ResRebates@semprautilities.com

You can save more with Financing and Tax Credits. For more financing info, visit: <http://www.socalgas.com/for-your-home/conserves-energy/upgrade-financing.shtml>

For Rebate Information about this and other products, visit <http://www.socalgas.com/for-your-home/rebates/>.

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