

# ENERGY TIDBITS

December 2005

**Hemlock Semiconductor**, the world's leading producer of polycrystalline silicon, will begin construction of a \$400-\$500 million expansion at its Hemlock, MI headquarters in December. The expansion is driven by increasing demand for polycrystalline silicon, the cornerstone material used in the production of solar cells. The expansion will increase site capacity by 50% and is expected to generate more than 100-150 full-time direct jobs and an equal number of contractor positions in the next three years. Additionally, there will be 400 temporary local contractor jobs created during the expansion. Hemlock Semiconductor expects the solar energy industry to grow at a 20-25% pace over the next 10 years.

**EEBA Houses That Work Seminars** will take place on Dec. 5<sup>th</sup> in Lansing (Lansing Community College) and Dec. 6<sup>th</sup> in Grand Rapids (Watermark Country Club). Information & registration is at: <http://www.eeba.org/housesthatwork/default.htm>. Registration deadline is Dec. 1<sup>st</sup>.

**San Diego Unified School District** has installed a 100 kW photovoltaic system at its Jackson Elementary School using 10' x 40' rolls of roofing materials imbedded with photovoltaics from Uni-Solar. Solar Integrated Technologies, a roofing company, has partnered with Uni-Solar to make this flat roof product available. They have also partnered with GE Commercial Finance who can own the PV system and enter into a long-term electricity purchase agreement with a building owner. [www.solarintegrated.com](http://www.solarintegrated.com)

**Industrial Assessment Center** at the University of Michigan has performed an energy audit at the N-K Manufacturing Technologies' plastics manufacturing plant in Grand Rapids. The plant could save \$27,000 each year by installing several devices to control the use of both motors and electric heaters; making changes to the heating system; and installing grinder chutes, high-efficiency lamps, and destratification fans. <http://www.nrel.gov/docs/fy05osti/38530.pdf>

**Online Courses** in Energy Management (AET 2400) & Introduction to Renewable Energies (AET 2010) at Oakland Community College have been selected through a National Science Foundation grant to be part of a national project to teach about these topics in an online format in remote areas and areas where colleges do not presently offer programs. These two courses will be offered for the winter '06 semester throughout the state. Registration information is available at [www.oaklandcc.edu](http://www.oaklandcc.edu). Specific questions can be directed to [dgrowe@oaklandcc.edu](mailto:dgrowe@oaklandcc.edu).

**Sun Microsystems has introduced the UltraSPARC T1 multithreading CPU** that it claims is not only fast, but is good for the environment. UltraSPARC T1 with "CoolThreads" technology uses less than 70 watts of power, at a time when most multicore processors including Intel Corp.'s Xeon and IBM's Power processor lines use about 150 watts, according to Sun officials. The new chips are scheduled to start shipping in a new line of Sun Fire servers before the end of 2005.

**Rosamond Gifford Zoo in Syracuse, N.Y.** is looking to become the first zoo in the nation to be powered by its own animal waste particularly the prodigious piles produced by its pachyderms. The zoo prominent for its elephant breeding program is studying how feasible it would be to switch to animal waste to reduce its \$400,000 annual heating and electricity bill. The zoo's six elephants produce more than 1,000 pounds of dung per day. The zoo spends about \$10,000 a year on animal-waste disposal. The zoo also will look at using the manure from its domestic farm animals, its other hoof stock, such as its bison and caribou, and even its lions and tigers. Depending on the process, the zoo animal waste could be used to produce methane or hydrogen for powering a fuel cell or generator.

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**Largest PV Installation** in Canada is planned for the Canadian National Exhibition on Toronto's waterfront. Richard Morris of the City of Toronto says plans are proceeding for a 1 MW facility, one of five initiatives planned to drop the CNE's consumption of grid power to zero by 2010.

**LEED Gold Certification** has been achieved by the Michigan Alternative and Renewable Energy Center (MAREC) in Muskegon. Some of the alternative energy technologies within the Center are a high-temperature molten carbonate fuel cell, photovoltaic solar roof tiles, and nickel metal hydride battery energy storage system. MAREC houses a conference center, classrooms, energy education and research programs, and incubator companies as part of its economic development outreach. The MAREC facility is the first of more LEED (Leadership in Energy and Environmental Design) buildings planned by Grand Valley State University. <http://www.gvsu.edu/marec/>

**Crude Awakening: Peak Oil and the End of Cheap Energy** will be held on Saturday, December 10, 1 – 5 pm at the Upland Hills Ecological Awareness Center in Oxford. John Richter, Tim Hudson, Dominic Crea, Walter Krell, and Dietz Smith will use science and numbers to offer a vision of a post-oil future and a view of the alternatives. 248-693-1201 or [uheac@earthlink.net](mailto:uheac@earthlink.net)

**Utsira, an island off Norway's western coast**, is being used to test ways of dealing with storage issues related to alternative energy. Oslo-based Norsk Hydro ASA will test a combination of technologies, wind power and hydrogen fuel. The company has built two 600 kW wind turbines to use with a hydrogen generator and a fuel cell in providing all the electricity for the 10 homes on Utsira. Background on the project is online at [hydro.com](http://hydro.com).

**India has become the 4<sup>th</sup> largest wind generating country** in the world surpassing the wind power output of Denmark. Germany, Spain and the United States are 1, 2, and 3. The grid-connected capacity in India from wind now exceeds 4,228 MW, and new capacity grew four-fold from 2003 to 2005.

**Biomass Initiative Joint Solicitation Pre-Applications Due December 20, 2005:** The U.S. Department of Energy (DOE) and the U.S. Department of Agriculture (USDA) jointly solicit applications for financial assistance addressing research, development, and demonstration of biomass based products, bioenergy, biofuels and related processes. See the Biomass Research and Development Initiative home page for details: [www.bioproducts-bioenergy.gov/](http://www.bioproducts-bioenergy.gov/).



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