

# THE FUTURE OF CLIMATE POLICY

Michael Toman, Senior Fellow  
Resources for the Future,  
Washington DC  
RIETI Seminar, 19 March 2002

# Introduction

- Climate change is a risk requiring a variety of actions, including some GHG emissions mitigation
- Potential economic and social impacts of climate change:

# Impacts of Climate Change:

- Reduced productivity of natural resources (agricultural yields, timber harvests, water resources)
- Damage to human-built environments (coastal flooding, damages from increased storms and floods)
- Risks to life and limb (heat waves, storms, contaminated water, tropical diseases)
- Damage to natural landscapes, wilderness areas, habitats biodiversity

# Impacts of Climate Change

- Substantial uncertainty about magnitude of these effects
- Key factor is extent of adaptation to climate change
- Developing countries are more vulnerable than developed countries, though all countries face some degree of vulnerability
- Possibility of highly nonlinear impacts (climate catastrophe)

# Policy Setting

- 1992 United Nations Framework Convention on Climate Change (UNFCCC)
- Article 2: objective is to stabilize GHG concentrations within a time frame that would prevent “dangerous” human damage to the climate system
- Article 3: precautionary risk reduction should be guided by equity across time and wealth levels, as expressed in the concept of “common but differentiated responsibilities”

# Policy Setting

- Article 4: nations should cooperate to improve human adaptation and mitigation of climate change through financial support and low-emission technologies
- Articles 3 and 4: use of cost-effective response measures

# Policy Setting

- 1997 Kyoto Protocol:
- Industrialized “Annex B” countries (known in the 1992 convention document as “Annex I” countries) agreed to legally binding reductions in net GHG emissions averaging about 5% -- large relative to business as usual
- No numerical targets for the emissions of developing
- Several flexibility mechanisms – international emissions trading, multiple gases and sinks

# Bush Rejection of Kyoto

- Uncertainty about the severity of climate change risk
- Concern about the cost to the economy
- Desire for action by developing countries



# Other National Responses

- Europe: Bloc-wide emissions trading
- Japan: voluntary measures, efficiency standards, sequestration
- Developing countries: some embrace of Clean Development Mechanism (emission credit creation)

# Bush Climate Policy

- Reducing the GHG intensity of GDP by 18 percent relative to business as usual by 2012 (100MT less carbon by 2010, 500MT less over the decade)
- Voluntary "challenges" to certain sectors for improved performance
- Some tax breaks for the adoption of lower-carbon technologies

# Bush Climate Policy

- Expanded capacity for the private sector to create tradable "early emission reduction credits" that would recognize voluntary action, with some unspecified prospect of some tangible reward for such action later

# Bush Climate Policy

- The possibility of some revision in current vehicle fuel economy regulations
- An assertion that more serious action would be seriously considered if by 2012 the abovementioned goal was not being met

# Basic Economics of Optimal Climate Policy

- *1. There needs to be a balance of concern between the potential for irreversible negative consequences of climate change and the costs of misplaced mitigation investment.*
- *2. As part of a policy portfolio, a gradual but purposeful approach to the implementation of GHG control targets to take advantage of cost savings and opportunities for learning has many desirable features.*

# Optimal Climate Policy

- *3. Well-designed, cost-effective incentive-based GHG mitigation policies are essential.*
- *4. There are opportunities for devising and deploying improved technology, at relatively low cost, for GHG abatement -- but technology solutions are not a panacea.*
- *5. Climate policies should be coupled to broader economic reform opportunities and other environmental policies to maximize win–win opportunities.*

# Optimal Climate Policy

- *6. To address domestic political problems arising from the distributional impacts of GHG policy, efforts should be undertaken to compensate the greatest number of real losers with the least waste.*
- *7. A greater emphasis is needed on price-based approaches over strict quantity targets in the short to medium term to manage the risk of uncertain response costs.*

# Optimal Climate Policy

- 8. *Coherent international architecture is key to success – serious discussion is needed of common ground for common but differentiated participation of developed and developing countries based on shared burdens and mutual benefit.*



# Optimal Climate Policy

- 9. *Adaptation measures need to be substantially strengthened, especially in developing countries.*

# Economic Principles and Kyoto Protocol

- Broad versus narrow participation
- Gradual and long-term versus abrupt and near-term abatement
- Emissions control versus cost control
- Clear versus still-developing policy mechanisms, incentives

# Strengthening US Climate Policy

- Key policy problem is *not* modest initial emissions control target
- Major domestic policy weakness is lack of credible and effective mechanisms, reliance on tax preferences

# Strengthening US Climate Policy

- Alternative approach: commit *today* to a *modest but mandatory* emissions target and control program by 2006 absent significant progress in emissions control
- Implement controls cost-effectively through comprehensive emissions trading (upstream where possible)

# Strengthening US Climate Policy

- Limit cost risk with “safety valve” (government issues more permits on demand at fixed ceiling price)
- Use innovative strategies to allocate permits to maintain efficiency and political feasibility (Professor Goulder)
- Increase basic R&D spending

# Strengthening US Climate Policy

- Policy will require political courage to raise energy prices, but no other way is effective and credible and economic impact can be kept small through gradual approach
- Limit reliance on “early reduction credits” to avoid gaming (“anyway tons”)

# THE POST-2012 INTERNATIONAL CHALLENGE

- Bush approach does nothing to address the longer term: stricter emission targets, broader developing country participation
- Removal from Kyoto process makes it hard for the US to re-engage, exercise leadership

# Further Annex B targets

- Policy split between US and Europe will lessen as Europe struggles to implement its own binding policies, meet its target(s)
- Need international agreement on a gradual acceleration of emission control targets
- Can't determine independent of developing country participation



# Developing Country Participation

- Ignoring principle of common but differentiated responsibilities is counterproductive
- Any credible “graduation plan” must respect developing country self-interests
- Must also avoid unrealistic income transfers from current Annex B countries

# Developing Country Participation

- Initial steps: expand Clean Development projects, even if baselines and credit accounting are imperfect – provides knowledge and technology transfer, serves host country interests
- Explore other cost-effective ways for enhancing technology transfer

# Developing Country Participation

- Longer term: simple “equity rules (grandfathering, equal per capita entitlement) are useless – provide too little to one group or another
- Need to explore more complex graduation criteria for developing countries: “growth baselines” for short term emissions, curbs to emissions intensity as total emissions grow, eventual caps

# Concluding Thoughts

- Possible that technical breakthroughs in new energy or carbon sequestration will neutralize the entire issue, but cannot bank solely on such outcomes
- Plenty of “sound science” available to guide environmentally and economically sound policy in US and internationally

# Concluding Thoughts

- US needs to take a more positive stance and regain leadership, even if it chooses to stay outside Kyoto framework
- Other countries need to take seriously the need for a gradual but effective path of carbon control, and the use of potent and cost-effective control instruments

