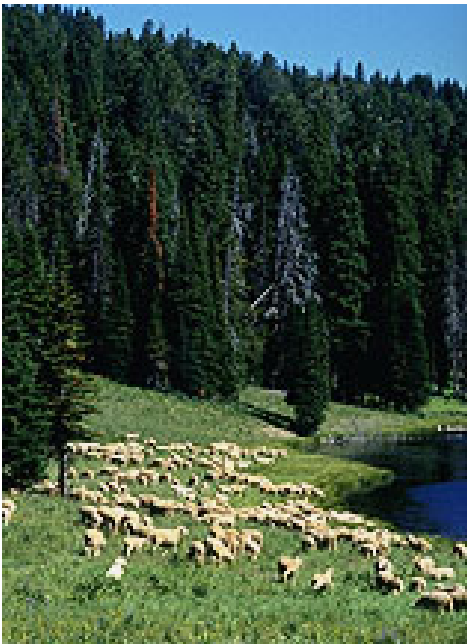




Landcare Research
Manaaki Whenua

State of Play in International Climate Change Modelling



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LCR Interest

- Little analysis/modelling of the impacts of proposed post-2012 climate scenarios on global trade flows
- Obtained internal capability funding to undertake such an exercise
- Take more common/promising post-2012 scenarios and assess their trade implications
- Partnership with Massey University and University of Waikato to use GTAP modelling

Scanning Overview

- Quick and dirty literature search
- Personal communication with organizations heavily involved in climate change issues, e.g., RFF, WRI, PEW, discussions with folks at COP (Bali)
- Not meant to be comprehensive or exhaustive



Broadly...

- Trade impacts of climate change policy
 - Competitiveness issues
 - Border tax adjustments
- Post 2012 climate change scenarios and ability to meet climate stabilization targets
- Economic impacts of national climate change policies



Main Players—Post 2012

- Harvard Project on International Agreements (FEEM to do economic analysis)
- Netherlands Environmental Assessment Agency/Ecofys/Others
- PEW Centre for Climate Change (JGCRI analysis)
- Brookings Institution/ANU/Syracuse)
- World Resources Institute (no analysis yet but now linked with Peterson Institute for International Economics)

FAIR World Model

- Netherlands Environmental Agency (MNP)
- Policy decision support model for analysing emissions allowances and abatement costs at the country level
- Examples
 - Triptych approach
 - whether various national climate goals will achieve EU and global climate targets (WorldSCAN, IMAGE, TIMER & FAIR)
- Doesn't deal with trade implications

G-Cubed Model

- McKibbin and Wilcoxon
- Econometric intertemporal general equilibrium model of world economy with regional disaggregation and sectoral detail
- Examples
 - Effects of border tax adjustments
 - Cost of alternative international policy scenarios
- Doesn't appear to be used to assess broader trade issues

O^bjECTS-MiniCAM Model

- Joint Global Change Research Institute, Battelle/UMD
- Partial equilibrium (energy-ag-economy)
- Purpose:
 - Project energy consumption & GHG emissions
 - Assesses CC policy & technologies for emissions mitigation
 - Includes ag landuse module & reduced form C cycle and climate module
- Assess impact of policy scenarios and ability to meet stabilization pathways
- Doesn't look at trade

SGM Model

- Joint Global Change Research Institute, Battelle/UMD
- CGE model
- Purpose:
 - Project energy consumption & GHG emissions
 - Assesses CC policy & technologies for emissions mitigation
 - Focuses on demographics, resources, ag, energy supply and transformation, energy intensive industries, household consumption, & govt expenditure

ICES Model

- FEEM model
- Recursive dynamic general equilibrium model used to assess economic and climate change impacts and policies.
- based on GTAP database
- Can address trade issues (??) but doesn't appear to have specifically looked at trade issues

Witch Model

- FEEM model
- World Induced Technical Change Hybrid model
- Designed to assess socio-economic dimension of climate change

Other Trade Models

- Will be discussed by others today
- New Zealand capacity
- GTAP – global general equilibrium trade model
- Vorsim/LTEM – partial equilibrium trade model of agricultural commodities

Questions

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