E² Energy to Educate SM

As part of our commitment to education, E² Energy to Educate grant awards support projects that are team oriented, hands-on projects with specific results. E² Energy to Educate projects enhance student understanding of the science and technology needed to address energy issues and reach and inspire students to think differently about energy.

2025 E² Energy to Educate – Highlights

- **24 projects awarded $505,000 across 9 states, reaching 31,000 students nationwide**
- Projects include building solar-powered vehicles, designing renewable energy systems, exploring battery and inverter technologies, real world sustainability challenges, and programs focused on preparing youth for careers in STEM and clean carbon free energy.

2025 E² Energy to Educate – Awardees

American Nuclear Society Inc
Westmont, IL
Project Title: ANS Accelerators Program National Expansion

Description: The ANS Accelerators Program National Expansion aims to build on the success of a pilot initiative in Northern California by extending hands-on nuclear science education to high school students in Maryland and Georgia. The program offers both in-person and virtual opportunities for students to engage with nuclear professionals, participate in group projects, and explore key concepts in nuclear science. Activities include lessons on nuclear energy, virtual field trips, facility tours, and career exploration sessions. The program is designed to reach students who may not otherwise have access to these resources, fostering STEM literacy, critical thinking, and interest in nuclear science careers. Through partnerships with universities, national laboratories, and industry, the program connects students to unique learning experiences and professional pathways in the nuclear field.

BakerRipley
Houston, TX
Project Title: BakerRipley's Future Leaders in STEM

Description: BakerRipley's Future Leaders in STEM program offers K-12 students opportunities to engage in hands-on science, technology, engineering, and math activities at four community centers in Houston. The program features state-of-the-art makerspaces equipped with 3D printers, laser cutters, and robotics kits, allowing students to build skills in critical thinking, creativity, and digital fluency. Learning and Innovation Centers supplement the curriculum at BakerRipley Community Schools, with a special emphasis on middle school learners. The program collaborates with local school districts and organizations to provide workshops, events, and outreach throughout the year.

Baltimore Polytechnic Institute Foundation, Inc.
Baltimore, MD
Project Title: Engineering Curriculum Enhancement

Description: The Engineering Curriculum Enhancement project at Baltimore Polytechnic Institute, a public STEM high school, is designed to provide students with hands-on, project-based learning experiences focused on real-world energy challenges. The initiative supports courses such as Renewable Matter & Energy, Engineering Practicum, Architecture Engineering & Construction, and Impacts of Technology. Students participate in projects like smart home energy monitoring, electrification of personal transportation,

AI for smart grids, energy-efficient building design, and sustainable product redesign. These activities encourage innovation, interdisciplinary collaboration, and the application of technology—including artificial intelligence—to advance energy efficiency and sustainability. The program aims to foster critical thinking, creativity, and problem-solving skills, while also raising community awareness about decarbonization and sustainable practices through student exhibitions and presentations.

Board of Trustees of the University of Illinois

Urbana, IL
Project Title: ReGen Lab: Reimagining Our Energy Future through Hands-On Learning

Description: The ReGen Lab at the University of Illinois Urbana–Champaign is an interactive learning space dedicated to renewable energy and emerging clean technologies. Located in the Center for Innovation in Teaching and Learning, the lab provides high school seniors, teachers, and university students with opportunities to explore hands-on didactic kits, virtual reality simulations, and guided visits to operating clean energy facilities. Learners will engage with nuclear technology through immersive VR experiences and through in-person visits to the Clinton clean energy center. Additional activities include experiments and demonstrations related to hydrogen and fuel cells, solar, wind, hydro, and smart grids. The program also offers summer camps, workshops, and teacher training, with the broader goal of strengthening energy literacy, STEM skills, and awareness of clean energy career pathways while serving as a sustained educational resource for the state of Illinois.

Cathleen Stone Island Outward Bound School Inc.

Boston, MD
Project Title: Green Ambassadors: Environmental Career Development on Cathleen Stone Island

Description: The Green Ambassadors program is a three-year summer employment and job-readiness initiative for Boston students ages 14–18, focused on leadership, environmental awareness, and career exploration. Participants gain hands-on experience in environmental conservation, carpentry, citizen science, and learn about career opportunities in the green and blue jobs sectors. The curriculum builds each year, starting with trail maintenance and land management, progressing to facilities management and carpentry, and culminating in internships across various departments, including operations and sustainability.

