ALLIANCE FOR INNOVATION AND INFRASTRUCTURE

STEM GAMES

What is a STEM Game?

STEM Games are interactive, hands-on, goal-based activities designed to immerse participants in key concepts from science, technology, engineering, and mathematics (STEM) disciplines. By simulating real-world scenarios, these games foster a deeper understanding of technical ideas while encouraging collaboration and strategic thinking.

Energy Market Game

The Energy Market Game focuses on the dynamics of the electric energy system. Participants engage in a simulation of energy marketplaces, learning how various generator types compete to balance energy supply at the lowest cost.

Proposed Workshops

- Industry Leaders
- Energy Experts
- Educators
- Policy Makers
- Economists
- Consumers and Prosumers

Educational and Networking Benefits

- Learning Through Action: Participants develop strategic and technical skills in a fun and interactive environment.
- Networking Opportunities: The collaborative nature of the games fosters connection with peers, educators, and industry professionals.

Forming Teams

Participants are divided into groups, each representing a specific type of energy generator.

Understanding Generators

Each team receives a generator sheet that outlines the operational characteristics of their generator.

Bidding in the Marketplace

Teams decide how their generator should participate in the energy market by submitting bids.

Aggregating Bids

The bids are processed under the Settlement Price mechanism to determine the market's pricing structure.

Revenue Calculation

Each generator's revenue is calculated based on the settled price.

Goal and Competition

The objective is to maximize profits for the assigned generator. Multiple rounds can be run, creating a competitive environment where strategies evolve based on market dynamics and the actions of other participants.

Exploring Policy Impacts

The game also models how policy decisions influence energy dynamics, driving the system toward new equilibria.