



National Round Table
on the Environment
and the Economy

Table ronde nationale
sur l'environnement
et l'économie



Canada



The Canadian Policy Context

***LCS-R Net 1st Annual Researchers Meeting
Bologna, 2009***

**David McLaughlin
President and CEO
NRTEE**



Today's Presentation

- 1. NRTEE – background and policy agenda**
- 2. Canada's GHG profile**
- 3. Canadian climate policy**
- 4. Context Ahead for LCS**



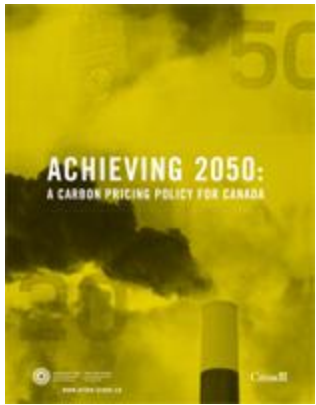
The NRTEE



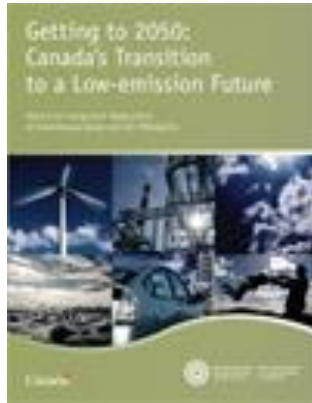
The National Round Table on the Environment and the Economy (NRTEE)

- Created in 1988
- Formalized by Parliament in 1993 statute; funded by federal government
- Arms-length agency with independent role and mandate
- Only national public policy body mandated to study environment and economy together
- Catalyst, convener and advisor for sustainable development solutions
- Members – Canadian leaders in business, labour, academe, and sustainability – appointed by government

Recent NRTEE Work



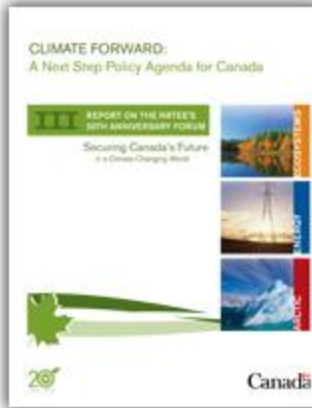
Achieving 2050: A Carbon Pricing Policy for Canada



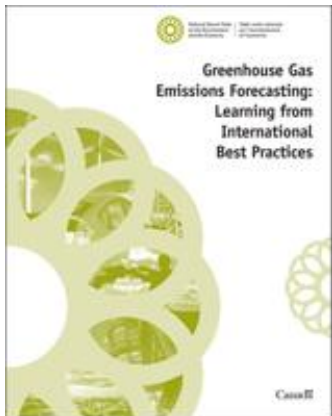
Getting to 2050: Canada's Transition to a Low-emission Future



