

INTERNEF

NEWS OF NATIONAL ENERGY FOUNDATION

CULTIVATING AND PROMOTING AN ENERGY LITERATE SOCIETY

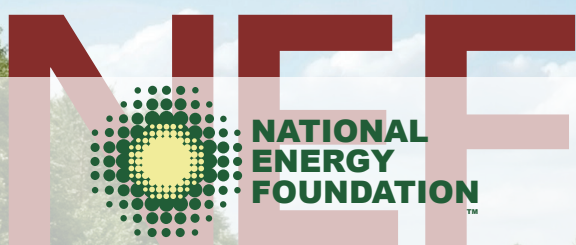
ENERGY INNOVATION IN HIGH SCHOOLS

The **THINK! ENERGY** family of efficiency programs from National Energy Foundation (NEF) has a new member. The **Innovation** program was successfully piloted with high school students throughout the PPL Electric Utilities territory in November of 2012. **Innovation** was developed in conjunction with PPL Electric Utilities to complement NEF's **Bright Kids** program for 2nd and 3rd grade students, the **Take Action!** program for 4th through 7th grade students and the **Community in Action** program for parents and families. With the addition of **Innovation**, **THINK! ENERGY** programs now reach all ages and bring NEF a step closer to fulfilling its mission of cultivating and promoting an energy literate society.

Innovation is a kit-based program that supplies energy-efficient products to high school students in conjunction with a classroom presentation. Students learn the benefits of energy and water efficiency and their own impact on the world around them. Natural resources, electrical generation and energy uses are topics explored by the program. Energy experts teach lessons and activities that correlate directly to core high school learning standards. Students discover how they can make a difference and why it is important; then take home technologies and make improvements right away.

The successful pilot with PPL Electric Utilities demonstrates that students and teachers alike enjoy and benefit from **Innovation**. Utility companies and other sponsors now have the opportunity to help teenagers become energy innovators. Many students in the pilot program chose to demonstrate how they could make a positive impact through the *Innovation Challenge*, which encouraged students to show energy efficiency through creativity. The program helps turn students with limited knowledge about energy related issues into leaders who provide solutions to energy challenges, beginning in their own home.

Innovators develop new methods, ideas or products and this program aims to empower students to do just that. NEF encourages students to think critically about how they can be a part of a solution. When students attend the **Innovation** presentation at their school, they are introduced to advanced energy concepts. Once they become engaged in energy, the *Innovation* kits provide the necessary tools to help them make a difference. The **Innovation** program also challenges students to be energy ambassadors in their homes and communities.



2013

SPRING INTERNEF

ENERGY SAFE KIDS

"See, hear and smell," students responded to the safety question, "What are three ways to detect a natural gas leak?" Students in Indiana, Ohio and Pennsylvania participated in **ENERGY SAFE KIDS** education programs sponsored by Vectren and UGI Utilities during the fall of 2012. Vectren has promoted safety with students through this program for five years and UGI for four.

NEF presenters train students to be **ENERGY SAFE KIDS**. They learn behaviors that promote and ensure energy safety around natural gas and electricity. Topics include underground pipeline safety, how to recognize a gas leak and what to do in the event of a leak, as well as knowing what to do if they see a downed power line. Teachers received free educational materials and posters as well as an interactive presentation for their class.

Students were provided individual safety booklets to encourage safe behaviors at home. Families were encouraged to check gas appliances, install carbon monoxide detectors and call 811 before digging in their yards. They were also encouraged to check electric cords, install safety caps in outlets and check for overloaded power strips.

The **ENERGY SAFE KIDS** program in the Vectren service territories reached 12,889 students and 574 teachers in 4th grade classrooms this year. The program sponsored by UGI Utilities reached 133 teachers and over 3,300 students.

Presenter Highlight

National Energy Foundation relies on over 70 part-time educators who present energy education across the nation. These presenters are the backbone of the **THINK! ENERGY** and **ENERGY SAFE KIDS** classroom and community presentations. We appreciate the professional way these individuals work directly with students and their teachers. NEF could not accomplish its mission of "cultivating and promoting an energy literate society" without a group of dedicated instructors. Thank you so much for your hard work, years of service and the difference you make in the field of energy education! Special recognition goes to individuals who each conducted over 100 classroom presentations during fall of 2012: Jenell Brimhall-UT, Mary Anne Smeltz-PA and Kerin Stover-MI. All three took on extra work at the last minute; their flexibility and willingness to help is greatly appreciated.



