

EnergyTeachers.org Community News

All the ideas we have the energy to print

Ithaca, NY Winter 2007-08

A free service of EnergyTeachers.org Inc., the network for curriculum development in energy production and use.

Dear Readers

Here I sit in my new office in New York, hundreds of miles away from the old one in Massachusetts. The main article, below, shows that our beat still includes Massachusetts. The featured school, The Governor's Academy, in Massachusetts, is my Alma Mater. It gave me some satisfaction that my old high school was doing something in my line, trying to educate students about energy use.

I was excited when we received the press release for the second ar-

ticle, about the Green Grand Prix, having attended the same event last year, not far from our new office.

I hope both pieces of news inspire you. How would you like to be part of sharing our ideas? Let us know what you're doing for energy education.

EnergyTeachers.org continues to offer free or contractual consulting, workshops, presentations, equipment, discussion groups, books, and face-to-face assistance, all to help you teach about energy.

If this newsletter was sent to you anonymously, please let me know your name and address; we'd be happy to give you a free subscription. **Past issues are available online for free download, no reg. required.**

Shawn Reeves, Editor
shawn@energyteachers.org
315 Elmwood Ave.
Ithaca, NY 14850
<http://EnergyTeachers.org>

Donations to EnergyTeachers.org are tax deductible in the US; we are a public charity under IRS 501(c)(3).

News and Events

Headlines from the Calendar and Community News at EnergyTeachers.org

Independent Schools Vie for Electricity Reduction Award

Thirty-one independent schools from Maine to Florida competed in the Green Cup Challenge this year. Berkshire School, in Sheffield, MA, won the "Green Cup" by reducing its energy consumption the most in February (as measured by percent change in campus-wide electricity use).

The school finishing a close second this year, The Governor's Academy (TGA), in northeastern Massachusetts, conducted inter-dorm challenges for the months of December and January, to prepare for the interscholastic Green Cup Challenge this winter. For each of the two months leading up to the challenge, the best performing dormitories at TGA were awarded pizza parties. The dorm with the greatest reduction in its consumption during the final two weeks of the Challenge compared to the first two weeks, won a Nintendo Wii. Also, a special prize was offered at TGA for the dorm that

consistently reduced its usage every week of the challenge.

At TGA, the Goves Go Green Committee is the organization in charge of watching student behavior and measuring electricity use. Student and committee-member Caitlin Kelliher remembers that English teacher Chris Rokous began the organization by asking students as a fall class was let out, "Anyone interested in getting the ball rolling [on a group to green the campus]?"

The committee has electricity consumption numbers for each dorm from the years 2005, 2006, and 2007. Electricity use in dorms was measured in December and compared with the average of the previous three Decembers. The same procedure was used in January and in February.

The intramural February contests certainly helped the TGA's larger effort in the Green Cup Challenge. The numbers submitted for the GCC



Pierce Hall, idyllic dorm for young women at The Governor's Academy.

include the "whole campus" consumption for the month of February. This aggregate number includes only campus buildings that have not been altered during the past three years. (All participating schools have separated out new buildings from totals until they have accumulated three years worth of statistics, to determine a baseline with which to compare a given year's numbers.)

continued on page 2

continued from page 1

Because the majority of electricity, at boarding schools, is consumed in the dorms, student participation in conservation is crucial. Mr. Rokous of TGA asked all students there, "Please make an individual effort to help to earn your dorm some prizes and maybe some GCC recognition/prizes for your school. I don't really need to go into the environmental impact of your efforts except to say that you and your behavior truly matter."

Students from all participating schools have produced videos touting existing efforts to reduce energy use, encouraging more students to participate in the challenge, and clearly having fun. See their site:

<http://www.greenschoolsalliance.org/video/video.html>

To kick off the challenge at Groton School also in Massachusetts, as at other schools, students signed pledges with individual plans for reducing energy consumption. You can see Groton students signing pledges in their video. Schools also sent delegates to a conference at Northfield Mount Hermon School in central Massachusetts. TGA students shared a bus to Northfield with close sports-rival Brooks School, an opportunity to consider a more cooperative form of competition, where everyone wished even rivals to score as many points as possible.

This year, Phillips Exeter Academy, in Exeter, NH, reduced their electricity use by 4.3%, saving over \$5,000. Exeter's video was a lengthy and sometimes tongue-in-cheek study of attitudes towards conservation on campus.

The total savings for all the participating schools was more than \$83,000, emitting 583 less metric tons of carbon dioxide. TGA junior Kelliher says that she hopes that the challenge is institutionalized for younger students, so that every year the school

reduces its carbon footprint more and more. This time around, TGA saved over \$5,300, reducing its consumption by 21.03%. It will be difficult to repeat the feat next year, since the baseline will then include this year's reduced measurements.

Saint Paul's in Concord, NH incurred the most absolute savings, reducing their electricity bill by more than \$13,000. But, Berkshire School reduced its electricity consumption by a proportion slightly higher than TGA, 21.05%, winning the Green Cup.

