# Intro to Innovative Energy

Chris Warner, Executive Editor

Welcome to our new vertical dedicated to the world of possibilities with alternate energy. We are always looking for guest bloggers at ECN, so if you have something to say about the topic, feel free to drop us a line.

I'll start off with a few of the alternate energy-related products announced at Sensors Expo back in June. Next week, I'll get us up to date with some products that were announced this summer. And speaking of summer, I hope everyone's been getting plenty of sun – in more ways than one, of course!


At the 2010 Sensors Expo, flexibility and universality were common themes among the most notable energy harvesting products. MicroStrain's EH-Link hybrid energy harvesting wireless sensor node collects energy from multiple sources including strain, vibration, thermal gradients, ambient light,and thermal and electromagnetic fields. It also features an on-board triaxial accelerometer, relative humidity sensor, temperature sensor, and signal conditioning for a Wheatstone bridge which is compatible with strainload cells, torque sensors, pressure transducers, and magnetic sensors. EH-Link has two energy harvesting inputs and is compatible with piezoelectric, electro-dynamic, solar, RF field, and thermoelectric harvesters.

Cymbet's EnerChip EP CBC915 Energy Processor works universally across all energy harvesting transducer technologies including photovoltaic, thermoelectric, piezoelectric and electromagnetic. The company's Maximum Peak Power Tracking technology is asserted to match any energy harvesting transducer input impedance. It is designed to provide optimal power management for EnerChip CBC050 rechargeable energy storage devices. The EnerChip EP has user selectable

modes and communicates with microcontrollers to create "energy aware" products.

Micropelt showcased its TE-Power PROBE for use with modern WirelessHART, ISA100 and similar transmitters. Mounting the device to a hot side of 20°C above ambient is believed to result in a milliwatt net output, equal to about 3 AA cells per year. According to the company, between 25°C and 90°C 10 mW net are generated, equivalent to as much as 30 AA cells worth of energy as an annual budget for a 3 V application, and the thermoelectrically harvested power is maximized in favor of more energy and better flexibility for the connected application.

Finally, Pacific Scientific OECO announced that it has developed a Hall effect current sensor that is intended to simplify the design and improve the performance of solar energy. The CS20 Series Hall effect based current sensor incorporates a compact sensor using a 5 V logic compatible design and measures <-15 A to >15 A with a bandwidth up to 50 kHz. Its quiescent output of 2.5 V scales mid-range with today’s 5 V logic and microcomputer ADC inputs.

And check out this demo from the show:

**Vibration Energy Harvester Powers Portable Devices**
http://www.ecnmag.com/multimedia/2010/06/product/Vibration-Energy-Harvester.aspx [1]



**Links:**
[1] http://www.ecnmag.com/multimedia/2010/06/product/Vibration-Energy-Harvester.aspx