Charles R. Drew University of Medicine and Science

Los Angeles, CA
Project Title: Access in Energy: Youth Solutions for a Just Energy Future

Description: Access in Energy: Youth Solutions for a Just Energy Future is a five-week program hosted by the CDU Saturday Science Academy II for middle and high school students. The initiative provides hands-on learning experiences focused on clean energy, renewable technologies, and career pathways in the energy sector. Each week, students participate in activities such as simulations of energy choices, renewable energy labs, networking with professionals, engineering design challenges, and a culminating youth energy summit. The curriculum is designed to build knowledge of energy systems, inspire interest in STEM careers, and foster innovation and problem-solving skills. Students work in teams to identify local energy challenges, develop and prototype solutions, and present their projects at a community showcase.

Clarkson University

Potsdam, NY
Project Title: Food Waste to Energy: Developing a Green Energy Mindset by Growing a University–K12 Resource Recovery Partnership

Description: This project aims to expand and enhance a partnership between Clarkson University and local K-12 schools to promote food waste separation, resource recovery, and renewable energy education. The initiative engages university students in monitoring and operating anaerobic digesters that convert food waste into biogas, while also developing and teaching educational modules for K-12 students. Activities include hands-on classroom lessons, cafeteria food waste collection, field trips to digestion facilities, and teacher workshops. The program emphasizes early exposure to sustainable practices, mentorship between university and school students, and direct connections with energy professionals and alumni.

Consumer Energy Education Foundation
Houston, TX
Project Title: Powering Tomorrow Energy Summer Camp

Description: The Powering Tomorrow Energy Summer Camp is a week-long, STEM-focused program designed for middle and high school students in Greater Houston. The camp offers hands-on, inquiry-based learning experiences that connect students to real-world opportunities in the energy sector and highlight the role of digital innovation in shaping the future of energy. Participants engage in interactive activities using customized STEM kits, online modules, and direct interaction with energy professionals. The curriculum emphasizes critical thinking, collaboration, and innovation, preparing students for emerging careers at the intersection of energy and technology.

EcoRise Youth Innovations
Austin, TX
Project Title: NextGen Leaders in Sustainable Energy

Description: The NextGen Leaders in Sustainable Energy project equips K–12 students and educators with the knowledge, skills, and resources to integrate sustainability into schools and communities. Through hands-on, inquiry-based learning and student-driven projects, the program fosters environmental STEM learning, critical thinking, and career-connected problem-solving. Teachers receive high-quality curriculum, professional development, and support for student-led initiatives, while students conduct Eco-Audits and design real-world sustainability projects, such as installing solar-powered charging stations or leading energy audits. The program also provides micro-grants to help bring student ideas to life and hosts Student Innovation Showcases where youth present their work to peers, educators, and industry professionals.

Einstein Project, Inc.
Green Bay, WI
Project Title: STEM Creativity Scrimmages – IL Clean Energy Centers

Description: The STEM Creativity Scrimmages project provides free access to engaging, hands-on STEM learning experiences for schools and teachers in Constellation's Illinois Clean Energy Centers communities. Modeled after sports scrimmages, these activities are designed to build creativity, critical thinking, communication, and collaboration skills through repeated practice. The program targets grades 6–12 but is available to all grade levels and subject areas, allowing teachers to integrate these scrimmages into their lesson plans. The initiative includes in-person and virtual teacher training, ongoing support, and curriculum enhancements, with a focus on both rural and urban communities. By fostering a culture of innovation and problem-solving, the program aims to prepare students for future academic and career success, while also supporting teachers in delivering high-quality STEM education.

Elizabethtown College
Elizabethtown, PA
Project Title: Science in Motion at Elizabethtown College

Description: Science in Motion at Elizabethtown College (EC-SIM) is a collaborative initiative that brings advanced laboratory equipment and hands-on science experiences to middle and high schools across several Pennsylvania counties. Since its launch in 2008, EC-SIM has partnered with 21 public school districts and 7 private schools, providing access to high-tech STEM equipment, co-taught labs, and real-world, standards-aligned activities at no cost to participating schools. With over 99,000 student participants since 2009 and more than 15,000 students and teachers served annually, EC-SIM has demonstrated significant impact on student engagement and achievement in STEM.

George Mason University Foundation Inc.
Fairfax, VA
Project Title: SMR Summer Academy: Immersive Nuclear Innovation with Operator Training

Description: The SMR Summer Academy is a one-week program hosted at George Mason University's NuScale E2 Center, designed to introduce high school students to nuclear energy, small modular reactors (SMRs), and operator training. Participants engage in hands-on experiences using a state-of-the-art simulator

that replicates an SMR control room, allowing them to manage plant operations, respond to emergencies, and explore grid integration. The curriculum blends lectures on nuclear fundamentals with immersive operator training, virtual reality tours, and demonstrations of emerging technologies such as drones and robotic inspection tools. The Academy also features an Industry Panel and Expo, where students present posters, interact with nuclear professionals, and learn about clean energy careers. Five students will be selected as Youth Scholars and participate in a year-long research project with faculty and industry mentors.