Geared for Change: Energy Efficiency in Canada's Commercial Building Sector



GHG Emission Forecasting: Learning from International Best Practices



Climate Forward Agenda

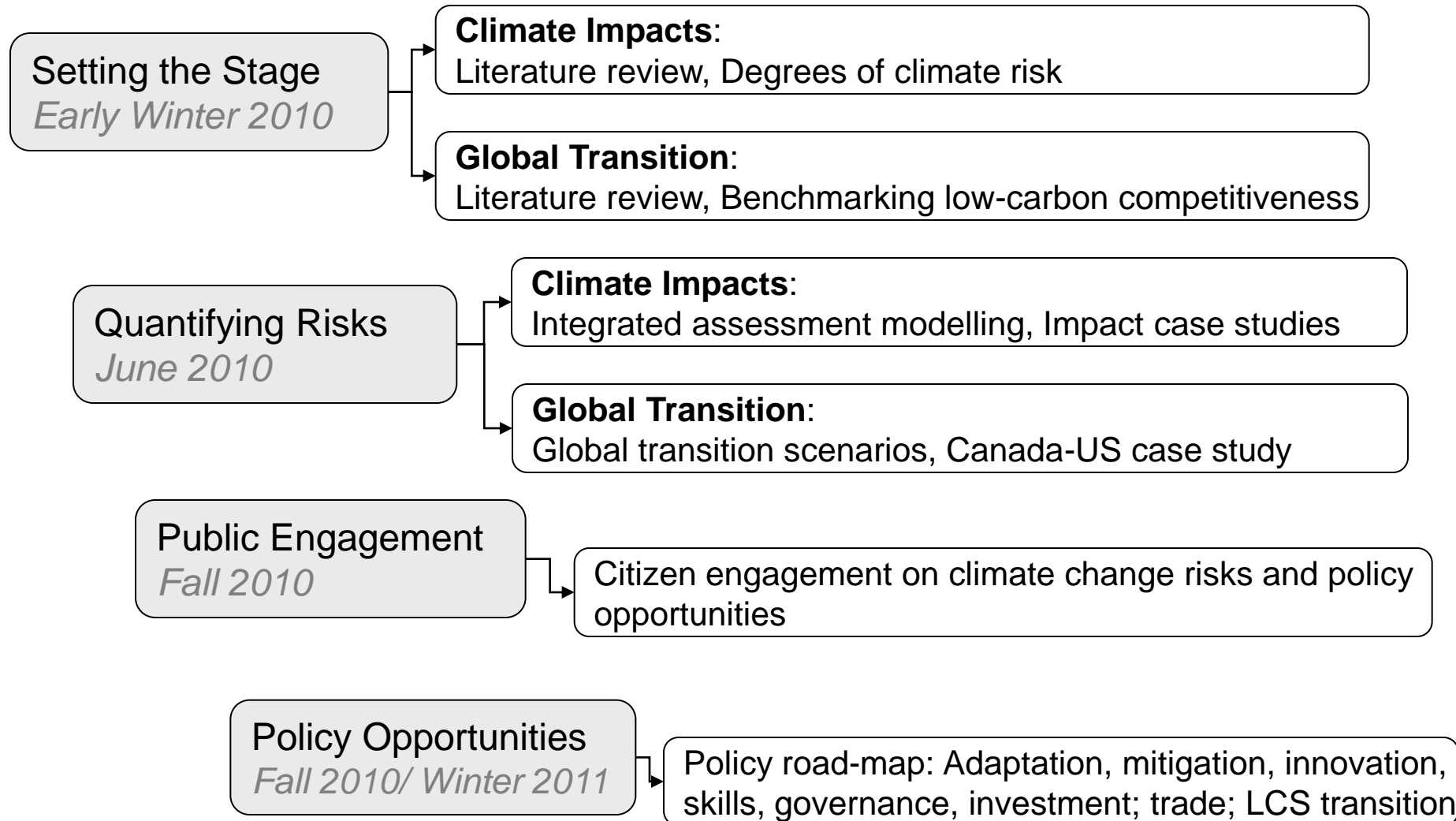


NRTEE Climate Policy Agenda

- 1. *Kyoto Protocol Implementation Act* – annual evaluation of federal government’s emission reduction measures**
- 2. Adaptation of Northern Infrastructure to Climate Change**
- 3. Economic Risks and Opportunities to Canada of Climate Change**
 - Physical impacts of climate change
 - Global low-carbon transition



Economic Risks and Opportunities of Climate Change





NRTEE Climate Impact Studies

Net national costs of climate change are insufficient to assess cost-effective policies for adaptation

- Sectoral focus is necessary complement

Significant evidence gaps in sectors, types of climate impacts, and types of costs covered

- Methods and assumptions differ across sectoral studies

Our approach includes:

- Net national costs of climate change (integrated assessment modelling)
- Sector-specific costs of climate change and role of adaptation in reducing costs (4 economic impact studies: forestry, coastal regions, human health, public infrastructure)
- Revised net national costs, informed by results of economic impact studies



Benchmarking Canada's Competitiveness in a Global Low-carbon Transition

Assess and track Canada's performance compared to other countries in terms of its:

- Domestic transition to a low-carbon economy
- Competitiveness in a global transition

Identify key success factors for long-term competitiveness

| | | |
|---|--------------------------------------|--|
| Outcomes | Canada moves to a low-carbon economy | Canada is competitive in a global transition |
| Outcome indicators | The Carbon Economy | Carbon Intensity of Trade |
| Innovation & investment indicators | Innovation & Investment | |
| Policy indicators | The Carbon Economy | Carbon Intensity of Trade |