NATURAL GAS UTILITIES PROVIDE FREE MATERIALS

National Energy Foundation and 16 natural gas utility companies have partnered to provide education materials to teachers and their students across the United States. The purpose of the program is to educate students and their families about the properties and benefits of natural gas while encouraging safe behaviors in homes and around the pipelines that deliver it to communities.

Over 3,700 teachers in kindergarten through high school registered to receive the energy education materials provided to classrooms through the program. The estimated student reach of the program is over 110,000. Teachers received classroom sets of educational posters and activities, and individual energy safety and wise-use audits were distributed to each child to complete at home with family members.

The U.S. Department of Energy reports that natural gas will make a huge difference in the next three decades as the nation moves toward

clean, reliable and affordable forms of energy. It is estimated that natural gas will produce up to 35 percent of the energy used in the U.S. by 2040 (up from 25 percent at the first of the century). This increase is due to technological advances that make vast amounts of natural gas, particularly gas trapped in underground shale basins, economically viable. This affordable energy resource emits reduced carbon dioxide and provides a domestically produced product contributing to greater energy independence.

Companies participating in the program are Ameren, Arkansas Oklahoma Gas, Atmos Energy, CenterPoint Energy, Columbia Gas of Kentucky, Columbia Gas of Maryland, Columbia Gas of Ohio, Columbia Gas of Pennsylvania, Columbia Gas of Virginia, Nicor Gas, Ohio Gas Company, Paiute Pipeline Company, Piedmont Natural Gas, Questar Gas, Southwest Gas and UGI Utilities. These companies support valuable education in their service territories by providing free materials to educators.

Get Involved!

NEF would like to invite utilities to get involved by sponsoring free natural gas educational materials for teachers in their service territory. In addition, if you are a teacher and would like information about receiving free materials, get in touch with NEF to see if your utility is an existing sponsor. For inquiries, contact Anne Lowe at National Energy Foundation by calling 1-800-616-8326 or email anne@nef1.org.



THINK! ENERGY

BRIGHT KIDS

Students in 2nd and 3rd grade have a great time learning all about energy in the **Bright Kids** program primarily focused on electricity. Mr. Sun and Buzzy Bee, National Energy Foundation's official puppet mascots, show up with the energy experts to tell the story "Our Energy Star, the Sun." Students also conduct experiments with electricity by completing a human circuit with their classmates. All activities are correlated to learning standards for participating grades. Students and their parents install new energy saving devices at home from the *Bright Kids* kits. It was a busy fall for Mr. Sun and Buzzy Bee, in all about 8,340 students had the opportunity to become **Bright Kids**.



NEF promotes energy education to those "K through grey," meaning young and old alike benefit from being energy literate. It also means we can't let students have all the fun. For the past two years, NEF has conducted **Community in Action** programs for parents and families. This program is a great opportunity for families to learn about energy efficiency, but it is also a great fundraiser for schools. A parent or student group can host a **Community in Action** forum and earn up to \$2000 based on attendance. This program is available to all families at the school, regardless of whether or not their student is in another **THINK! ENERGY** program. The result is energy efficiency becoming a school wide effort that spreads a positive influence throughout the community. Approximately 1,200 participants learned about energy efficiency and received energy-saving light bulbs as a result of the fall 2012 programs.

THINK ENERGY

THINK! ENERGY (T!E) has evolved in since its inception as the brand name for energy management programs. It all started to reach upper elementary and middle school quality education and classroom support more complete collection of education programs age range. NEF and program sponsors provide education for younger elementary students and their parents. **Bright Kids, Take Action!** **Action** work together to reach students well. This past fall NEF had the most successful programs to date. A record number of students became involved in energy efficiency th





Innovation

The newest member to the program team, **Innovation**, had a very successful inaugural year. This program, rich in science, technology, engineering and math (STEM) education, encourages critical thinking and teaches teenage students to find solutions to the energy problems that face us all. Participants learn about water and energy efficiency before taking home their *Innovation* kit. Unique to the *Innovation* kit is the smart power strip. NEF wants students to see and use first hand technologies that are relatively new to the market. The smart power strip helps manage plug loads automatically, an idea students understand after the classroom presentation. With a little practice, energy-efficient behavior will become every bit as automatic as the power strip in their kit. **Innovation** helped 3,100 students think outside of the box regarding energy efficiency during the past fall.

olved into a comprehensive curriculum
name for National Energy Foundation's
It all started with **Take Action!**, designed
middle school students with technologies,
m support. It quickly developed into a
education programs that encompass a wider
sponsors found a need for the same quality
ary students, high school students and
Action!, **Innovation** and **Community in**
students of all ages and their parents as
most successful implementation of these
mber of students, teachers and parents
iciency through **THINK! ENERGY**.



