The CMI Policy Group

David Bradford
Michael Oppenheimer
Klaus Keller

January 20, 2004
Core Goals and Milestones for 2003
CMI policy and integration group

– Approaches to defining the goal of Article 2 of the UN Framework Convention on Climate Change.

– Evaluating economic instruments for an international climate control regime. Build modeling capacity and perform analyses.

– Quantifying the tradeoffs between early action and delay: The issue of regrets.
Figure 1

Erstwhile Section of Larsen Ice Shelf
Capacity building and analysis

- Deploy four integrated assessment models
  - DICE
  - RICE
  - MERGE
  - MiniCAM
  - Projected: Bottom-up model from IIASA

- Analysis of two scenarios:
  - Business as usual (BAU)
  - Stabilize CO$_2$ at 500 ppm (S500)
    - reduces the risk of a WAIS collapse.
Carbon taxes implied by a stabilization of atmospheric carbon dioxide concentrations at 500 ppm.

Why are these projections so different?

Note, the MERGE projections are biased close to the terminal conditions (2080 onwards).
What is the size of the stabilization wedge?

Notes:

- Carbon emissions exclude land use changes.
- The projections differ with the assumptions made about the future economic growth & energy technologies.
Primary energy demand by fuel (MERGE example)
Is the world waiting too long to start serious action to abate CO$_2$ emissions?

Economic models using best-guess estimates of the climate change costs and benefits suggest modest actions today.

The current policy is well below this optimal policy.

What are the economic costs of this apparent procrastination?

Nordhaus (Science, 2001)
The economic costs of procrastination are likely significant and depend strongly on the adopted climate limit.

**Notes:**
- Regrets are the NPV of the additional consumption losses due to the procrastination.
- Global GDP roughly 32 trillion US$ per year (World Bank, 2003)