

MEEP Awards 2011 Student Mini Grants Six schools implemented projects this summer

by Stefany Gregoire

Maine Energy Education Program (MEEP) and Maine Department of Environmental Protection (DEP) are pleased to announce this year's winners of our Mini Grants program. Students across Maine were challenged to learn about energy use in their schools and then come up with effective ways to use it more efficiently – and save money. This year's grant recipients are:

- **Aucocisco School**, Cape Elizabeth: Kathy Tarpo's students discovered that their school had a lot of heat loss in their roof, so they applied to have insulation added in the attic.
- **Casco Bay High School**, Portland: Student Lilly O'Leary applied for a grant that would put lighting occupancy sensors in all the bathrooms in the PATHS building, including CBHS.
- **Hanson and Lebanon Elementary Schools**, Lebanon: Claire Ledue's and Susan DeVito's classes applied for lighting occupancy sensors in their neighboring schools. The school district pursued Efficiency

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Shedding Some Light on Occupancy Sensors

Usually called motion sensors, these devices can detect sound, movement and/or body heat. They are most commonly used for lighting; when a room is occupied, the lights come on. Once the room is vacated, the lights go off! Occupancy sensors can save a lot of energy in places where people often forget to turn off the lights.

York County Home Schoolers Excel at Solar Car Event

by Peter Zack

Saturday, June 4 delivered a major spill of sunshine onto the model solar car track at the Owls Head Transportation Museum near Rockland. Fifty-two

middle school teams from across Maine seized the opportunity to turn loose their vehicles in the 17th running of the Junior Solar Sprint State Championship.

Rarely has one creation dominated this event as completely as "Enterprise," a miniature version of its space shuttle namesake. Designed and fashioned by Spencer and Sabrina Whitaker, "Enterprise" racked up First Place medals for Craftsmanship, Technical Merit, Innovation and Kids' Choice. However, the shuttle was relegated to a Third Place finish for Speed behind the Second Place "J & J Express" (Josiah Mackaman and Joel Whitaker) and the First Place "Styro Flyer" (Joshua and Jonathan Mackaman). All of these students are part of York County Homeschools, mentored by Linda Mackaman. The Marshwood Great Works School trio of Sophie Richards, Caroline McKenna and Kayla Fuller took top honors for Recycling with their creation, "Reach for the Stars."

On Sunday, June 8, the top cars from the Owls Head race joined their counterparts from all over the northeast in Springfield, MA, for a regional extravaganza funded by the US Army (It's all about engineering!) and coordinated by the Northeast Sustainable Energy Association (NESEA). Chloe Vincenty and Christopher Butler, students

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Take your mark ... get set ... GO! Competitors raced their solar cars under cloudless skies in Owls Head on June 4th.

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This newsletter is a collaboration between the Air Quality Bureau of the Maine Department of Environmental Protection and Maine Energy Education Program and compiled by Stefany Gregoire.

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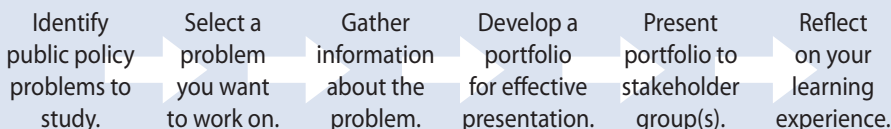
Project Citizen: Encouraging Civic Engagement in K-12 Schools

by Matt Robinson

KIDS Consortium is an Auburn-based organization dedicated to civic engagement through service-learning. In Maine, KIDS trains and supports teachers doing Project Citizen, a program sponsored by the Center for Civic Education and the National Conference of State Legislators. It is a wonderful resource to guide adults and youth to identifying problems and needs in their communities.