Canada-U.S. Climate Policy Case-Study

**US policy decisions
that affect Canada**

+

**Canadian policy
responses**

=

**Impacts on
Canada**

**Implement US cap & trade
policy** (e.g., ACESA)

**Implement trade
measures**

(border adjustments, low
carbon fuel standard,
renewable energy standard,
subsidies)

Design of US policy

(coverage, stringency,
allocations, offsets, cost
containment, timing)

**Implement policy of
“comparable” stringency**

Design of Canadian policy

(coverage, stringency,
allocations, offsets, cost
containment, timing)

Link cap and trade systems

Sectoral implications
(growth or decline of
specific sectors /
regions)

GDP or Welfare
(growth / decline)

Investment
(relative increase /
decrease in different
sectors)

Trade
(changes in imports &
exports)

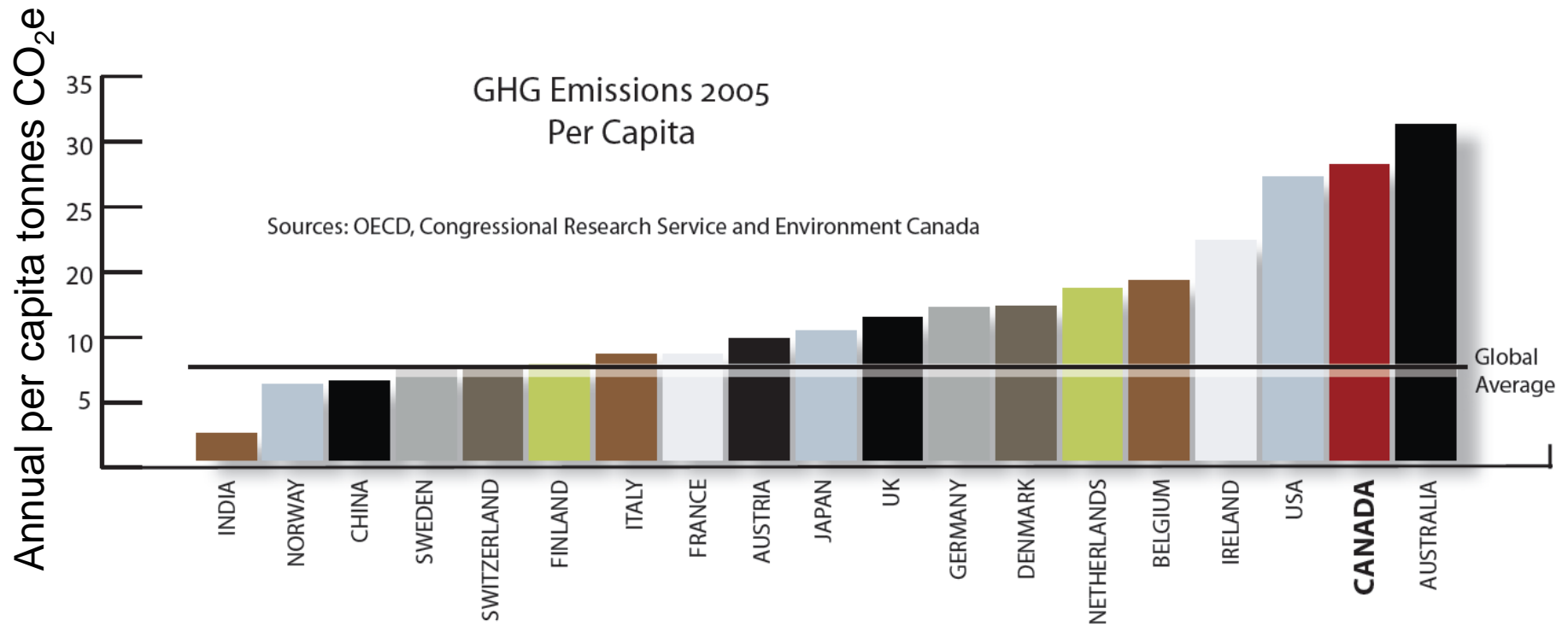
Environment
(Achieving targets)



