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Reducing Greenhouse Gas Emissions through Carbon Pricing Side Event
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Types of Uncertainty in Carbon Tax Policy

- **Emission levels**
  - Are CO₂ emissions in line with goals?

- **Science of climate change**
  - Does new scientific research justify updating of goals – and tax?

- **Economic costs of carbon tax**
  - Do household or industry costs justify changes to CO₂ tax?

- **International relations**
  - Does ambition of US CO₂ tax compare with other nations’ efforts?
Policy Updating: Structured Discretion

- Act-learn-act approach to policy

- Presumed design of carbon tax: starts at $X/tCO_2$ (level) and increases $Y + CPI$ percent per year (escalator)

- Carbon tax updating
  1. Environmental, Economic and Multilateral Reviews
  2. Executive proposes a Congressional resolution based on reviews
  3. Legislative action on resolution
Carbon Tax Schedule under Structured Discretion
Review

• Principles for Review

• Environmental Review
  ▪ EPA: Focus on climate science and impacts
    → similar to National Climate Assessment

• Economic Review
  ▪ Treasury: Focus on efficiency, revenues, distribution, emissions
    → similar to regulatory impact analyses, retrospective analyses

• Multilateral Review
  ▪ State Dept: Emission mitigation efforts by other countries
    → similar to transparency called for under Paris Agreement
Updating

- President proposes change to carbon tax
  - Could modify the tax rate level \( X \) or escalator rate \( Y \)
  - Effective date \( N \) years in the future (e.g., 5 years)
  - Takes the form of a joint resolution of Congress

- Timing: every 5 years to coincide with Paris Agreement NDC review and updating process
  - Time proposal in the lead-up to a round of review

- Any country could implement its NDC with this approach
Legislative Action

- Joint resolution of Congress that is *not* subject to amendment, filibuster
- Specify legislative mechanisms to ensure updating resolution comes to floor of each house for a vote
- Specify number of days by which a vote must occur
- Similar to U.S. Trade Promotion Authority
Illustrating Tax Updating

Policy 1: A CO$_2$ tax became law in 2010, set to begin in 2015
- Initial tax set based on USG SCC ($28/tCO$_2$) and increases based on IWGSCC schedule

Policy 2: Same initial set-up as policy 1, but with 5-year reviews
- First review in 2015, with any tax adjustment due in 2020
- Suppose President proposes higher tax based on 2015 IWGSCC update report
Potential Welfare Gains

- Policy 2 C tax in 2020 becomes $51/tCO₂, much higher than Policy 1 C tax of $32/tCO₂
- 2020 emissions abatement increases by ~500 MMTCO₂
- 2020 welfare gains ~$5 billion
Concluding Thoughts

• Design tax to account for a broad set of uncertainties

• Potential to combine this with a tax schedule approach that addresses short-term emissions uncertainty

• Leverages institutional design to ensure periodic review and updating
  ▪ Formalizes retrospective and prospective review of a tax

• Integrate with periodic updating of mitigation pledges under Paris Framework
References and Contact Info


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