

ON THE GRID

RIVERHEAD HIGH SCHOOL RESEARCH CLASS' SOLAR PROJECT

Throwing the Switch

(September 16, 2009) Twenty-six RHS Science Research Class students travelled with master teacher Bob Jester to witness a moment in solar-powered boating history on Preston's Dock in Greenport on the East End of Long Island, New York. In a ceremony to celebrate the completion of a project they initiated in September of 2008, RHS sophomore Meghan Davis pushed up a lever that ceremoniously connected the solar panel on the roof of Preston's to the future of solar-powered battery-driven boats like **The Glory**, a tour boat, powered by the solar panel, which offers tourists a quiet, carbon-free tour of the Greenport harbor area and, via "The Glory Solar Satellite Learning Center and the East End Maritime Institute, educational inspiration to hundreds of school children on the East End and around the world.

"You hear a lot about global warming," notes Mr. Jester, "but not much about global learning. That's what this historic moment is about."

continued on page 2



The Power of Education

Mrs. Mary Ellen Harkin writes . . .
"Late nights spent ferrying children to their various activities, assisting children with homework, analyzing district issues, and grading student writing are all part of the joys and trials of being a parent, a 12 year trustee on the Riverhead Central School District

Board of Education, an English teacher, and a lawyer. And through all of these experiences, I never expected to witness, facilitate, or participate in anything that could affect the world in which we live on a global scale. That was before I encountered the vision, inspirational capacity and tireless



LEGISLATOR ED ROMAINE with a proclamation declaring September 16, 2009 East End Maritime Institute Day poses with RHS students Sean Harkin and Meghan Davis.



CAPTAIN DAVE BERSON speaks about his boat The Glory and the solar-powered history that was being made and the persistence by the RHS Research Class that help make it possible.



RHS SCIENCE TEACHER BOB JESTER with former student, Jim Moore, who helped finance the project, and Albert Harsch from E2 Systems, who installed the solar panel.

The Power of Education (continued from page 1)

by **Mary Ellen Harkin**

RCSD Board of Education Trustee

dedication of Bob Jester, a gifted, master teacher and his research class, of whom my son, Sean, is privileged to be a member. Under Mr. Jester's tutelage, and through the generosity of boat owner, David Berson, these research students have revolutionized education, creating the first green classroom, where primary school aged children actually experience the power of clean energy while being taught marine biology. But Mr. Jester's innovative guidance did not end there. In cooperation with solar company E2, these students have enabled the world to view the collection of alternative energy on line, simultaneously with its capture, in 15 second intervals, thereby making palpable the power and viability of alternative energy to the world. To say that I am awestruck by the students' work, both in my capacity as a parent and as a board member, would be trivializing the pride that I feel at witnessing their

profound dedication and astounding accomplishments. And I know that the wings which Mr. Jester has provided to each of these students, through his selflessness and vision, will enable them to continue to influence the world's perception and use of alternative energy as they leave the confines of Riverhead School District and enter the world."

— E2 Systems

PRESTON'S DOCK



RHS sophomore Meghan Davis, a spokesperson for the RHS Research Class, throws the switch to solar energy source during the ceremony.

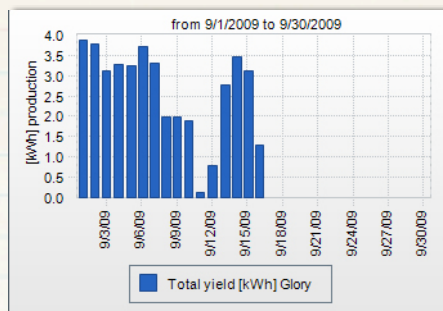
RHS student ????? points out the solar panel on the roof of Preston's on the Greenport Marina. Solar energy is available to power battery-powered boats, like The Glory, in the harbor.



SOLAR POWER: A LOOK TOWARDS THE FUTURE!



"We have a dream that the North Fork community, will have the power to be completely independent from oil in the very near future."



"These students have enabled the world to view the collection of alternative energy on line, simultaneously with its capture, in 15 second intervals." Mary Ellen Harkin

CO2 Reduction Graphed
Revenue Generated Graphed
Total Yield (kWh) Graphed
Power (kW) Glory Graphed
Total Yield by Day Graphed

These statistics can be viewed online at www.riverhead.net via a link to The Glory, where the entire world can catch a vision of the possibilities solar power offers in the future.

RHS Solar Power Research

RHS Solar Power Research Project is on the Grid!

In July, 2009, Solar Panels were Installed at the Greenport Marina

Also See: www.riverhead.net



(July 30, 2009 – Riverhead, NY) In 2008, students in RHS science teacher Robert Jester's research class were challenged by Mr. Jester to determine how alternative energy sources might be used on the East End of Long Island. Their research included field trips to Stony Brook University, Brookhaven National Labs, and the GO SOLAR shed in Aquebogue, as well as a field trip to the Greenport Marina where they interviewed Captain David Berson, the owner of a battery-powered tour boat called **The Glory**. Captain Berson estimated that he could run his tour boat for an entire summer for less than \$70, and, because it runs on electricity stored in the hull on batteries rather than on diesel fuel, he estimated that it has prevented more than 168,000 pounds of carbon dioxide from entering the atmosphere over nine years of operation. He also estimated that it would have cost him approximately

\$2,100 to run the boat for a season on diesel fuel. The Glory is the only electric boat in NY State that is Coast Guard-certified to carry passengers.