In Windham, middle schoolers have focused on saving energy using Project Citizen. In 2010, a team worked with the facilities director to compare the overall energy burden between paper towels and hand dryers. Following their research, they proposed to the school board a policy to require energy efficient hand dryers in bathrooms. The board agreed and hand dryers were installed. In 2011, following research and analysis,

Project Citizen's Process



Through the process of Project Citizen, students read, interview experts, hold focus groups, and collect and analyze data to learn about the core issues and groups involved with the problem or need they select. If the issue is energy, MEEP educators can be a BIG help in this stage! Students look at all sides of the matter and consider the policies, both current and past, that govern the issue. Once informed, they propose a public policy that will best impact the issue and create an action plan they would use to get the policy enacted.

a team of students proposed a policy to require motion sensors for the lights in first floor classrooms. The school board agreed to the policy and approved the purchase and installation of the sensors.

Through Project Citizen, students develop:

- Presentation and literacy skills,
- An understanding of what public policy is and how to create it, and
- The motivation to solve community problems.

Project Citizen provides a pathway to meet the new and revised Social Studies Maine Learning Results (application of social studies processes, knowledge and skills). Project Citizen also provides a structure for service-learning projects that focus on public policy solutions. Contact Matt Robinson at 207-784-0956 or mrobinson@kidsconsortium.net.



See DEP's new *School Energy Benchmarks Bulletin* on page 5 and visit our website at mEEPnews.org to download the entire report!

MEEP in Transition: *SEE*ing Opportunities and Challenges

by Peter Zack

This school year, for the first time in memory, the Maine Energy Education Program (MEEP) may need to prioritize teacher requests for its services, favoring those that engage students in activities leading directly to reduced energy consumption at school or home.

Over nearly a decade, MEEP received dependable and flexible funding from Efficiency Maine, then a State agency. This support, together with that of the Maine Department of Environmental Protection (DEP), allowed our nonprofit to offer an array of free energy education presentations to a significant number of students and teachers (over 10,000 kids during the past school year alone).

In 2010, Efficiency Maine became Efficiency Maine Trust (EMT), a quasi-governmental agency tasked by the legislature to invest in programs with documented energy savings. This past spring, after a competitive bidding process, MEEP was awarded \$150,000 from EMT for an initiative new to Maine called Schools for Energy Efficiency (SEE), “a proven program (over 700 schools to date) that turns good intentions into a

multi-year, district-wide effort to reduce energy consumption and maximize savings” (from www.class5energy.com).

SEE, with its behavior-focused energy reduction strategies and online utility tracking software, promises to push MEEP deeper into the realm of quantifiable energy savings—a good thing. However, we only have funding for three to four districts during the first year.

What about all those schools seeking MEEP’s traditional offerings—from awareness, to skills building, to action—that are not covered by EMT funding? Thankfully, recent contributions from several additional sources will allow MEEP to maintain most of its normal programming. DEP has granted \$40,000 from the U.S. Environmental Protection Agency to MEEP for its Green Schools skills building and action activities to reduce energy use and improve air quality, including \$10,000 to sustain the well-received Mini Grant program for student energy conservation projects. An anonymous Maine donor has provided \$12,000 for an AmeriCorps Volunteer and the Laird-Norton Family Founda-

tion has generously given \$5,000, allowing MEEP to continue its climate change awareness activities.

Unfunded (or underfunded) for now are MEEP’s STEM (Science, Technology, Engineering, Math) offerings: Middle School Wind Blade Challenge, Electathon and the Junior Solar Sprint. We seek additional support for these activities. If you request one of our awareness presentations—the popular Electricity and the Environment is an example—we’re likely to strongly encourage you take on an action project as well, such as an Energy Patrol for elementary students or an Energy Efficiency Investigation for middle and high schoolers.

So keep those requests coming. Together, we’ll continue to complicate kids’ thinking about energy and seek to engage them in experiences that provide real education. In the words of Marian Wright Edelman (Children’s Defense Fund), education “is for improving the lives of others and leaving your community and world better than you found it.”



Best Wishes to Some Great “MEEple!” (That’s *people* in MEEP-speak)

This summer, we’re saying goodbye to a number of people who have helped us further energy education and efficiency in Maine. We wish them all the best of luck!

