Approaches to Comparison of Effort

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Approaches to Comparing Effort

- Role of Transparency
- Role of Comparability
- Implications for Negotiations

Role of Transparency

Lessons from Policy Surveillance in Non-Climate Agreements

- Reviewed IMF, WTO, OECD, Montreal Protocol, CITES, and arms control agreements

- Key lessons
  - Credibility of information
  - Engaging peers
  - Learning
  - Implementing surveillance
  - Role of civil society

Credibility of Information

- Delegate surveillance to “neutral” third parties, such as international organizations
- IOs employ permanent staff experts, make in-country visits – IMF, OECD, WTO
- Data, analysis, evaluation of policy actions and outcomes key to effective transparency

Engaging Peers

- Expert reviews at IMF, OECD, and WTO feed into peer review mechanisms
- Facilitate understanding about effective policy practice
- "Reciprocal multilateral scrutiny"
  – Schelling's description of pledge and review

Learning

- Identifying best practices assists other countries in their mitigation policy design

- Assess collective effort of mitigation
  - Global emissions
  - Efficacy and costs of mitigation policies
  - Thematic examinations
  - Analogs in World Economic Outlook, World Energy Outlook, UNEP Emission Gap reports

Implementing Surveillance

- International institutions of information collection and dissemination can lower the costs of an international agreement
- Standards for data dissemination and codes for good policy practice can enhance countries' technical capacities
- Frequency of review could build on experience in IMF, OECD, and WTO

Role of Civil Society

- Shining light on policy implementation and outcomes can empower stakeholders
- Civil society can review the reviewers and develop new methods for review and analysis
- CITES formally relies on NGOs to review national reports and monitor trade in endangered species

Role of Comparability

Why Compare Mitigation Effort?

- Normative / ethical approaches for burden-sharing

- Facilitative—supporting cooperation and future ambition
  - "Individuals tend to react to the positive actions of others with positive responses and the negative actions of others with negative responses." Ostrom (1998)
  - How might parties judge positive or negative action?
  - Different parties and constituents judge differently?

Principles for Metrics of Comparability

- Comprehensive: captures the notion of "effort" in the widest possible sense. Similar countries ought to exhibit similar values in a "fair" agreement

- Measurable and replicable: directly observable or based on transparent analysis

- Universal: can be applied to efforts by a broad set of countries

Metrics I: Emissions (and other physical measures)

- Potential metrics
  - Relative to base year or forecast level
  - Relative to population or economic activity, absolute or change over time
- Pros/Cons
  - Associated with environmental outcome (+)
  - Measurable relative to history (+)
  - Choice of base year / index will give different countries an advantage (+/-)
  - Relative to forecast may be best notion of “effort” but less measurable (-)

Metrics II: Prices

- Potential metrics
  - Carbon dioxide or energy prices
  - Taxes / carbon price or net price of energy
  - Absolute levels or change over time
- Pros/Cons
  - Carbon price reflects policy effort (+)
  - Market prices are observable (+)
  - Reflect long-term investment incentives (+)
  - Exchange rates can be problematic (-)
  - Does not easily capture non-price policies (-)

Metrics III: Costs

- Potential metrics
  - Absolute or relative to GDP
  - Estimate for actual policies or least cost alternative

- Pros/Cons
  - Most closely reflects “effort” (+)
  - Not observed; requires modeling (-)
  - Actual policy costs could reward costly but ineffective policies (-)

Conclusions Regarding Metrics

- No single metric satisfies all three criteria
- Individual countries may prefer specific metrics that reflect their interests, resulting in lack of consensus among all parties to UNFCCC
- Recommend consideration of a suite of metrics
  - Analogous to use of a set of economic indicators for evaluating macroeconomic health

Illustration of Metrics, Ex Ante Review

		China 2030 emission peak	EU 1990 -40% by 2030	United States 2005 -26 to -28% by 2025
Emissions	versus 1990	<requires modeling>	<directly observed>	<directly observed>
	versus 2005	<requires modeling>	<directly observed>	<directly observed>
	versus 2025 BAU	<requires modeling>	<requires forecast>	<requires forecast>
	versus 2030 BAU	<requires modeling>	<requires forecast>	<requires forecast>
	Target year GHG/GDP	<requires modeling>	<requires forecast>	<requires forecast>
	Δ(GHG/GDP) 2015-2025	<requires modeling>	<requires forecast>	<requires forecast>
	Δ(GHG/GDP) 2015-2030	<requires modeling>	<requires forecast>	<requires forecast>
Price	CO_2	<requires modeling>	<requires modeling>	<requires modeling>
	Fossil energy	<requires modeling>	<requires modeling>	<requires modeling>
	Electricity	<requires modeling>	<requires modeling>	<requires modeling>
Cost	cost versus BAU	<requires modeling>	<requires modeling>	<requires modeling>
	cost/GDP	<requires modeling>	<requires modeling>	<requires modeling>

Illustration of Metrics, Ex Post Review

		China 2030 emission peak	EU 1990 -40% by 2030	United States 2005 -26 to -28% by 2025
Emissions	versus 1990	<directly observed>	<directly observed>	<directly observed>
	versus 2005	<directly observed>	<directly observed>	<directly observed>
	versus 2025 BAU	<requires modeling>	<requires modeling>	<requires modeling>
	versus 2030 BAU	<requires modeling>	<requires modeling>	<requires modeling>
	Target year GHG/GDP	<directly observed>	<directly observed>	<directly observed>
	Δ(GHG/GDP) 2015-2025	<directly observed>	<directly observed>	<directly observed>
	Δ(GHG/GDP) 2015-2030	<directly observed>	<directly observed>	<directly observed>
Price	CO_2	<requires modeling>	<requires modeling>	<requires modeling>
	Fossil energy	<directly observed>	<directly observed>	<directly observed>
	Electricity	<directly observed>	<directly observed>	<directly observed>
Cost	cost versus BAU	<requires modeling>	<requires modeling>	<requires modeling>
	cost/GDP	<requires modeling>	<requires modeling>	<requires modeling>

Planning for Ex Post Review

- Identify ex ante the data and analytic needs for ex post review
  - Implement data collection protocols
- Promote advanced transparency of ex post review process so that countries and stakeholders can assess interim progress
- Identify ways to implement policies that facilitate causal inference

Implications for Negotiations

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- Opportunities in voluntary information provision
  - Variation in INDCs could facilitate learning
  - Non-governmental experts can assess INDCs
- How do we transition to a rigorous, systematic approach to transparency?
  - Integration of ex ante/ex post analysis over time?
- Benchmarks for comparability?

Papers and Contact Information

Comparability of Effort in International Climate Policy, with W.A. Pizer, forthcoming, *Review of Environmental Economics and Policy*

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