The original **THINK! ENERGY Take Action** program helped several thousand students become energy experts in their own households. Now, seven years later, **Take Action!** has taken on a life of its own. Students and teachers recognize the program and meet NEF presenters with excitement as they come through the door of their schools. They are thrilled to be receiving *Take Action* kits and eagerly file into the presentations. They know to expect something fun and are anxious to install energy saving devices with their parents at home. **Take Action!** does more than teach students about energy efficiency, it helps them be energy efficient with new knowledge and new technologies. Over 46,500 students took part in **Take Action!** throughout fall of 2012.

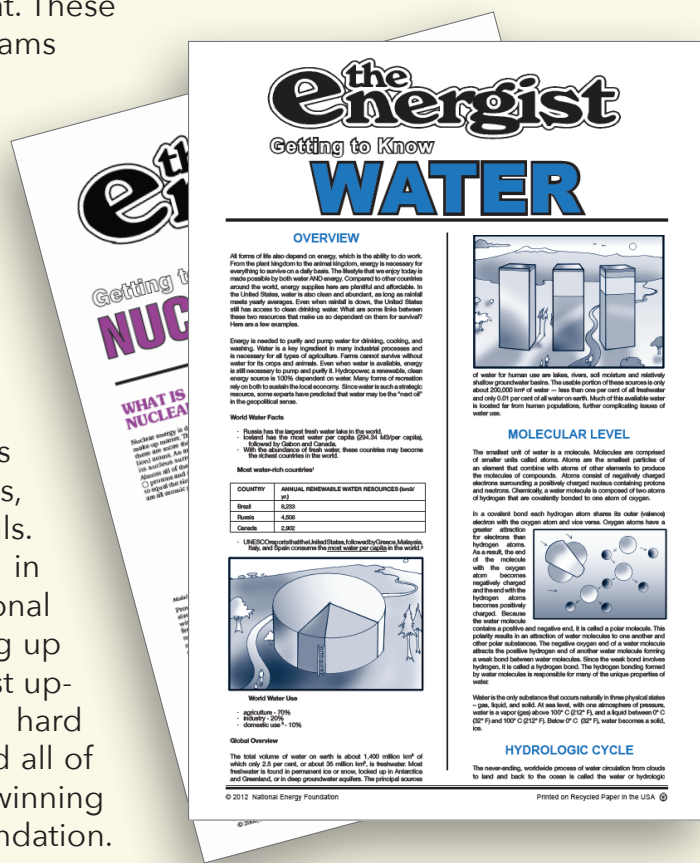


MATERIALS DEVELOPMENT

Two of National Energy Foundation's original energy education pieces are getting a new look and new content. The *Nuclear Energist* and the *Water Energist* have both had a major revision over the past several months. NEF prints seven *Energists* and each one gives an in depth look at an energy source. These classroom resources have the classic look of a newspaper but even the classics need an update now and then. The *Water Energist* and *Nuclear Energists* both have new art by Jon Burton and have been produced in consultation with industry experts from both fields.

National Energy Foundation has produced the *Energist* series for more than 30 years. They have been staples in NEF's **THINK! ENERGY** and **OUT OF THE ROCK** programs. *Energists* are supplied to teachers and students to provide "the resource basics" on the content for the learner in a simple and instructive format. These materials are provided in a variety of programs as a source of valuable information about a specific energy topic. Teachers and students learn about sources, uses, processes and careers among many other subjects relating to science, technology, engineering and math, all in one easy read.

Remaining on the cutting edge of energy education is a high priority at National Energy Foundation. Every year a handful of materials are discussed and prioritized for revisions, updates or more comprehensive overhauls. Technology is changing as rapidly as ever in all aspects of the energy industry and National Energy Foundation is committed to keeping up with those changes and producing the most up-to-date instructional resources available in hard copy and online. Visit store.NEF1.org to find all of the *Energists* and the entire line of award winning materials produced by National Energy Foundation.



Customization Opportunity

National Energy Foundation can customize energy education materials to meet your specific marketing or public relations needs. Adding your logo to one of our instructional posters or an *Energist* is a great way to show your commitment to your customers and your community. Customization prices are based on the number of materials ordered and the standard quantity discounts apply. For further information on customization, pricing or orders contact Ian Wright, Material Sales Coordinator, at ian@nef1.org or call 801-327-9511.

