DOE lauds student program that provides energy audits for state businesses

Engineering students in the Industrial Training and Assessment Center have saved small- to medium-sized businesses tens of thousands of dollars

By Mary Beth Faller, ASU News
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Story highlights

A U.S. Department of Energy official praised ASU's Industrial Training and Assessment Center student workers, who save businesses money through free energy audits, after a visit to the center.

The official's visit to ASU marked the start of a new funding cycle for the nation's network of assessment centers.

Every year, engineering students from Arizona State University save state businesses tens of thousands of dollars by finding energy inefficiencies at their sites.

The Industrial Training and Assessment Center has been at ASU for more than 30 years, and its student workers have completed more than 600 free energy audits in that time. The center not only saves businesses money but also trains students for careers in the energy industry.

The ASU students' track record of service was highlighted by the U.S. Department of Energy on Friday as it announced a new funding cycle for the national network of assessment centers.

Rachael Overbey, chief of staff of the U.S. Department of Energy's Office of Critical Minerals and Energy Innovation, spoke at the Tempe campus, praising ASU's rank as No. 1 in innovation in the annual U.S. News & World Report rankings for 12 years in a row.

"That record reflects something we care deeply about at the Department of Energy — taking ideas out of the classroom and laboratory and putting them to work solving real problems. And that is exactly what the (Industrial Training and Assessment Center) program is designed to do," she said.

The assessment network includes more than 50 centers at universities, community colleges, union training programs and trade schools across the U.S. Since the program's launch in 1976, the centers have completed more than 23,000 assessments, identifying more than $1 billion in savings for American manufacturers, Overbey said.

"At the same time, students gain experience working on actual factory floors, alongside people who build things, who make things here in America. They learn how industrial systems operate, they learn how to identify problems and how to turn engineering knowledge into practical solutions," she said.

"Ultimately, this is about ensuring American ingenuity translates into American industrial strength."

The Department of Energy is now accepting applications from assessment centers to fund the next five years on two tracks — the traditional manufacturing assessments in energy, water, waste, productivity, cybersecurity, resilience, smart manufacturing and super intelligence, and a new track focused on mining and mineral processing.

The ASU assessment center is a project in the ASU Energy Efficiency Center and is led by Patrick Phelan, a professor of mechanical and aerospace engineering and associate dean of global engagement in the Ira A. Fulton Schools of Engineering.

The center employs anywhere from eight to 15 students every semester, Phelan said.

The student workers travel all over the state, as well as to southern Nevada and western New Mexico, to do the free one-day assessments for small- to medium-sized businesses, which must have 500 or fewer employees.

During the assessment visit, students get hands-on experience with assessment equipment. They learn to gather information, format a technical report and present a utility analysis for each client.

"One of the best parts of the project is you get to see just a huge variety of whatever people are making," Phelan said. "We went to a factory that produces mobile homes. We were in a coal mine. We've been in logging-type operations. …

"And we do the usual aerospace and electronics (sites) and water-treatment facilities."

ASU typically gets about $375,000 a year from the U.S. Department of Energy for its assessment center, which pays the salaries of the student workers, plus transportation and equipment, he said.

“The Industrial Training and Assessment Center demonstrates how ASU can help manufacturers solve real-world challenges while giving students valuable hands-on experience,” said Sally C. Morton, executive vice president of ASU Knowledge Enterprise and ASU's chief research and innovation officer. “By connecting ASU expertise with the needs of manufacturers, we’re helping businesses become more efficient, resilient and competitive while strengthening Arizona’s economy.”

Overbey toured the ASU center’s lab in the Goldwater Center for Science and Engineering, where student workers showed her how they use specialized equipment to test for heat loss, compressed air leaks, lights and exhaust gases during an assessment.

“One of the common ways that we look for energy savings in a facility is we look for thermal anomalies — something that is either significantly higher temperature or lower temperature than its surroundings,” said Rachel Thomas, a graduate student in mechanical engineering, who held up an infrared camera.

Pipes that are hotter or colder than expected might need insulation, which could save about $8 per linear foot, she said.

Overbey thanked the students for their hard work.

“DOE is really excited to have talent like this in the pipeline and such amazing opportunities for the next generation of engineering talent to be in the workforce ready to go,” she said.

This story originally appeared on ASU News.

Main image



ASU mechanical engineering PhD student Brian Daw (left) shows U.S. Department of Energy Chief of Staff Rachael Overbey an instrument that is used to measure energy leaks during a tour of the Industrial Training and Assessment Center's lab at the Goldwater Center in Tempe on Oct. 2. Photo by Samantha Chow/Arizona State University

Text image(s)



Patrick Phelan (left), associate dean of graduate programs in the Ira A. Fulton Schools of Engineering, and Rachael Overbey, chief of staff in the U.S. Department of Energy, answer questions from media during an Industrial Training and Assessment Centers funding announcement outside on ASU's Tempe campus on Oct. 2. Photo by Samantha Chow/Arizona State University