Halcyon
Washington, NY
Project Title: Clean Energy Pathways: Oswego & Wayne Students Leading the Future

Description: Clean Energy Pathways is a semester-long, hands-on renewable energy curriculum for students in grades 6–12 across Oswego and Wayne Counties. Administered by Halcyon and delivered in partnership with Thimble.io, the program builds energy literacy, data skills, and confidence through classroom-led projects and a public Student Energy Showcase. The curriculum covers weather and energy literacy, resource efficiency in living systems, and smart controls for buildings, with students collecting and analyzing data, designing prototypes, and presenting their work. Teachers receive professional development and classroom lab tools to support hands-on learning. The initiative aims to reach over 300 students and 12 teachers, fostering collaboration, communication, and practical skills aligned with science and technology standards.

Illinois State University Foundation
Normal, IL
Project Title: Bridging Sustainability and Culture: The Energy Equity and Sustainability Education Initiative (EESEI)

Description: The Energy Equity and Sustainability Education Initiative (EESEI) is a semester-long experiential learning program at Illinois State University that engages students in hands-on energy and sustainability education. The initiative includes the creation of community-based sustainability labs, renewable energy demonstrations, and cultural exchange activities. ISU students participate in coursework, energy literacy workshops, and cultural preparation, culminating in a field experience where they travel to communities to deliver clean energy demonstrations, facilitate STEM-based educational activities, and participate in cultural exchange. The program features retrofitting community spaces into sustainability labs equipped with energy-efficient technologies, teacher training workshops, and distribution of small-scale renewable energy solutions such as solar-powered lamps and clean cooking appliances. EESEI fosters mutual learning, with students conducting focus groups to identify community needs and learning from current community practices of environmental stewardship.

Joliet Junior College Foundation
Joliet, IL
Project Title: Empowering Future Energy Leaders: JJC Summer STEM Camps for Middle and High School Students

Description: Joliet Junior College proposes a series of summer STEM camps designed to empower students in grades 6–12 with energy literacy, hands-on learning, and career exploration. Students will engage in activities such as building model wind turbines, experimenting with solar panels, launching weather balloons, and engineering smart devices. The camps emphasize teamwork, creativity, and real-world applications of sustainable energy, while providing mentorship and exposure to energy careers. The initiative leverages JJC's Continuing Education infrastructure and community partnerships, aiming to inspire students to pursue STEM and energy fields.

LET'S GO Boys & Girls
Baltimore, MD
Project Title: LET'S GO Inspire the Future: The STEM Ripple Effect

Description: LET'S GO Inspire the Future: The STEM Ripple Effect is a comprehensive initiative designed to foster pathways into STEM and energy careers for youth. The program features mentorship, networking, and skill-building activities that strengthen students' STEM identities, leadership abilities, and workforce readiness. Key components include the STEM Accelerator for middle and high school students, hands-on robotics teams such as FIRST and VEX, and the Teen Science Café, which connects students with STEM professionals for real-world problem-solving and career exploration. The initiative emphasizes project-based

learning, technical skill development, and professional growth, guiding students from early STEM exposure to post-secondary success and entry into STEM professions.

Montclair State University Foundation Inc.
Montclair, NJ
Project Title: Green Teams Program

Description: The Green Teams Program at Montclair State University is a transdisciplinary internship designed to prepare undergraduate students for STEM careers through collaborative, real-world sustainability projects. Students work in teams to develop actionable recommendations for host organizations—including corporations, nonprofits, universities, and municipalities—to improve sustainability, reduce emissions, and explore clean energy solutions. The program provides training in core sustainability topics, hands-on experience, and professional development, while offering stipends, housing, and support services to ensure accessibility. Over its ten-year history, the Green Teams Program has placed hundreds of students with partner organizations, resulting in innovative projects that address environmental challenges such as emissions reduction, flood mitigation, food security, and urban agriculture.

Nature Forward Inc.
Chevy Chase, MD
Project Title: Empowering High School Students as STEM Energy Ambassador Leaders

Description: Nature Forward's program brings together high school students from Montgomery County to learn about energy use, management, and climate impacts from professionals in the field. These students develop and deliver presentations on energy conservation and efficiency for elementary school students and community members, reaching over 1,000 individuals and 30 educators throughout the year. The Energy Ambassadors meet weekly online and quarterly in person, participate in workshops led by experts, and lead classroom energy audits and activities for younger students. They also present at science fairs, STEM nights, and the Maryland Association for Environmental and Outdoor Education annual conference.