STUDENTS COMPETE WITH CREATIVE ENERGY IDEAS



Citizens Energy Group, IN sponsored the second annual *Citizens Energy Savers Student Poster Contest* for students throughout their service territory. More than 1,300 students expressed energy efficiency through a series of creative works of art. Simple rules guided students to create original posters and aside from the fact that they had to be flat; any medium, style, message or other aspect of the poster was completely up to the student. Congratulations to Julian (2nd grade), Abbe (5th grade) and Yuke (7th grade) for their outstanding entries that took top honors in the contest.

The Utah Office of Energy Development sponsored the *Energize Your Words Slogan Contest*. Statewide entries were received, each hoping to be the winning class, whose slogan was printed on backpacks and given to participating teachers and students. The class with the winning slogan also received a \$100 education grant. Congratulations to Oak Hills Elementary in Bountiful, UT for submitting the winning entry, "Turn Em' off; Going Green is Really Clean; Love it; Save it."

**Turn 'Em Off;
Going Green is Really Clean;
Love it; Save it;**



PPElectricUtilities, PA sponsored the *Innovation Student Challenge* to coincide with the new **Innovation** program for high school students. Students that participated in the **Innovation** program were also encouraged to share their best innovative ideas to increase energy efficiency. There were very few parameters for qualifying entries; students, in groups of up to four, were able to use any form of communication to demonstrate reducing energy use in their school, home or community. Congratulations to James and John from Greenwood Middle/High School, their first place video depicted an evil scientist and an energy efficiency hero. Members of the four highest-ranked teams were awarded PPL EU branded solar backpacks.

INNOVATION AND SUSTAINABILITY



In the process of naming NEF's new **THINK! ENERGY** high school program various names were considered, but **Innovation** seemed to encompass the ideas at the heart of the program. High school students are the perfect age to think about being part of the next wave of technology. They will provide ideas that lead to a safe and clean future. In 2007, Jeff Bezos (Amazon founder and CEO) said, "Every new thing creates two new questions and two new

opportunities." New questions and opportunities relating to energy are occurring constantly.

The energy industry is evolving through many new innovations in sources, supply and uses. Though controversial at times, fracking is changing the way we look at natural gas as a source and opens up new possibilities for energy independence. Supply is being revolutionized by smart grid technology, already popular in England and rapidly becoming a more popular idea in the United States. Smart grid technology allows the electrical grid to supply energy

during off peak demand hours and helps automatically regulate the appropriate amounts of electricity to end users. Home LED lighting is finally becoming more popular and will once again reduce the amount of energy people use in their homes, similarly to ways CFLs did.

All of the innovative changes in technology are complemented by increased awareness about energy efficiency. Not only are new technologies available to those who supply energy, but also to those who use energy. The culmination of new ways we extract, use and supply energy gives our nation the best possible chance of securing a sustainable energy future. This is why NEF starts educating students about energy during grade school. Students, who become innovators while in their academic career, will be the people who answer new questions and capitalize on new opportunities as they enter the world of business and government.

Robert Poulson
President
National Energy Foundation

EMPLOYEE HIGHLIGHTS

Michael Bonner

Title: Webmaster



Michael Bonner immediately impressed NEF by creating a new corporate website and a new **THINK! ENERGY** website in his first

few months on the job. He continues to help NEF stay on top of new technology that constantly makes other employees' jobs easier. Next in line from Michael will be a new database to help automate scheduling and registration in school programs. According to Michael, "The best part about working for NEF is the culture. NEF has a very nice corporate culture that makes being here very comfortable and enjoyable."

Kenna Blanch

Title: Administrative Assistant



Kenna has been a strong addition to the staff, replacing Ellen Toth, who had the same position for more than 20 years. She has filled Ellen's big shoes well with her positive and friendly customer service. Always willing to help, she keeps the office stocked with necessary tools and supplies and supports program implementation by packing and shipping materials to teachers all over the country. Kenna says her least favorite part of NEF is "cutting strips of stinky stickers." They smell like mercatpan, the chemical that gives natural gas its "rotten egg" odor.

Stacey Farrer

Title: Program Administrator



Stacey has one of the most stressful jobs in the office and handles it like a champion. She is responsible for getting program materials into the right hands on the right dates. This means presenters, teachers and students all have what they need for successful programs. For many, the sheer volume of this would be overwhelming, but Stacey keeps her trademark cool and gets the job done. Her favorite activity in Salt Lake is to go trail running in Mill Creek Canyon, a beautiful mountain canyon not far from the office.