Courses in Energy Economics & Markets

- Masters-Level Courses aimed at graduate students in economics, engineering, sciences and public policy
- Research-level material offered through UC Davis Department of Economics
- Professional-level material offered at UC Berkeley Haas School of Business
- Practitioner-level material offered through short courses at ISOs and UC campuses
- Energy Strategy games offered through similar classes at several campuses

Objectives

- Instruct future energy industry professionals and researchers on the economics of energy markets.
- Convey hands-on experience blending advance micro-economic concepts and energy-industry case-studies and simulations.
- Develop and refine interactive learning tools such as the Electricity Strategy Game.
- Provide exposure to the leading economic research on the organization, regulation, and operation of energy markets.

Energy Markets: Economics and Organization

Motivation

Provide Energy Professionals

- With tools to judge the drivers of energy prices and market performance
- With tools to analyze impact of policy and regulation on energy markets
- With a framework for valuing the interaction of energy reliability and security with market outcomes

Provide Energy Researchers

- With understanding of what factors drive technology success or failure in markets
- With techniques for assessing the competitiveness of energy markets
- With theoretical tools for optimizing the design of energy and environmental markets

Course Topics

- Natural monopoly and regulation
- Dynamics of exhaustible resource extraction
- Liberalization and deregulation of energy markets
- Vertical integration, efficiency and competition
- Network economics and network externalities
- Regulation, Anti-trust, and competition policy
- Environmental externalities and market-based environmental regulation
- Storage and commodity price behavior
- Transportation infrastructure and energy markets

Experiential Learning: Electricity Strategy Game

1. Teams evaluate and purchase generation portfolios
2. Portfolios are bid into daily “spot” markets
3. Teams experience impacts of market design elements
   - Transmission Congestion Pricing
   - Auction design and rules
   - Cap-and-trade emissions markets
   - Forward contracting and futures markets

Classroom and Web-based implementation under development

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