Dick Savage, Chief Financial Officer at TGA, says that the savings there will help offset unforeseen cost increases. Their dollar per kilowatt-hour rate is fixed until June 2011, so costs avoided, thanks to this effort, will go to pay other operating expenses, in a small way staving off tuition increases. The CFO says that "the dollar savings is certainly a benefit, but the lessons learned by our student body in reducing consumption of fossil fuels carries a bigger benefit."

For more information on the Green Cup Challenge:

<http://greencupchallenge.org/>

More information can be found on each participating school at:

<http://www.greenschoolsalliance.org/greencup/map.html>

Each school's GCC video can be seen at:

<http://www.greenschoolsalliance.org/greencup/studentvid.html>

To learn about the Green Cup Challenge, contact PEA Sustainability Coordinator Jennifer Wilhelm at (603) 777-3765.



A luminaire intelligently switched off during adequate daylight at The Governor's Academy.

Participants by state

Connecticut:

Cheshire Academy, Cheshire; Choate Rosemary Hall, Wallingford; The Ethel Walker School, Simsbury; The Hotchkiss School, Lakeville; The Kent School, Kent; Westminster School, Simsbury.

Delaware: St. Andrew's School, Middletown.

Maine: Maine Coast Semester, Wiscasset.

Massachusetts: Berkshire School, Sheffield; Brooks School, North Andover; Deerfield Academy, Deerfield; Eaglebrook School, Deerfield; The Governor's Academy, Byfield; Groton School, Groton; Northfield Mt. Hermon School, Northfield; Phillips Academy, Andover; Stoneleigh-Burnham, Greenfield; Wilbraham & Monson Academy, Wilbraham; The Williston Northampton School, East Hampton; Worcester Academy, Worcester.

New Hampshire: Holderness School, Holderness; Phillips Exeter Academy, Exeter; Proctor Academy, Andover; St. Paul's School, Concord.

New Jersey: The Lawrenceville School, Lawrenceville.

New York: Darrow School, New Lebanon; Millbrook School, Millbrook.

Pennsylvania: The Hill School, Pottstown; Mercersburg Academy, Mercersburg.

Rhode Island: St. George's School, Newport.

Vermont: Green Mountain Valley School, Waitsfield; The Putney School, Putney.

This article was compiled with help from Judy Klein, Communications, The Governors Academy.

Green Grand Prix, in Watkins Glen NY, To Celebrate Alternate Fueled and Hyper-Efficient Vehicles

Drivers of alternate fueled vehicles and hybrids have a unique opportunity to put their vehicles to the test and have a lot of fun while doing it at the 4th Annual Green Grand Prix in Watkins Glen on May 3, 2008.

Entries are now being accepted for the event's unique time-speed-distance road rally through the beautiful Finger Lakes region of Central New York. The rally is the only road rally for alternate fueled vehicles and hybrids sponsored by the Sports Car Club of America.

The SCCA has a long association with world-renowned Watkins Glen, which is marking 60 years of competitive racing.

This year's 4th Annual Green Grand Prix is hosted by the International Motor Racing Research Center, which is celebrating its 10th anniversary in 2008.

The rally, over miles of scenic roadways, is one of the highlights of the day-long Green Grand Prix held at the Racing Research Center in Watkins Glen. After rally vehicles return to the village, drivers and their navigators join the public in a variety of educational activities throughout the afternoon.

The Doris Bovee Memorial Road Rally is named in memory of a well-known area environmentalist. Bovee taught for many years in the Corning-Painted Post Area School District and was known for her love of plants and birds. She also was involved with SCCA road rallies and was part of the Glen Region SCCA at its inception.

The rally brings together a diverse mix of hybrid and alternate fueled vehicles, AFVs, and their owners, businesses promoting renewable energy and related products, environmental groups, students and faculty

members from elementary to university level and the general public.

"This fun and exciting educational event emphasizes energy independence and a cleaner environment," said Green Grand Prix founder Robert Gillespie, an area artist and hybrid owner who is passionate about increasing awareness of the vehicles.

"The Green Grand Prix gives people an opportunity to learn first-hand about alternative personal transportation and renewable energy initiatives. It's quite fulfilling to see how it grows in scope and size each year," Gillespie said.

Corporate entries in the 2007 road rally included Toyota, Lexus, Honda, General Motors, Ford, the Indy Racing League, the Windshield Installation Network, Autoglass Insurance Co., Magi LLC and the Ethanol Promotion Information Council (EPIC).

In addition to hybrid and flexible fuel vehicles, organizers expect many other interesting AFVs, including a hydrogen-powered car, a wood-powered SUV and a vegetable oil-powered car, as well cars fueled by bio-diesel, electricity, LP and compressed natural gas.

Cars begin the rally at the historic Glen Motor Inn on Route 14 north of Watkins Glen. The rally is conducted at legal highway speeds.

All afternoon activities are centered at the Racing Research Center on South Decatur Street and at adjacent facilities of the Watkins Glen Central School District.