Canada's GHG Profile



Background: Global Per Capita Emissions (2005)

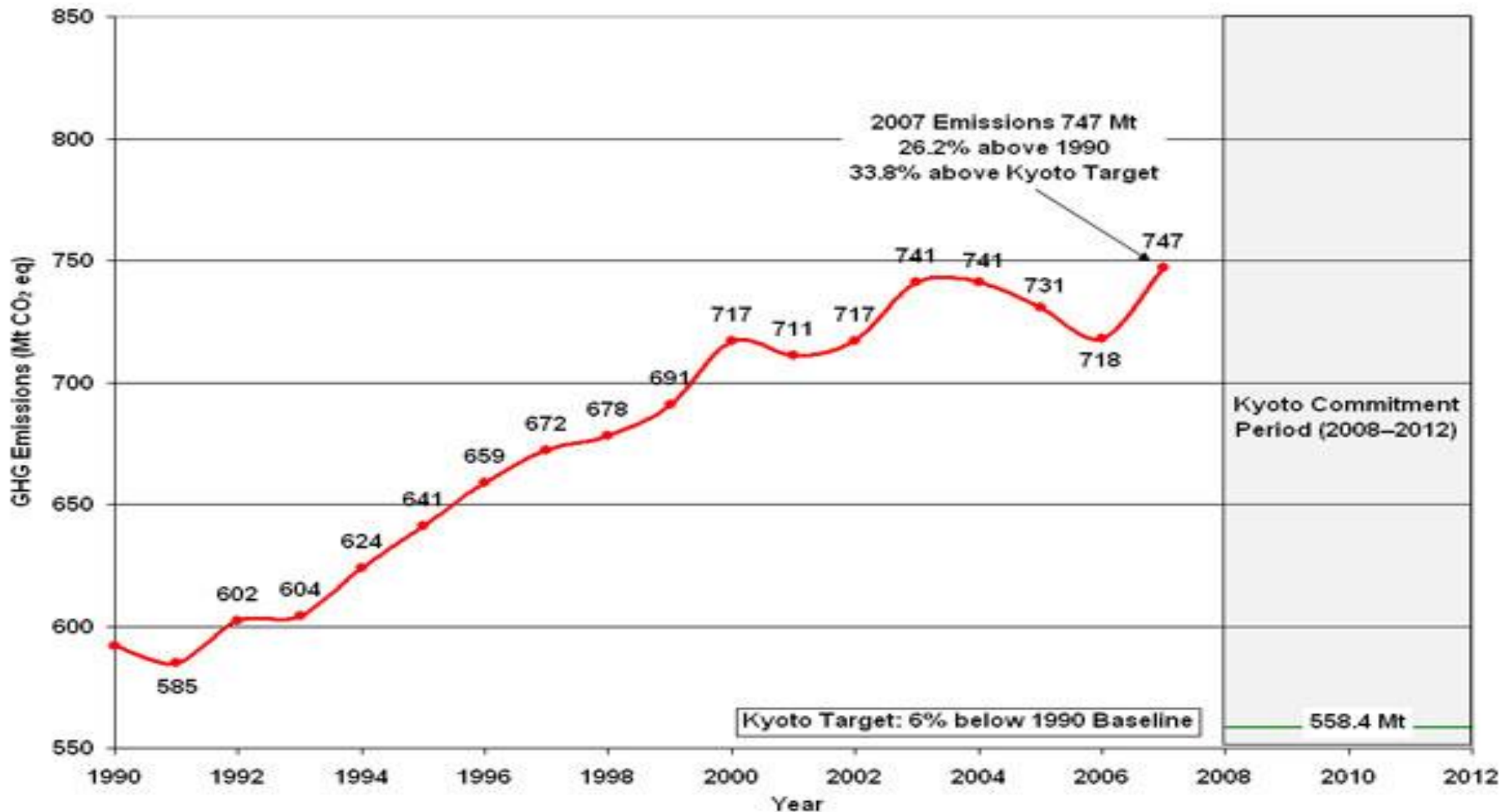


Sources: OECD, Congressional Research Service and Environment Canada



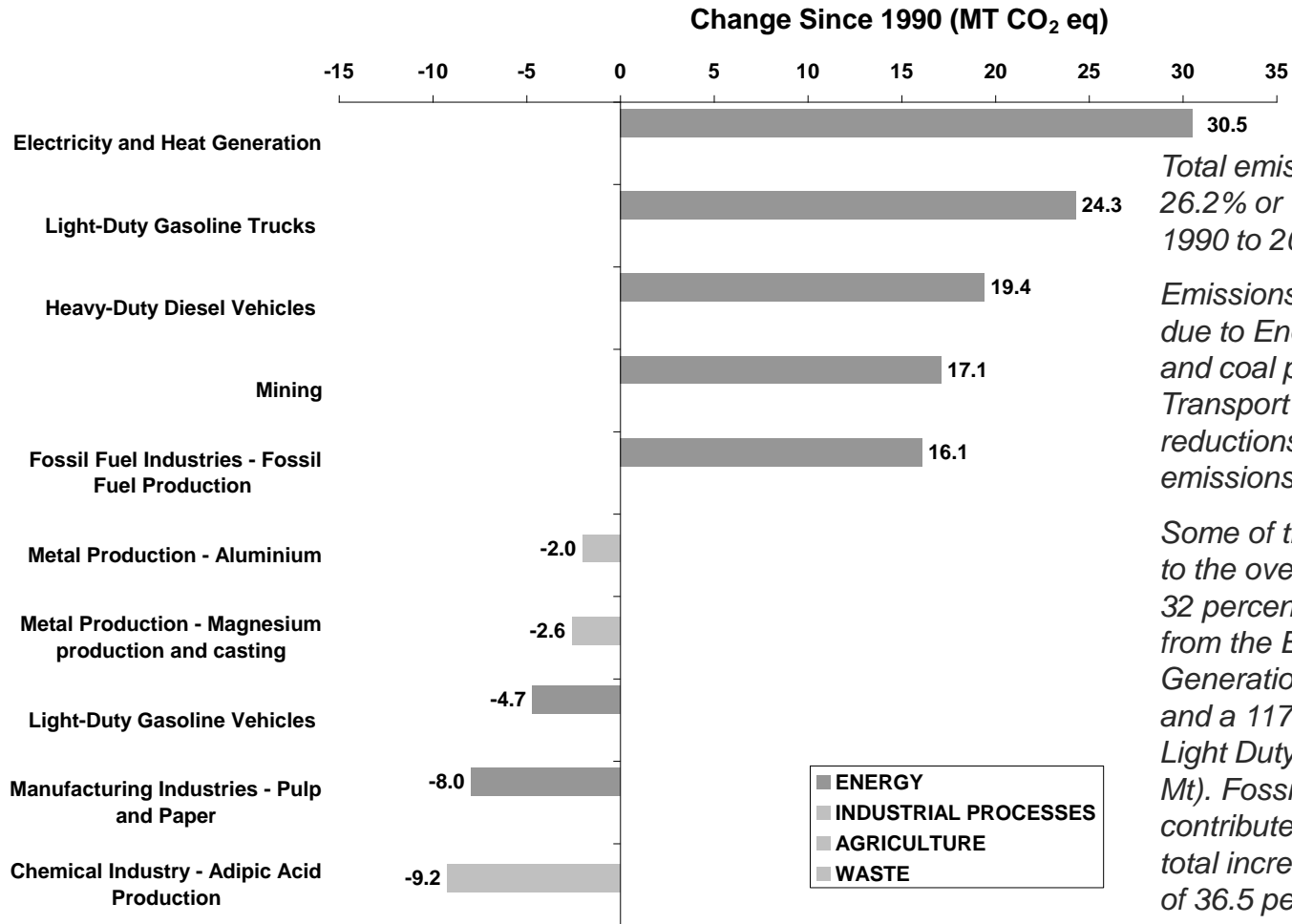
Canadian GHG Emissions 1990-2007

Canada's GHG Emissions 1990-2007





Long Term Trends: 1990-2007



