Mitigation Potential Workshop

Canada

December, 2008
Costs are good indicators of mitigation potential

• Three potentially useful indicators
  – Marginal cost of abatement
    • Indicator of costs for firms and individuals
  – Cost of emission reductions as percent of GDP
    • Indicator of economy-wide abatement costs
  – Percentage welfare loss
    • Indicator of economy-wide welfare costs
Canada’s National Round Table on the Environment and the Economy* has estimated that:

- reducing domestic emissions by 20% below 2005 levels by 2020 would require an economy-wide emission price of about C$75 (2003) per tonne CO$_{2e}$

- reducing domestic emissions by 65% below 2005 levels by 2050 would require an economy wide emission price that increases to over C$240 per tonne CO$_{2e}$

*Source: Getting to 2050: Canada’s Transition to a Low-emission Future (January 2008)
Five factors drive GHG emissions in all countries*

- **Population**
  - From 1990 to 2005, Canada’s population grew 16.7%

- **GDP per capita**
  - From 1990 to 2005, Canada’s GDP grew 50% and Canada’s GDP per capita grew 28.6%

- **Energy consumption per unit of GDP**
  - From 1990 to 2005, Canada’s energy consumption per unit of GDP decreased 14%

- **Ratio of fossil fuel consumed to total energy consumed**
  - From 1990 to 2005, Canada’s ratio of fossil fuels consumed to total energy consumed was about 74%

- **CO₂ emissions per unit of fossil fuel consumed**
  - From 1990 to 2005, Canada’s CO₂ emissions per unit of total fossil fuel consumed declined about 1.4%

Canada’s national circumstances: other factors*

• Export of fossil fuels
  – 10% of Canada’s emissions are associated with the production of oil and natural gas for export

• Structure of industrial sector
  – Canada has the highest industrial emissions per capita in the G7

• Climate
  – Canada has almost twice the number of Heating Degree Days as the average for other G7 countries

• Population distribution
  – Canada has the second highest population-weighted average distance between major cities of G7

• Availability of clean electricity
  – Canada generates 75% of its electricity from non-GHG emitting sources
  – Committed to increasing to 90% by 2020

• Common understanding and agreement on a relevant set of factors and indicators will be essential for comparing mitigation commitments
  – These need to capture the factors that are common to all countries as well specific national circumstances
  – Data should be comparable and transparent

• Further work on costs should be part of the 2009 work programme of the AWG-KP
  – This work should be coordinated with and inform the work on comparable effort under the AWG-LCA