The Wayne Technical and Career Center in Williamson, N.Y., will be bringing its student-made portable energy lab, which includes solar panels and a wind generator. Also featured will be an Electrathon electric race car from Baker High School in Baldwinsville, N.Y.

Organizers are expecting exhibited cars to include an electric vehicle built in 1914.

A panel discussion will address a host of sustainability issues and Cornell University's X-Prize Team, which has been working on a 100 m.p.g. mass-producible car, is expected to do a presentation on its project.

Winners of the AFV design contest for young students, now in its third year, will receive their awards, as will participants in the morning road rally.

The Racing Research Center staff will be giving tours of the Center and discussing their work preserving the history of motorsports. The Center collects materials on all series of racing and at all tracks, worldwide.

"Our partnership with the Green Grand Prix this year is a natural," Center Director of Archives & Administration Mark Steigerwald said. "Our archives clearly show how racing – and therefore transportation – has evolved over the decades. The innovative people who took the risks 100 years ago are the forerunners of the people we see participating in the Green Grand Prix each year."

For complete details about the Green Grand Prix, visit its web site:

<http://www.greengrandprix.com>

Registration information for the Doris Bovee Memorial Road Rally is available there.

Learn more about the International Motor Racing Research Center at its web site:

<http://www.racingarchives.org>

Read about the Glen Region of the SCCA at its web site:

<http://www.glen-scca.org>

Recent Links

Just a few new urls from the Links page at EnergyTeachers.org

Association for the Advancement of Sustainability in Higher Education:

Learn about what college campuses are doing with sustainability: curriculum, renewable energy, tracking sustainability efforts, professional development, conferences, etc.

<http://www.aashe.org/>

ToFuelCell: For those who can read Chinese, this site looks interesting, linking to diverse transportation technologies.

<http://www.tofuelcell.com>

Power of the Sun: An education video in two parts, one about the history of photovoltaics and their promise, and another about the science of semiconductors for high school students.

<http://powerofthesun.ucsb.edu/>

Electrathon America: Electrathon is a type of electric marathon featuring zippy one-person electric vehicles on real race tracks. The winner is determined by how far you go in a certain time with a given amount of battery power. Electrathon America class competition uses specific design rules to ensure safe and fair competition. Events are held around the country.

<http://www.electrathonamerica.org/>

Omaha Public Power District-- Power Drive: The Power Drive Program is an educational effort that challenges high school students to design and build one-person electric vehicles during the school year. In the spring, these teams of students compete with one another at organized rallies in areas such as vehicle braking, maneuverability and endurance. Teams from around Nebraska compete annually.

<http://www.oppd.com/Education/PowerDrive/index.htm>

Solar San Antonio: Local organization in San Antonio, Texas, organizes an annual solar fair, an energy smart schools conference, and workshops for teachers and the public; SSA works with many other local organizations.

<http://www.solarsanantonio.org/>

Mountaintop Removal -- NASA Earth Observatory: NASA's Earth Observatory hosts this article about mountaintop removal, mainly a way to extract coal. Photos from space show the significant impact of such mining projects. The article explains the dynamic state of regulatory affairs surrounding coal mining in Appalachia.

<http://earthobservatory.nasa.gov/Study/MountaintopRemoval/>

SMARTT Challenge: Students in the high school SMARTT Challenge program participate in a comprehensive curriculum which includes Science, Technology, Engineering, and Mathematics (STEM), Electronics and learning about biofuels, plug-in hybrid electric vehicles (PHEVs), hydrogen fuel cells, hydrogen Internal Combustion Engines, and hybrids. The new curriculum includes information on emissions, greenhouse gases, global warming, and approaches to ways that students can contribute towards clean transportation.

<http://www.evchallenge.org/>

Energy Whiz Olympics Florida: The EnergyWhiz Olympics is held each spring at the Florida Solar Energy Center in Cocoa. Challenges include Junior Solar Sprint, Hydrogen Sprint, Energy Innovations and the finals of the Florida Middle School Science Bowl.

http://www.fsec.ucf.edu/en/education/k-12/events/ewhiz_olympics.htm

Harness Sun energy by making a solar reflector: A quick recipe for covering a parabolic dish with aluminum foil.

<http://hubpages.com/hub/solar-reflector>



EnergyTeachers.org is now selling data-logging electricity meters at cost. Wondering what's making your electric bill so high? Watts up? Pro is a line of meters from Electronic Educational Devices that can measure many electrical parameters for a device (or a string of devices, up to 15 amps) plugged into it.

The data is collected every second and stored, available to transmit to your computer via USB or internet for analysis. The typical street price of the devices are so high that EnergyTeachers.org decided to sell them at nonprofit rates to educators to try in their classrooms and homes. You can learn about how to use the devices at wattsupmeters.com. Then, if you are interested in our prices, contact EnergyTeachers.org via email at equipment@energyteachers.org.

Non-educators can purchase the meter at prices still lower than for-profit resellers.

See our Fall 2006 Newsletter for an article about using these meters.