

## 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

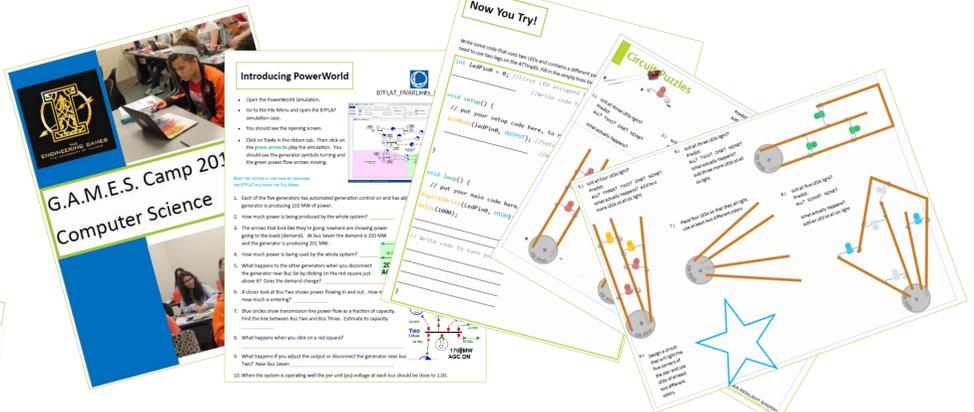
## FUNDAMENTAL QUESTIONS/CHALLENGES

- Connect with K-12 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
  - Distributed generation
  - Electric vehicles
  - Increased integration of renewable energy



## 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
- UIUC GAMES Camp
- Girls Explore Camp, Champaign Park District



## BROADER IMPACT

- 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

## 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 industry outreach efforts and other national curriculum endeavors and informal education providers
  - National Science Teachers Association
  - Project Lead the Way
  - National 4-H Science
  - ReCharge Labs
  - Virginia Dominion



## FUTURE EFFORTS

- 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
- Create educational resources that begin conversations about secure energy delivery