Pennsylvania State University Philanthropic Fund
Harrisburg, PA
Project Title: 2026 STEM Summer Enrichment Program

Description: The 2026 STEM Summer Enrichment Program at Penn State Harrisburg is a two-week workshop designed to immerse high school students in science, technology, engineering, and math. The program features hands-on laboratory experiments, industry visits, problem-solving sessions, demonstrations, and student presentations, all led by discipline-specific faculty. Students explore topics such as math, computer science, chemistry, biology, engineering, and physics, with activities that emphasize critical thinking and real-world applications. The program includes field trips to local facilities, daily opportunities for socialization, and culminates in a closing ceremony where students present their projects and receive certificates of accomplishment. Transportation support is provided to ensure access for students from Harrisburg and surrounding areas.

Research Foundation for the State University of New York
Oswego, NY
Project Title: Advancing Clean Energy Systems: Battery–Inverter Innovation Integrated with STEM Engagement Initiative

Description: This initiative focuses on advancing battery and inverter technologies for electric vehicles and clean energy applications. Building on previous research, the team has developed a carbon–silicon compound anode for lithium-ion batteries, aiming to significantly increase battery capacity and charging speed. The project also seeks to improve four-switch three-phase inverter designs, addressing imbalance and capacitor-related challenges to enhance efficiency and reliability in electric vehicles and renewable energy systems. In addition to technical innovation, the program integrates STEM education by organizing a weeklong workshop at SUNY Oswego for high school physics teachers and students from Upstate New York, featuring hands-on laboratory activities and presentations from clean energy professionals. The project aims to deliver patented discoveries, foster workforce development in clean energy technology, and inspire future leaders through educational outreach.

Saint Joseph's University
Philadelphia, PA
Project Title: Physics Wonder Girls Program and Clean Energy Initiatives

Description: The Physics Wonder Girls Program at Saint Joseph's University is a long-running initiative designed to inspire K–12 and university students to pursue STEM and energy-related careers. The program features a summer camp for middle and high school students, who are mentored by undergraduate students and participate in hands-on energy experiments such as building solar-powered devices, wind turbines, and fuel-cell cars. Campers also explore nuclear energy through experiments and learn about energy auditing using infrared cameras. The program extends into the academic year with research projects, science communication training, and poster sessions highlighting the contributions of women scientists. Undergraduate students gain experience by mentoring campers and conducting renewable energy research, which is showcased in university courses and poster exhibits. The initiative includes outreach to local schools, professional development for teachers, and partnerships with industry and academic organizations, all aimed at building a supportive community and promoting clean energy education.

University of Maryland College Park Foundation Inc .
College Park, MD
Project Title: Energy Explorers

Description: Energy Explorers is a clean energy initiative designed to expand access to and understanding of nuclear energy production and energy storage technology for junior high and high school students. The program builds on the university's long-standing research reactor tour by adding hands-on activities, college resources, and mentorship from undergraduate students. Participants experience the Maryland University Training Reactor, engage in structured labs such as battery assembly, and interact with graduate students and faculty to learn about advanced reactors and energy storage technologies. The initiative also introduces students to BattConn, a professional resource for battery-related careers.

Wayne Central School District
Ontario Center, NY
Project Title: Cross-Club Solar Car Challenge

Description: The Cross-Club Solar Car Challenge is a hands-on clean energy initiative that engages middle and high school students in grades 6–12 in designing, building, and racing solar-powered vehicles. The program brings together Technology, STEM, and Environmental Clubs across the district, through a structured five-phase model: Kickoff, Design, Build, Test, and Showcase. Students work in cross-grade teams, guided by renewable energy professionals, and participate in a district-wide competition and community showcase. The initiative builds on the district's established CO_2 car curriculum, expanding into renewable energy and providing real-world engineering experience. Funding supports solar car kits, workshop tools, mentor stipends, competition expenses, and transportation.

We Care Solar Inc.
Berkeley, CA
Project Title: Illinois Solar Solutionaries

Description: The Illinois Solar Solutionaries initiative by We Care Solar Inc. brings hands-on solar energy education to middle and high school students in Illinois. Through the Solar Solutionaries program, students learn about electricity, solar power, and engineering design using the Solar Suitcase Learning Kit—a classroom version of the solar device deployed globally by We Care Solar. The curriculum connects technical learning with real-world impact, showing how solar power can improve health and education in energy-scarce regions. Teachers participate in professional development workshops and implement the program in their classrooms, guiding students through lessons on solar exploration, system design, and energy measurement. Students engage in collaborative problem-solving and career exploration, preparing them for future opportunities in the renewable energy sector.