

# Regulators and Clean Energy

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# I. Consideration of Externalities

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## a. Government Policy

1. Clean Energy For What Purpose?
  - i. Environment
  - ii. Security
  - iii. Relationship With Emissions Control?

## b. Regulatory Perspective

1. Follows Government Policy
2. Insurance/Sustainability Perspectives
  - i. Justification for Regulatory Initiative

## c. Uneconomic Bypass Issues

1. Constraint on Discretion

# What Is Clean Energy?

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## a. Claimants

1. Wind
2. Solar
3. Large Hydro
4. Small Hydro
5. Wave
6. Tidal
7. Geothermal
8. Nuclear
9. Storage
10. Energy Efficiency / Demand Response

## II. Who Makes Resource Decisions? Who Defines Clean Energy?

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- a. Role of Government
  - 1. Set Basic policies and Definitions
  - 2. Tax support (Public Subsidies / Investment)
  - 3. Tax Support Design (e.g. Production Tax Credit)
- b. Role of Management
  - 1. Prudence
  - 2. Civic Responsibilities
- c. Role of Regulators
  - 1. Follow Government fully
  - 2. Assure Reliability
  - 3. Economic Discipline

# Market Structure Issues

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- a. Mandates
- b. Portfolio Standards
- c. Procurement Processes  
or
- d. Fully Integrated Markets
- e. Capacity and Energy Markets

# III. Economic Issues In Clean Energy

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- a. Fully Competitive Technologies
- b. Technologies at Threshold
  1. Are Subsidies Appropriate
  2. Subsidy Design (Stimulus or Reliance)
- c. R&D Technology
  1. Are Subsidies Appropriate?
  2. Revenue Sources for Stimulus (Rates or taxes?)
  3. Subsidy Design
- d. Moving Energy to Market?
  1. Transmission costs? Priced at Bus Bar?
  2. Intermittency
  3. Impact on dispatch order?
  4. Who Bears Transmission Risk?

# IV. Clean Energy in Wholesale and Retail Markets

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- a. Generation in Wholesale Markets
  - 1. Competitive Balance and Subsidies
  - 2. Dispatch / Reliability Considerations
  - 3. Impact of Energy
  - 4. REC Markets
- b. Generation in Retail Markets
  - 1. Compensation Issues
  - 2. Retail Competition
  - 3. Small Scale REC Markets

## V. Impact of Smart Grid

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- a. Net Metering vs. Dynamic Prices
- b. Intermittent Generation (Storage)
- c. Technology Innovation in Regulated Sectors



## VI. Energy Efficiency

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- a. Decoupling
- b. Dynamic Pricing
- c. Smart Meters
- d. Demand Response