Energy Learning Exchange Members Focus on the Future

The Energy Learning Exchange (ELE) held an in-person meeting in November at Illinois State University in Normal, IL. The group reviewed information on Illinois Pathways and the Energy cluster, and then focused on the mission to further Science, Technology, Engineering, and Mathematics (STEM) learning, preparing students for career pathways in energy and provide Illinois companies with a superior energy workforce in the future. Discussions followed regarding planning for Curriculum Development, Career Awareness, Internships, Student Challenges, and Next Steps.


Next Generation Science Standards Curriculum In Development

Illinois State University’s Center for Mathematics, Science, and Technology and the Center for Renewable Energy collaborated to develop workshops for middle and high school STEM teachers (science, technology, engineering and mathematics). Funded through a grant from the Illinois School Board of Education (ISBE), the Illinois Mathematics and Science Partnership Program, Summer Workshop/Institute (WIP 5), focuses on energy concepts, utilizing Next Generation Science Standards (NGSS) in the context of career clusters as defined by Illinois Pathways.

The goal is to develop instruction on energy-related lessons for students. Classes and field trips were designed to help teachers comprehend major principles of energy in Illinois as well as real-world applications. A two-week workshop was held in July, then a number of one-day follow-up sessions.

In December, the teachers met for another one-day session. Another is scheduled for March, followed by another two-week workshop in July. When finished, the new curriculum will be made available to teachers across the state of Illinois.

Above, Matt Aldeman (Center for Renewable Energy, Illinois State University), guides Joseph Buttitta (Southwestern High School) on how to use a digital multimeter to measure voltage, current, and resistance.

At right, Dennis Migut (Urbana High School), Kyle Thomas (Urbana High School), and Helen Brandon (Bloomington Junior High School), test their digital multimeters.

Also during the session, the teachers presented on the curriculum they have developed to date.
Student Challenge Award Winners Honored

The ELE partnered with the Agriculture, Food, and Natural Resources Learning Exchange for a Student Challenge at the IL FFA State Convention in June. Exelon and Ameren sponsored the partnership and provided judges for energy-related projects in the AgriScience Fair at the convention. Winners were provided with travel stipends to compete at the national event. Alex Wessel and Aaron Shull from Waterloo won a Bronze Award during the state convention for their project, “From Trash to Bio-Gas.” They traveled to compete at the national event where they were honored with being ranked 20th in the nation. Parrish Smith from Orion also won a Bronze Award for the project entitled, “What Substance Generates the Most Electricity in an MFC?” and was ranked 22nd at the national event.

This student challenge will be held again as part of the IL FFA State Convention, June 10-12, 2014. If your company would like to participate as a sponsor for $1,000 and provide a judge, please contact Janet at jniezgoda@ilstu.edu.

ELE Sponsored Science Bowl Competition

ELE sponsored the Illinois State Regional Science Bowl on February 8th, part of the U.S. Department of Energy’s Science Bowl academic competition. Student teams were comprised of four students, an alternate, and a teacher advisor. Teams faced off in a fast-paced question-and-answer competition, and were tested on a range of science disciplines including energy. Winners of the regional competition won an all-expense paid trip to the National Finals in Washington, D.C., in April.

Member’s Energy Education Highlighted

Nicor Gas announced they have developed a new video game to educate children about natural gas as an energy source. The game debuted at 45 youth-focused Fire Department Open House community events in northern Illinois, and was featured at a career day event at the Museum of Science and Industry in Chicago. The experience begins with a short video to introduce the energy source and Sniffy the Skunk, a character who teaches children about natural gas safety. After the video, children are directed to play a fun, educational game that reinforces the messages.

Careers in Energy Week Starts October 13

Mark your calendar to participate in Careers in Energy Week, October 13-19, 2014, when students across the state will be encouraged to learn about how energy companies operate, types of careers available and what may be expected in the future, and the importance of energy companies in the local economy. The ELE assisted in the coordination of the first event for Illinois, held last year, with the Illinois Energy Workforce Consortium, part of a nationwide effort led by the Center for Energy Workforce Development, the organization that created the event to increase public awareness of careers in the energy field. Energy industry representatives will again be invited to host tours and present on energy topics at schools that week.