GOALS

• Link researchers, educators, consumers, and students.
• Create interest in STEM disciplines and careers.
• Illustrate issues necessary for public acceptance of smart energy technologies.
• Develop interactive activities and lessons.
• Encourage further learning.

FUNDAMENTAL CHALLENGES

• Connect with middle school and high school teachers, students, and their families.
• Illustrate challenges, tradeoffs and decisions that affect energy system design and control.
• Educate for responsible use of new technologies:
  – Internet of Things.
  – Cloud computing.
  – Distributed generation.
  – Electric vehicles.
  – Increased integration of renewable energy.

EDUCATION PLAN

• Create interactive lessons:
  – Hands-on.
  – Web-based.
  – Accessible on mobile devices.
• Provide print materials and kits:
  – Lesson plans for teachers.
  – Resource kits for physical demonstrations.
• Connect with other national curriculum endeavors and informal education providers.
  - National Science Teachers Association.
  - Project Lead the Way.
  - National 4-H SET.
  - Bakken Museum.

DISSEMINATION ACTIVITIES

• Broad Web-based distribution and links.
• Partnerships with teachers and schools.
• After-school programs.
• Presentations at conferences for teachers and for industry representatives.
• Community and campus events.
• Energy education dissemination grant from Caterpillar Foundation.

BROADER IMPACT

• USA Science and Engineering Festival.
• UIUC GAMES Camp, GEMS Camp, Girls Explore Camp.
• U-STEM.

FUTURE EFFORTS

• Tools for informal learning.
• Minecraft World of Power.
• Minecraft Cyber World.
• Lesson materials for students and teachers.
• Communicating to the public the importance, opportunities, and challenges of a secure, modern energy delivery system.

• Use virtual and physical exploratory spaces to expand dissemination of educational resources on the science of electricity, computer science, and energy delivery systems.
• Create educational resources that relate the physical energy infrastructure and a secure cyber infrastructure.

BROADENING IMPACT