

**Energy Modeling Forum
Workshop on Climate Change Impacts and Integrated Assessment**

Post Copenhagen: Integrated Assessment *Policy Analyses* in a Mosaic World

Introduction & Scene Set

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**Snowmass, CO
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Mosaic World

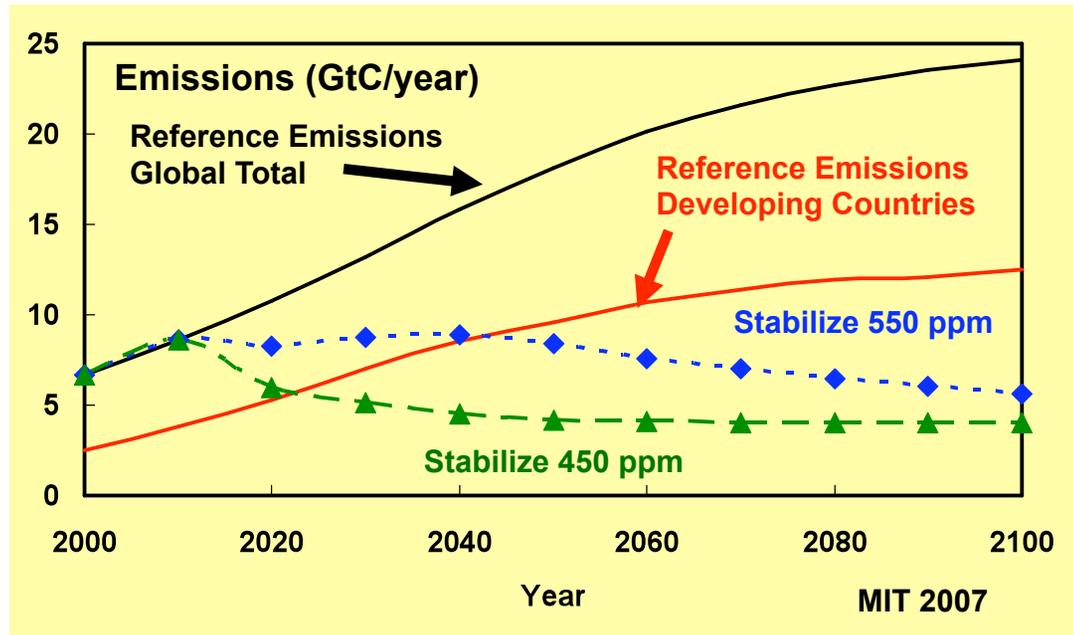
- **A world in which nations and regions establish climate objectives and policies based on national circumstances and priorities**
- **Implementation depends on national policies and enforcement**
- **Economies and global GHG progress remain linked through, e.g.**
 - Formal bi- and multi-lateral linkages (in some cases)
 - Trade and investment
 - International offsets
 - Research and development
 - ...
- **As contrasted with, e.g.**
 - Cap & Trade World: Progressive evolution to a global system in which
 - + Nations with targets take on stronger targets
 - + Nations without targets graduate to take them on
 - + Linked cap-and-trade systems with offsets lead to a common carbon price
 - A Favela world of partially planned and unplanned policies

- Considers the real world of national policies
- Moves from idealized 1st best world

Objectives for the Session

- **Review what we know about the shape of the evolving climate policy world: national and international**
- **Does the IA community have adequate capability to identify and assess key features of the evolving climate policy world ?**
- **Are there new analytic tools, data and results that we need to incorporate to remain relevant ?**
- **Is there a need to develop new information, e.g.**
 - **Case studies**
 - **Data**
 - **Historical and/or going forward**

Challenge of GHG Stabilization



- **Stabilization at (450, 550) ppm requires massive effort and global participation... soon**
- **Wealth transfers to halve emissions by 2050 (G8 goal) MIT 2008: from A1 to Non-A1 nations (400 B\$/yr by 2020; 3,000 B\$/yr by 2050)**

Raises enormous challenges regarding institutions and trust

Copenhagen Climate Accord

Negotiated by ~25 Heads of State (key players USA, China, India, Brazil, South Africa)

- **Shared long-term vision**
 - Action to prevent dangerous climate change, recognizes “science” of 2 °C
 - Global and national emissions should peak ASAP
- **Emissions mitigation**
 - Economy-wide emissions targets for 2020 for Annex 1 Nations
 - Actions to mitigate emissions by non-Annex 1 Nations
- **Financial aid: 30B\$ aid (2010-2012); goal to mobilize 100B\$/yr by 2020**
- **Mechanisms, offsets**
 - Establishes a Technology Mechanism
 - Establishes a REDD Mechanism
- **Use various approaches, including markets, for cost-effectiveness**
- **Assess progress by 2015**

Accord is silent on effort to develop a legally binding agreement
Terms of 2 ½ page Accord are extremely vague, subject to interpretation

Back to Bali: Divisive Issues and Positions

All parties recognize the need to develop a *legal agreement*. They continue negotiation under the Bali TOR (unchanged). Process in Copenhagen severely damaged trust.

