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# *California's Energy and Climate Change Challenge*

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# Three Energy Source Challenges

- Low cost supply
  - fossil fuel prices still don't include externalities
- Environmental effects
  - particularly greenhouse gases (GhGs)
- Macroeconomic and Geopolitical effects
  - recognition of the extent of the market
    - Oil (world), Nat Gas (continent/world), electricity (local)
- The triple dividend from *energy efficiency*

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# The Role of Renewable Energy

- With a few narrow exceptions, renewable energy is unlikely to be cost effective any time soon unless we recognize environmental effects of fossil fuels
- The big question is *how much* value we place on addressing these issues, particularly climate change mitigation
- And can we design appropriate policies to meet the challenge with as little economic disruption as possible

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# Climate Change Will Dominate State and Federal Energy Policy

- Meeting California's aggressive GhG reduction goals will not be costless
- Minimizing those costs requires realistic policy analysis
  - not “balancing stakeholder interests”
- Incentives (e.g., prices) will be major determinants of outcomes
  - “Voluntary” approaches don't solve environmental problems

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## Some Policy Issues on the Table

- Implementation of Cap-and-Trade
    - Breadth of CAT coverage (eg transportation)
    - Allocation of permits
    - Wealth transfers (not same as permit alloc)
      - “protecting” consumers from GhG costs?
  - Alternative/Additional Renewables Programs
    - Where's the market failure after pricing GhG?
  - Cost/Scarcity of Natural Gas
    - Critical to understand the relevant market
  - Trade/competitiveness after pricing GhGs
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