

# Controversies and Sources of Resistance to Smart Grid Deployment

---

**Harvard Electricity Policy Group**

Cambridge, MA

September 30, 2010

**Ashley C. Brown**

Executive Director, Harvard Electricity Policy Group

Harvard Kennedy School

Harvard University

# Critical Policy Issues / Flash Points in Smart Grid Deployment

---

- Pricing
- Risks and Risk Allocation
- Cost Benefit Analysis
- Cost Allocation
- Access to Data and Privacy
- Public Education
- Capturing Benefits on Supply and Demand Sides
- Price Signals or Centralized Demand Dispatch

# Pricing

---

- Real Time Prices Needed to Fully Capture Benefits?
- Smart Meter and Customer Premises Equipment Costs: Fixed or Variable?
- Relation to De-Coupling Sales and Profits

# Risks and Risk Allocation

---

- Technology Risks  
(Telephony Visits Electricity)
  - Recovering Costs of Assets Whose Technological Obsolescence Occurs Prior to its Physical Demise
  - Keeping Pace With Rapidly Changing Technology

# Risks and Risk Allocation cont'd.

---

- Who Is Best Equipped to Cope With Risks:
  - Utilities And Alternative Supplier Perspectives
    - Risk Minimization or Benefit Maximization
    - Regulatory Considerations (e.g. Depreciation Schedules) Recovery
    - Fear of Stranded Costs
    - Regulatory Pre-Approval
    - Symmetry Between Risk and Control (Socializing Risks)
    - Mangers or Regulators Making Technology Choices
    - Agility in Responding to Change
    - Regulatory or Customer Focus
    - Best Positioned to Capture Supply Side Benefits?
    - Best Positioned to Capture Demand Side Benefits?
    - Best Positioned to Seize Innovation Opportunities?

# Cost Benefit Analysis

---

## ■ Cost Benefit Analysis

- Supply Side Benefits (Sufficient Alone?)
- Demand Side Benefits (Incremental or Necessary?)
- Appropriate Technology Choices (Investment Levels) Relative to Derivable Benefits and For Whom?

# Cost Allocation

---

- Will Distribution Cost Allocation Take on Same Attributes as Transmission Cost Allocation?
- Implications of Plug in Cars (Planning as well as Costs)
- Inter-Class and Intra-Class Equity Considerations
- Implications for Whether Utility or Alternative Supplier is Best Suited to Take on Responsibility for Smart Metering

# Access to Data and Privacy

---

- What Are Privacy Expectations?
- To Whom Does Customer Data Belong?
- Balancing Privacy And Fully Enabling Competition
- Opt In vs. Opt Out

# Public Education

---

- Need for Educating Consumers
- Role of Utilities? Regulators? Marketers?
- Are Stakes High Enough to Attract Customer Attention / Effort?

# Capturing Benefits on Supply and Demand Sides

---

- Recognizing Substantial Benefits to be Derived on Both Sides
- Implications of Who Assumes Responsibility for Customer Premises Equipment
- Manufacturers, Vendors and Standardization

# Price Signals or Centralized Demand Dispatch

---

- Relative Costs of Two Approaches
- Impact on Consumer Behavior and Consciousness
- Assurance of Customer Responses
- Competitive Implications