The research class designed a solar panel docking station for the marina to supply the energy and to encourage the use of battery-powered boats like The Glory. They researched the cost, the location and the angles of the solar panel that could be used to generate power and where the money could be found to complete the project (i.e., grants, local funding, etc.). According to their research, the project would not only help eliminate greenhouse gases, but it would also decrease water pollution, and provide "reverse metering" by putting energy into the power grid rather than drawing it down as was currently the case.

"These students were phenomenal," states Mr. Jester enthusiastically. "They were very excited about this project. We took our findings and presented them to the Greenport Village Board. Part of our plan was to increase awareness about the possibility of using alternative energy sources in an effort to affect a change in the atmosphere."

The students determined that the project would cost approximately \$10,000. They contributed the funds they

raised in a paper recycling project and from a science competition. Josh Horton of East End Maritime Institute; benefactor Jim Moore of Riverhead, a former student of Mr. Jester's; and Jamie Minnick of E2 Systems took their money and made the dream a reality. Mr. Minnick agreed to contribute the man-hours of his crew which did the work for less than \$5,000. Mr. Moore contributed funds, and Mr. Horton structured the contribution through his tax-deductible EEMI program.

On July 30th of 2009, the project came to fruition with the installation of solar panels on the roof of
S.T. Preston & Son by
Eastern Energy Systems.

The Rowsom family, owners of Preston's, will reap the benefits of power not used by the boat in the off-season. Captain Berson is now able to cut the cost of operating his 30-foot Elco Fantail launch and is redirecting his savings to a scholarship fund to benefit East End students. Riverhead High School has gained a campus extension where students can learn about solar energy.

"Everybody wins," Mr. Jester said. "I overheard one of my students say to another, 'Isn't this the way you always dreamed school could be?'"

Special Thanks from RHS to . . .



Mr. and Mrs. Bob Jester

“Ideals are like stars; you will not succeed in touching them with your hands. But like the seafaring man on the desert of waters, you choose them as your guides, and following them you will reach your destiny.”

special part,” noted RHS Science teacher Bob Jester. “If just one of them hadn’t come forward to help us, we might not have been able to do this. I’m very grateful to Captain Dave Berson, Jim Moore, and E2 Systems in particular, who provided much of the money and the man hours to make this project possible. But most of all, I’d like to thank my students who put their hearts and souls into this project.”



JAMIE MINNICK (R) PRESIDENT OF E2 SYSTEMS, the company that installed the solar panel, with his VP, Jeff Lang.

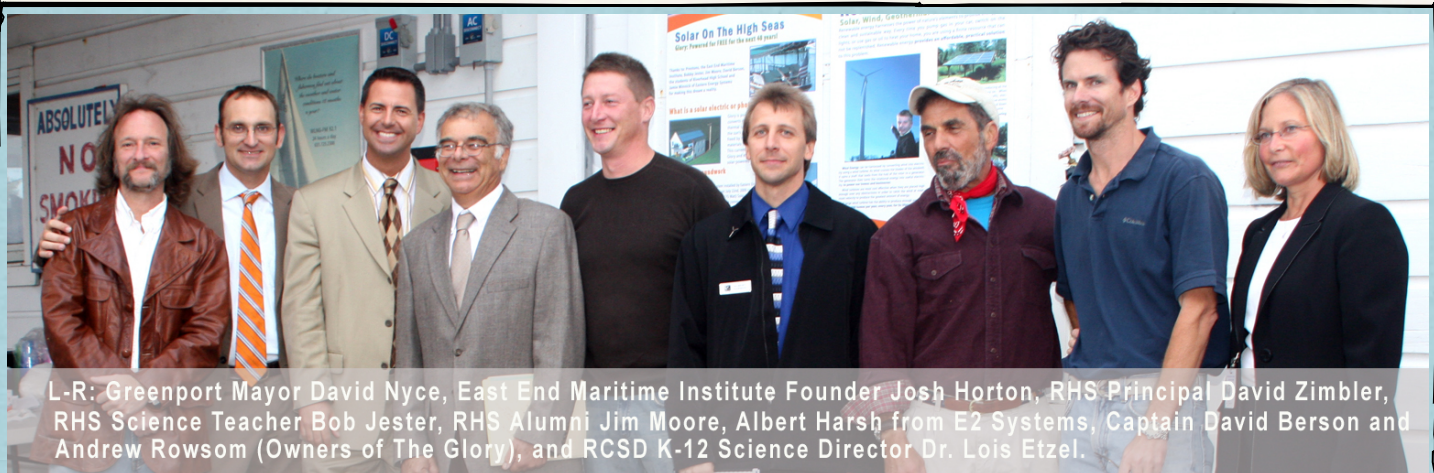


THE CONTRIBUTORS

“Everyone who contributed to this project played a



1. Eastern Energy Systems
2. Greenport Village Board
3. Rowsom Family
4. Jim Moore
5. Greenport Launch
6. Emil Norsic & Son Sanitation Service for LI
7. Bridgehampton National Bank
8. Maritime Society of NY
9. East End Maritime Institute
10. RCSD School Board



L-R: Greenport Mayor David Nyce, East End Maritime Institute Founder Josh Horton, RHS Principal David Zimble, RHS Science Teacher Bob Jester, RHS Alumni Jim Moore, Albert Harsh from E2 Systems, Captain David Berson and Andrew Rowsom (Owners of The Glory), and RCSD K-12 Science Director Dr. Lois Etzel.