



Enhancing education.



The Centers of Excellence are helping to enhance education at every level — from K-12 through postsecondary and beyond.

For Middle and High School educators we provide:

- Career camps and industry tours
- Mobile classrooms and trailers
- STEM curriculum and career-preparedness
- Educate the Educator courses, camps and online training

For Post Secondary educators:

- Grants and industry resources to enhance current curriculum, meeting industry and student career placement objectives
- Licensing and certification help
- Strategies for increasing enrollment in specific programs

For workplace and workforce training center educators, we offer career paths and options that:

- Allow current employees and job seekers to gain the skills, credentials, and degrees that can lead to higher earning power
- Can be used to onboard new employees, apprentices, interns and work-study candidates

For more information, contact the Minnesota State Centers of Excellence main office.



E3 WORKSHOPS: Why Educating Energy Educators Matters

Are Minnesota teachers aware of the opportunities available to their students in Minnesota's clean energy industry? Do they have the tools and resources to get kids excited about preparing themselves for careers in energy?

The ones who've attended Minnesota State Energy Center of Excellence's E3 Workshops do.

E3 Workshops: Energy Education for Educators

Since 2014, the Minnesota State Energy Center of Excellence has been hosting E3 summer workshops at Minnesota State campuses around the state. In 2018, the Minnesota State Centers of Agriculture and Manufacturing Excellence began collaborating with E3.

High school educators who teach agriculture, mathematics, science and technology are now encouraged to attend.

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“Almost every industry relies on energy,” says Bruce Peterson, director of the Minnesota State Energy Center of Excellence. “A student interested in working in Silicon Valley may be surprised to discover that the Minnesota Valley offers high-paying, high-tech careers in manufacturing or agriculture.”

Why E3?

“Teachers who attend earn continuing education units while learning how to bring math and science instruction alive,” says Rose Patzer, who coordinates the E3 programs held at four different Minnesota State campuses each summer.

Each free, 2-day workshop focuses on three or four energy topics. Attendees receive instruction from Minnesota State faculty and staff on how to use the classroom presentations, curriculum and lab kits they’ll take back to their schools. They also take industry tours related to the workshop topics.

For example, the E3 Workshop held earlier this month at Minnesota West covered Ethanol, Powerline, Solar and Wind and included tours of ADM, NextEra Solar Farm, Magellan Midstream Partners and Merit Center.

Donna Andren, who teaches environmental science and chemistry at Mounds View High School, has attended multiple E3 workshops. She says it’s easy to incorporate the information into her lectures. “I gain first-hand knowledge from tours that I can share with students.”

The E3 partners who host the industry tour are hopeful that teachers will bring students back for tours — and that some of those students will return to work for them. “It’s not like the old days when you could wait for graduates to roll off the assembly line and then pick the best,” explains Peterson. “Clean energy is one of the fastest growing sectors in the economy. Companies will be competing for every well-prepared hire.”

Having completed the workshop, E3 attendees are able to book the Energy Science Trailer for their schools in following academic years.



E3 Educator on a pole

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The Energy Science Trailer: Bringing Home the Benefits of E3

Included in the trailer are lab activity kits for solar, wind, and hydro energy generation and much more. The trailer itself is equipped with a cabin size solar generation system. Instructional materials are included to make lessons easy along with multiple resources for additional projects and learning activities.

The ability to book the trailer was a welcome surprise for Jody Murphy, a teacher from North High School in North Saint Paul who as a first-time attendee registered for three of the four E3 workshops offered during the summer.

“I’m from a high-poverty school and I’m never going to be able to afford a kit for every three or four kids so using the kits from the trailer in the classroom was a great opportunity,” says Murphy. “The kids absolutely loved it and it helped that I’d already used all the kits during the E3 workshop.”

Murphy’s students built wind turbines in small groups. The entire class participated in building a solar-powered car. “They thought it was pretty awesome.”

To find out more about the Minnesota State Energy Center of Excellence, E3 Workshops and the Science Energy Trailer, [click here](#).



Educator working with a kit.