

Promoting energy literacy in schools and communities throughout Vermont.

www.veep.org

A note from Fran

VEEP has a long history of working with schools to improve students' understanding of electricity and issues related to energy. Today, our work is more important than ever. As Vermonters grapple with the question of relicensing the Vermont Yankee, it becomes increasingly important that our citizens and legislators understand the science of energy so they can make wise decisions about our energy future. The poster (open and unfold) is a colorful and informative summary of the issues and choices we face.

Increasing energy literacy is what VEEP is all about. In 2010 we received an EPA grant to offer a series of Summer Institutes (article at right) to train teachers in the science - *and art* - of energy education. VEEP also launched a new website in 2010 and made 171 in-class presentations at 62 schools in all 14 counties in Vermont!

As 2011 unfolds, VEEP is piloting a new program funded by Efficiency Vermont called the Whole School Energy Challenge (page 3). We are also excited to be working with the Vermont Sustainable Jobs Fund to spread the word about new web-based tool: the Vermont Renewable Energy Atlas (page 3).

Please contact VEEP if you'd like one of our experienced energy educators to visit your school and energize your students with our hand-on/minds-on activities.



Fran Barhydt
 Founder and Curriculum Director



Wind and Solar Institutes Energize VT Teachers

In August 2010, VEEP offered Summer Institutes to train teachers in the science and methodology of renewable energy education. The three trainings, held in South Burlington and Montpelier, were attended by more than two dozen educators from throughout Vermont. Each three-day program focused on VEEP's signature hands-on/minds-on approach to teaching students about how electricity can be generated using renewable energy sources.

The Wind Works institute focused on our new wind energy curriculum, developed by VEEP thanks to a generous grant from the Jan and David Blittersdorf Foundation. Teachers received a copy of the curriculum and a tool kit including a wind turbine, anemometer, and other devices to facilitate hands-on activities with their students.

The other institute, PVs Clean and Green, focused on solar energy. This institute was

so popular that two sessions were offered. The workshops focused on understanding how photovoltaic panels work and provided teachers with access to tool kits and hands-on, energy-related activities that meet the State of Vermont grade expectations.

VEEP plans to offer two institutes this summer in central and/or southern Vermont. The trainings will expand to four days to provide teachers with more time to explore hands-on activities. Details are still being worked out, so visit our website to learn more and let us know of your interest.

"VEEP's staff was wonderful, answered every question, took time to explain and give examples...just a great experience!"

— 2010 Institute participant

VEEP Summer Institutes in 2011

**Wind Works
 PVs Clean & Green**

Visit our website for information:
www.veep.org

By The Numbers

MEASURE	2008	2009	2010	% change (2009-2010)
students & teachers reached	1385	2854	3570	+25%
schools reached	54	60	62	+3%
counties reached	12	12	14	+17%
community events	16	18	14	-22%

Most requested VEEP programs in 2010	number of VEEP visits
Electricity and the Environment	95
Renewables are Ready	35
Green Schools	29
Solar Challenge	12



Solar Challenge - Students work in teams to design and construct their own solar collectors to heat water. Students calculate the temperature increase, cost effectiveness and energy efficiency of their collector. The engineering aspect of this project make it challenging, relevant and fun!

Did You Know...?

VEEP is not funded by the State of Vermont. Grant funding allows VEEP to provide some of our programs at no charge to schools. **You can help! Make a donation today at www.veep.org.** All donations are tax deductible.

Special Thanks to the following VEEP partners for their generous financial support in 2010.



VEEP Programs

In-class Presentations

VEEP offers a variety of 90-minute presentations to help students become more energy literate. Limited funding is available -- first come first served. Other presentations are described on our website.

Electricity & the Environment - Students learn about Faraday's coil and explore the role magnets play in generating electricity. Hands-on activities include hand-crank flashlights and radios, magnets, a pressure cooker, and the VEEP energy bike -- a graphic way to demonstrate the amount of energy required to light different types of bulbs.