Beth Otto is heading back to her home state of Oregon after four years with MEEP. Formerly an AmeriCorps volunteer and most recently MEEP’s Green Schools Coordinator, Beth is enrolled at Portland State University where she will work on her Master of Urban & Regional Planning.

Mike McGlinn, MEEP’s two-term AmeriCorps Volunteer, is currently at the Jersey Shore working as a short order cook, doing occasional construction and tending a surf shop, while he impatiently

awaits hurricane swells so he can take to his board. If no “real” job comes through by summer’s end, he plans a bike tour from Philly to, and through, New England, arriving in Maine for the fall foliage.



Above left: Stefany Gregoire, Beth Otto, Mike McGlinn, Peter Zack and Angela Ferrelli with several of MEEP’s Energy Patrol mascots. Above Right: Morgane Treanton, Stefany Gregoire, Beth Otto and Angela Ferrelli at a staff retreat this summer.



Zero Waste Challenge for Middle Schools

by Betta Stothart-Connor & Tom Twist

The Zero Waste Challenge is a service learning challenge project created by Poland Spring and The Chewonki Foundation to help encourage the reduction of waste in schools across Maine. Middle school classrooms (grades 6,7,8) are invited and encouraged to take the challenge to help their schools save money and resources by evaluating their waste stream and creating a plan to reduce waste. The winning plans will be announced at a statewide press conference held at Chewonki and the winners will also receive a cash prize that can be used to implement a Zero Waste plan at their school or fund an environmental education experience with Chewonki staff to learn more about Zero Waste.

Contest Timeline

- Fall 2011: Schools engage in challenge.
- January 10, 2012: Entries due.
- January 15-31, 2012: Independent panel of judges reviews the entries.
- February 1, 2012: Three winning plans are announced and awarded prizes.


ZERO WASTE

- February: Statewide press conference held at Chewonki with winning schools to unveil plans.

Prizes Awarded

- First Prize: \$3,000
- Second prize: \$2,000
- Third prize: \$1,000.

The winners can choose to use the prize money to implement a Zero Waste strategy on the campus of the winning schools or to participate in an environmental education experience with Chewonki.

For more information, please visit www.chewonki.org/zerowaste. 

Student Mini Grants

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- Maine incentives for 19 occupancy sensors.
- **Lincoln Academy**, Newcastle: The Climate Action Club, under the supervision of Charlie Scimone, applied for high-efficiency hand dryers for two of their bathrooms. The club has even pitched in some of their own funds to help make this project happen!
 - **Lincoln Middle School**, Portland: Rob Lindsay's students also applied for efficient hand dryers. They received a matching grant from KIDS Consortium.
 - **Oak Hill Middle School**, Sabattus: Heather Lambert's students, with help from Bates intern Meghan Fahey, applied for lighting occupancy sensors for the bathrooms and task lighting for teachers. They will also purchase some weatherization materials including caulk, draft stoppers, and weather stripping.
- If you would like your students to conduct investigations and apply for our 2012 Mini Grants, please contact Stefany at stefany@meepnews.org. 



Find us on Facebook, too!

Jr. Solar Sprint


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at Conners-Emerson School in Bar Harbor, took home the Best Sportsmanship Award. Arianna Grindrod, NESEA's education director, explained that the prize is given only in special circumstances. In this case, "Aix Sponsa" ("Wood Duck"), an elegant creation, was struck by another vehicle as it approached the finish line. Spectators were also struck---by the graciousness of the Maine students in accepting their stroke of bad luck. "Reach for the Stars" also made a mark for Maine



The Enterprise at rest.

by garnering an Honorable Mention for Recycling.

The Maine Junior Solar Sprint is sponsored by the State Energy Program with additional support from the DEP Bureau of Air Quality and is coordinated by the Maine Energy Education Program. For more information contact Peter Zack at 625-7833 or peter@meepnews.org. 

Establishing the Baseline of a Building's Energy Use

by Morgane Treanton

Morgane served as Maine DEP's intern this summer. This bulletin is a culmination of the work she, Beth Otto and Rachel Thompson have done for Maine Green Schools.