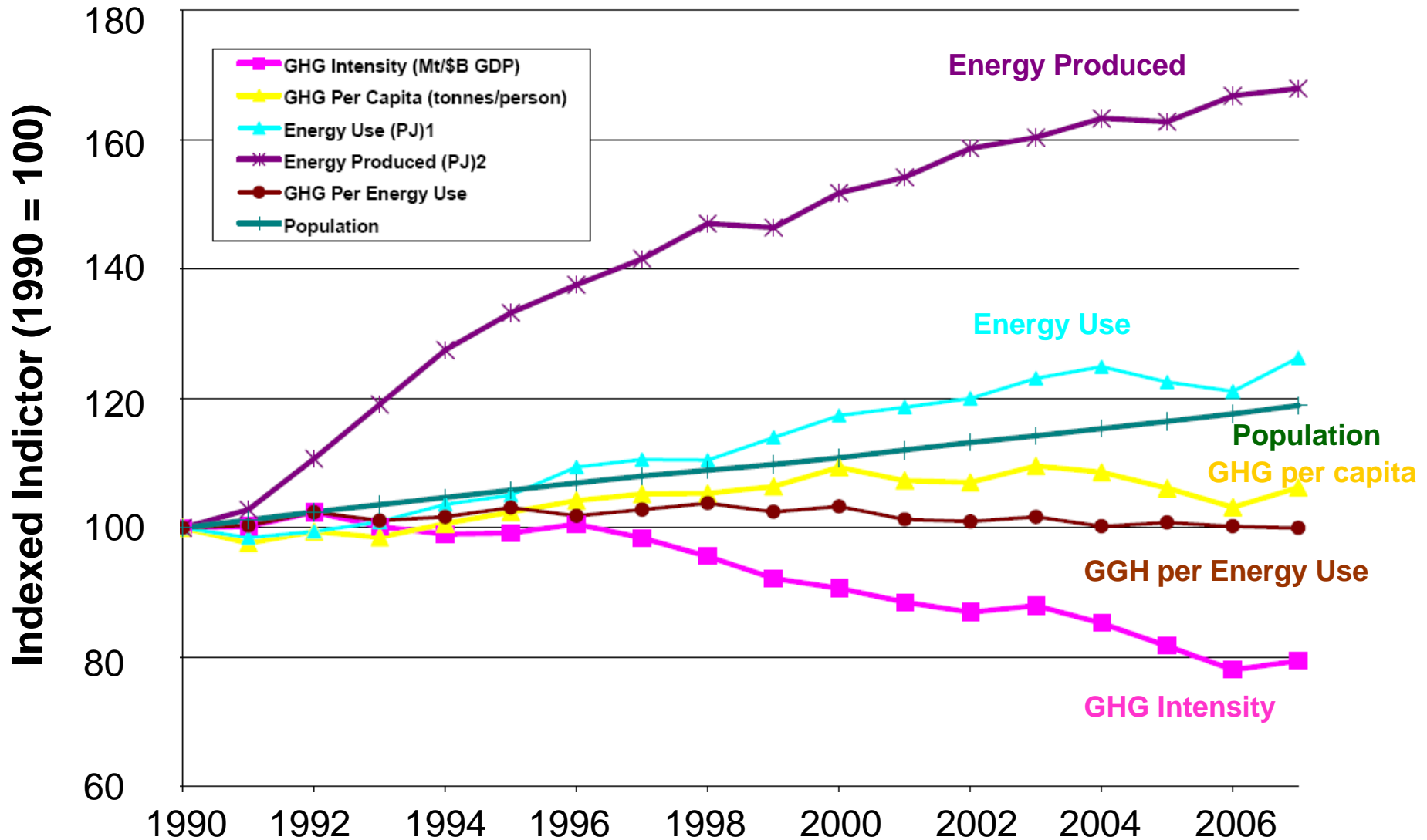
Total emissions increased by 26.2% or 155.2 Mt CO₂ e from 1990 to 2007.

Emissions growth was mainly due to Energy Industries (Oil, gas and coal plus Electricity) and Transport sectors, tempered by reductions in Industrial Process emissions.

Some of the greatest contributors to the overall increase were the 32 percent increase in emissions from the Electricity and Steam Generation sub-sector (30.5 Mt) and a 117 percent increase from Light Duty Gasoline Trucks (24.3 Mt). Fossil Fuel Industries also contributed significantly, with a total increase in GHG emissions of 36.5 percent.



