15.031
RECITATION

REVIEW FOR QUIZ 1
COURSE OBJECTIVES

• Social science is useful for analyzing systems with *humans*, and as a source of tools to devise strategies for changing such systems

• Course objective: to prepare you to use the tools of the social sciences to understand and shape real energy decisions, markets, and policies
  
  • Tools: economics, management, sociology, & political science
  • Applied in the energy context to individuals, households, organizations, social movements, and governmental entities

• We won’t try to predict your energy future; we **will** try to make you better able to shape it!
THE U.S. ENERGY SYSTEM – A SOCIAL SCIENCE VIEW

Social Norms, Customs, Values, Traditions, Institutions, Movements,…

Federal, State & Local Political & Regulatory Processes & Institutions

Federal, State & Local Laws & Regs.

Supply: Diverse Govt. & Private Enterprises

Markets

Demand: Households, Firms, Governments, Others

Flows: Primary Energy → Conversion → Energy Services

Stocks: Reserves & Other Assets (e.g. cars, buildings, technologies)
CONCEPTS DISCUSSED-1

Weeks 1 and 2
- Comparative Energy Systems
  - Difference in Fuel Origin/Difficulty in Changing
    - Effective Shape of System
- Viscusi et al (Coase Theorem and Externalities)
  - Property Rights—Will They Work?
  - Cost-Benefit Analysis

Week 3 Markets and The State (Role of the State)
- Carter vs. Carter Coal
- Sutherland vs. Cardozo
- Path Dependence (Disruptive Change as Rare)
  - Gawande-Difference in National Health Systems & Unruh
  - QWERTY/Swiss Watch-Making
CONCEPTS DISCUSSED

Week 4 Climate Negotiations
- What Worked and What Didn’t?
  - Economic Growth, Political Realities, Enforcement, Technological Solutions—What Else?

Week 5 Energy Demand
- Derived Demand
  - Short-Run vs. Long Run
    - Elasticity of Demand/Rebound Effect
    - Should You Buy a Prius
- Social and Behavioral Choices
  - Economics vs. Social/Behavioral
    - Prius Revisited
  - How do People Make Decisions?
    - Rational (ends, absolute value)/Emotion/ Tradition
  - Role of Norms
CONCEPTS DISCUSSED-3

Week 6 and 7 Organizational Decision Making

- Normative Frameworks
  - Role of Business in Society
  - Friedman vs. Handy
- Hexion
  - Present Value
  - How To Present Case to The Decision Maker
- Biodiesel@MIT--Monday