Energy benchmarks provide a new approach for building managers to track energy use from year to year. Benchmarking can also be used to compare one building's energy use over time with other similar facilities.

The School Energy Use Survey*1 part of the Maine Green Schools Project over the last four years is wrapping up with this final baseline energy data analysis.

This benchmark energy analysis compares data for Maine school build-

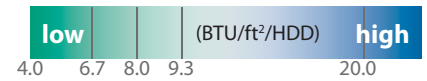
ings in terms of energy consumption per square foot. A correction factor for heating degree days (HDD) was added to normalize the data for local climate differences.

Why is benchmarking important?

An important step in assessing building energy usage is to determine whether the use is reasonable (high, normal, low) by establishing a baseline. Subsequent energy use can easily be tracked annually to identify potential problems and prioritize energy saving investments.

The energy benchmarks shown here are calculated based on the annual energy consumed per square foot, adjusted for the regional climate (BTU/ft²/HDD).

Maine Annual Energy Use Index*2 (Weather Normalized)

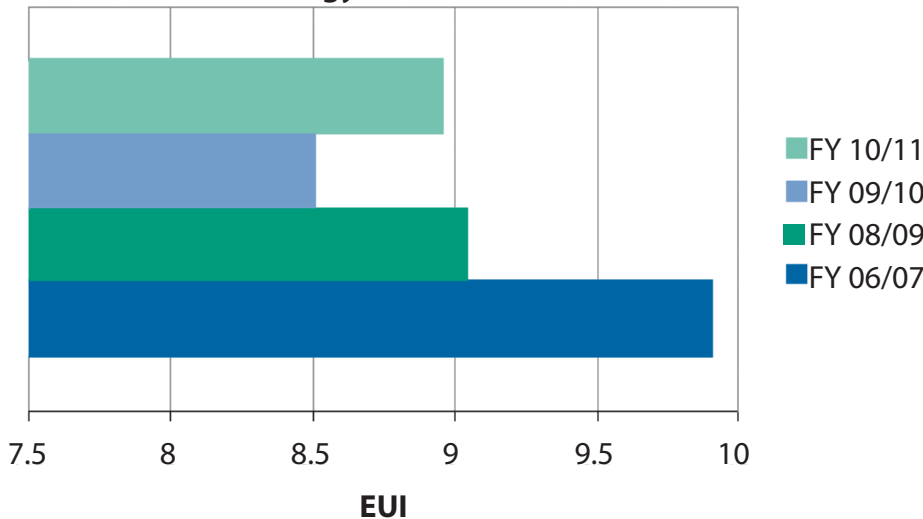


The **Maine Annual Energy Use Index (EUI)** offers an indication of where a building falls on a spectrum compared to other similar buildings in Maine. The charts in the bulletin found online at www.meepnews.org show a baseline of energy usage in over 100 Maine school buildings.

Next steps for improving building performance:

1. Calculate your current annual EUI.
2. Explore energy saving opportunities.
3. Apply for Efficiency Maine incentives.

**Vinalhaven School
Maine Energy Use Index (EUI)*2**



*1 The Maine Green School's Energy Use Survey was funded by the U.S. EPA. We are grateful to the participating schools for their openness and generosity to share their energy data publicly with other schools and businesses.



*2 The Maine EUI results listed here were based on:

- One year of electricity data and all fuel consumed on site. Each fuel was converted to British Thermal Units (BTUs).
- Total square footage (gross ft² including mobile classrooms and heated/powered outbuildings).
- Data was adjusted for heating degree days (HDD). Heating degree days is the accepted method for normalizing the number of days in any region where a building requires heat.

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Does your school want to save **8%** on its energy bills this year? How about **13%** next year?

MEEP has received funding from Efficiency Maine to run Schools for Energy Efficiency, a behavior-based program that has the potential to reduce energy usage by 30% in just five years. Check out the article on page 4 to learn more about how to sign up!



Average Energy Savings for SEE Schools