- **Kyoto: to be or not to be**
- **National submissions: ambition, comparability, clarity**
- **Gap between stated mitigation aspirations and national pledges**
- **Nature of NAMAS**
- **Financial aid: size, source, uses and governance**
 - Relative roles of direct financial aid and carbon markets
 - Growing distrust of carbon markets/ markets in general
- **Matching available Financial Aid to NAMAs and other actions**
- **Offsets, potential new mechanism: scope and procedures**
- **Measurement, Reporting and Verification, especially NAMAs**
- **Timing and nature of a legal (perhaps legally binding) deal, direction and pace of negotiation (Cancun expectations)**
- **Degree to which Copenhagen Climate Accord informs outcomes**

Ongoing and Emerging Business Issues

- **Differentiated national obligations and policies**
- **Border adjustments & trade**
- **Offsets**
- **Competitiveness implications of major wealth transfers**
- **National treatment of domestic and foreign companies, and of state-run vs private companies**
- **Calls by some developing countries to relax IPR**
- **New measurement, reporting and verification procedures**
- **Environmental effectiveness**

Different constituencies may share these or highlight other issues
Business issues are important both politically and for effective implementation

Climate Policy in a Mosaic World

- **International framework:**
 - A combination of economy-wide and sectoral emissions obligations
 - Sets of very different policy frameworks in developing nations (NAMAs, NAPAs)
 - Directed international financial flows: mitigation and adaptation
 - New mechanisms for offsets
 - Evolving understanding and capacity in adaptation
- **National Policies—a wide variety:**
 - Taxes, mandates, standards
 - Cap & Trade (partial or economy-wide), multiple offset regimes (domestic, international)
 - Revenue and allowance allocation
 - Emergence of adaptation programs
 - Constraints from other areas: energy, transport, ag, land use, water
- **International links**
 - Partial, filtered linkages of domestic cap and trade regimes
 - Offsets possibly in multiple limited forms
 - Investment and Trade—possibly with border adjustments

2nd best is not just timing of accession !

Challenges to Integrated Assessment

How to:

- **Represent major national policy choices**
 - Features (legislation and regulation)
 - And major national policy challenges
- **Define future “reference case (s)”**
- **Incorporate the impact of imperfect policies:**
 - Border adjustments
 - Multiple, filtered offset regimes
 - Differing institutional behavior
- **Assess costs and benefits of policy, where key features may be in energy, security and land use policy, not “climate policy”**
- **Identify wealth transfers within and among nations**
- **Remain relevant to major policy communities**

Agenda

Morning: National Policies

- **A prospectus on national /regional policies**
Europe (Van Ierland) Japan (**Masui**) USA (Morris)
China (Kejun) India (Shukla)
- **Panel and Discussion: Capability/Implications for IA**
Tol, Sugiyama, Reilly, Kejun, Shukla

Afternoon: Cross-cutting International Issues

- **Offsets** (Kopp)
- **Linking national and regional markets** (Metcalf)
- **Investment and Technology Deployment** (Montgomery, Lane)
 - (Institutional and economic considerations)
- **Panel and discussion: Implications and needs for IA, future Snowmass focus areas**
 - (looking for volunteers)

Thank You

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Observation Relevant to Afternoon Topics

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Twin International Energy Challenges

- Meeting significant increase in energy demand and improving access to energy
- Responding to GHG risks

Context (IEA):

2B People without access to commercial energy
\$22T Investment (through 2030) energy supply and distribution
\$45T Investment (through 2050) to manage climate risks

Accelerated development and deployment of advanced technology will be essential to meet aspirations and manage risks at affordable costs

Deployment will occur globally in thousands of multi-billion dollar investment projects for currently non-commercial technologies

Criteria for Technology Evaluation

- **Safety, health and environmental impacts**
- **Performance**
- **Cost**
- **Consumer acceptance**
- **Enabling infrastructure and capacity**
- **Regulatory compliance**
- **Environmental and social impacts at large scale**

Especially critical for developing countries

Weakest link paradigm: failure in any dimension will prevent widespread commercialization

Enabling Frameworks for Business Contribution

To fulfill its potential most effectively, business requires a proper enabling framework that includes:

- Rule of law and good governance
- Honest, impartial judicial system
- Transparent, uniformly enforced regulations
- Stable regulatory and fiscal policy
- Protection of intellectual property
- Honoring of contracts
- Free, open markets
- Safe and stable communities
- Partnership and multilateral cooperation
- Vibrant society: education, communication, research ...



International Chamber of Commerce

The world business organization

Thank You