TCIPG

Education and Engagement

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GOALS

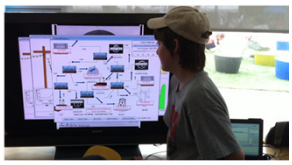
- Link researchers, educators, consumers, and students.
- Develop interactive lessons and activities.
- Create interest in STEM disciplines and careers.
- Illustrate issues necessary for consumer acceptance and use of smart grid technologies.
- Create interest in further learning.

FUNDAMENTAL CHALLENGES

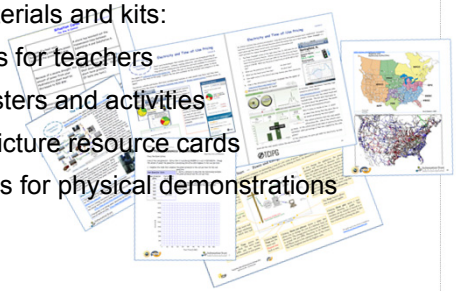
- Connect with pre-college students and teachers.
- Communicate visions for future power system configurations.
- Illustrate challenges, trade-offs, and decisions that go into power system design and operation.
- Provide energy education experiences to empower an informed public.
- Increase consumer acceptance of smart grid technologies.

EDUCATION PLAN

- Create interactive lessons:
  - Hands-on
  - Web-based
  - Accessible on mobile devices



- Provide print materials and kits:
  - Lesson plans for teachers
  - Museum posters and activities
  - Smart grid picture resource cards
  - Resource kits for physical demonstrations



- Connect with other national curriculum endeavors and informal education providers.
  - Project Lead the Way
  - KidWind
  - National 4-H SET
  - Illinois Solar Schools
  - National Science Teachers Association

DISSEMINATION ACTIVITIES

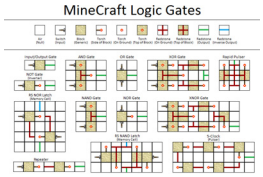
- Broad web-based distribution and links.
- Partnerships with teachers and schools.
- Presentations at conferences for teachers and for industry representatives.
- Community and campus events.
- TCIPG Summer School 2013.
- Illinois Energy Zone at the Illinois State Fair.
- Energy education dissemination grant from Caterpillar Foundation.

BROADER IMPACT

- New education tools for informal learning.
- Lesson materials for students and teachers.
- Communicating to the public the importance, opportunities, and challenges of a secure, modern power grid.

FUTURE EFFORTS

- Use virtual and physical exploratory spaces to expand dissemination of educational resources on the science of electricity and the smart grid.
- Create educational resources that relate the physical electrical infrastructure and the secure cyber infrastructure.
- Create curriculum for a power system within a Minecraft virtual world.
- Develop a multi-era power grid strategy game for IOS 7.



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