Renewables are Ready - VEEP helps students identify and understand renewable and non-renewable energy sources and discuss the advantages and disadvantages of each. The presentation includes wind and solar demonstrations and introduces the

energy poster (inside) and the online Renewable Energy Atlas (www.vtenergyatlas.com) as tools to explore Vermont's energy future.

Wind Works - Box fans, anemometers, voltage meters and mini wind turbines provide all the tools students need to experiment with wind. The focus is on designing controlled experiments, measuring, analyzing data, and reporting results.



Green Schools Programs

In 2010, VEEP worked with the schools listed below to reduce energy consumption, save money, and minimize the school's carbon footprint. VEEP's staff guided students through the process of identifying opportunities for improvement, researching options, and presenting recommendations to the school board/administration.

Browns River Middle School in Jericho
Crossett Brook Middle School in Duxbury
Vermont Commons School in South Burlington

Whole School Energy Challenge



VEEP is excited to be part of this pilot program funded by Efficiency Vermont. As its name implies, the Whole School Energy Challenge engages the entire school in activities that will increase energy awareness and reduce the school's carbon footprint. This includes an energy audit and VEEP in-class presentations *plus* a host of curricular activities and school-wide programs that will generate a buzz in the community about efficiency, conservation and behavior change. The five schools taking part in the 2011 Whole School Energy Challenge are:

Champlain Valley Union High School in Hinesburg
Lake Region School in Orleans
Spaulding High School in Barre
Twinfield School in Plainfield
Waits River Valley School in East Corinth

New Faces at VEEP

Our new Managing Director, Wendy McArdle, has 27 years of experience in education, marketing and non-profit management. She is eager to help VEEP promote energy literacy and help shape Vermont's energy future.



VEEP welcomes George Hooker to our team of energy educators. George has 35 years of teaching experience and has received numerous state-wide awards including 2004 VASE Science Teacher of the Year. VEEP is thrilled to have George on board to expand our outreach in Rutland and southern Vermont.



VEEP Staff

Fran Barhydt.....Curriculum Director / Founder
Erin Brannen Malloy.....Energy Educator
Ginny Elliott.....Energy Educator
George Hooker.....Energy Educator
Wendy McArdle.....Managing Director
Abe Noe-Hays.....Energy Educator
Andy Shapiro.....Energy Scientist
Seth Wolcott-MacCausland.....Energy Educator
Lynn Wurzburg.....Energy Educator



VEEP is a program of VEIC

255 South Champlain Street
Burlington, VT 05401

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VEEP worked with 62 Vermont schools in 2010



Albany Community School
Barnet School
Barre City Elementary
& Middle School
Barstow Memorial School
Blue Mountain Union School
Brattleboro Union High School
Brighton Elementary School
Brownington Central School
Browns River Middle School
Cabot School
Camel's Hump Middle School
Charlotte Central School
Concord School
Coventry Village School
Craftsbury Academy
Crossett Brook Middle School
East Montpelier Elementary School
E. Taylor Hatton School
Edge Academy
Essex Middle School

Essex Technical Center
Ferrisburgh Elementary School
Glover Community School
Good Shepherd School
Grafton Elementary School
Guildhall Elementary School
H.O. Wheeler School
Hannaford Career Center
Hilltop Montessori School
Lawrence Barnes School
Lincoln Community School
Lowell Elementary School
Lyndon State College
Mill River Union High School
Mount Anthony Union High School
Mount Abraham Middle School
Mount Anthony Union High School
Newport Correctional Center
Newport Town School
North Country High School
Northfield Middle School

Oak Grove School
Orleans Elementary School
People's Academy
Shelburne Community School
South Royalton School
South Burlington Middle School
Southern Vermont College
St. Johnsbury Academy
The St. Johnsbury School
St. Paul's Catholic School
Stowe Middle School
Swanton School
Troy Elementary School
Twinfield Union School
University of Vermont
Vermont Commons School
Vermont Technical Center
Vermont Youth Conservation Corps
Walden School
Waterford School
Williston Central School

**"Great hands-on and
interactive components,
excellent interactions
between the presenter
and students."**

*- teacher feedback following
a recent VEEP presentation*



Let VEEP help educate your students about electricity, energy and the environment!

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