Canadian Energy/GHG Profile



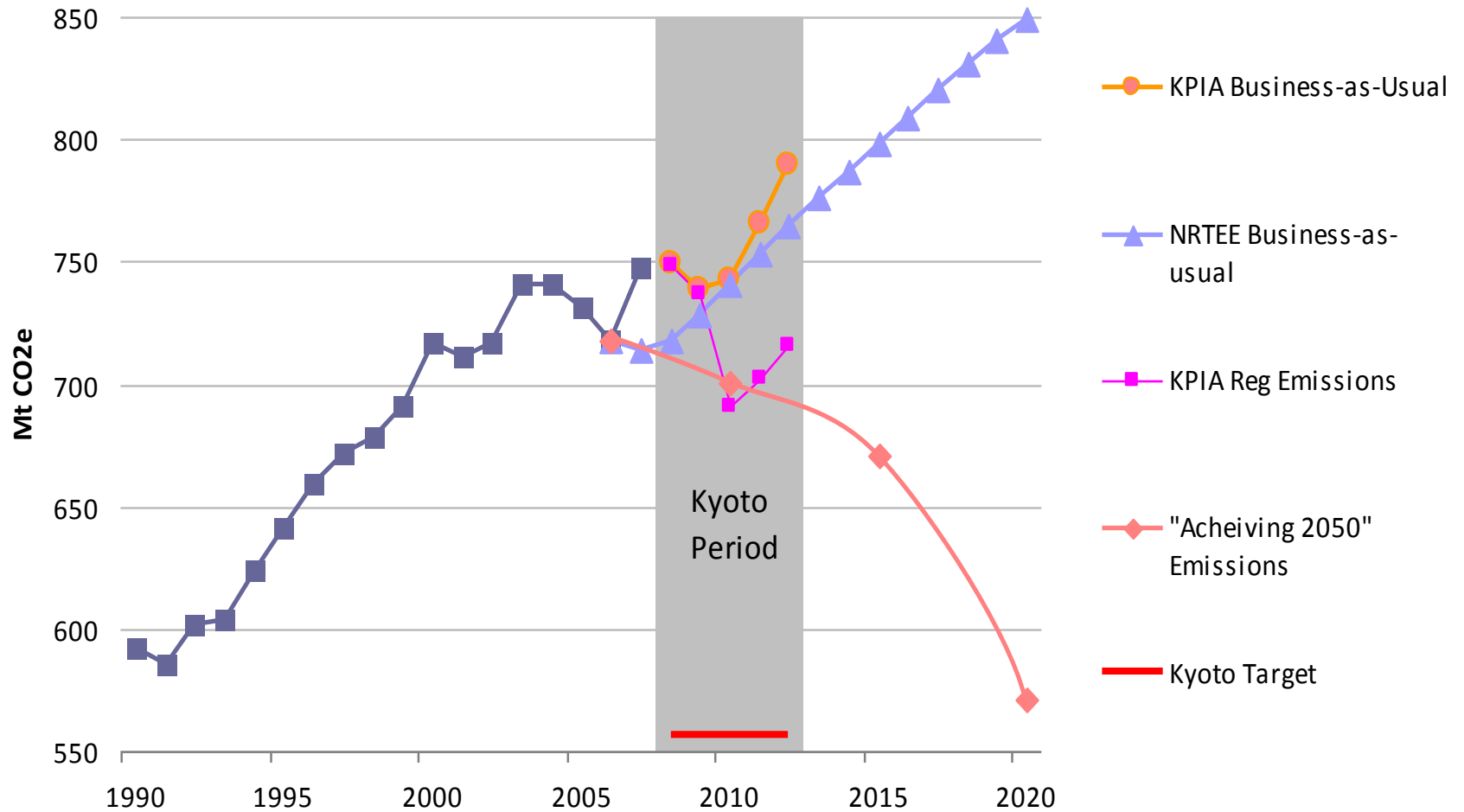


Compliance with Kyoto Protocol Targets

| <i>Year</i> | 2008 | 2009 | 2010 | 2011 | 2012 |
|--|-------------|-------------|-------------|-------------|-------------|
| Kyoto Target (2008-2012 avg) (Mt) | 558 | | | | |
| Actual Emissions Projections (Mt) | 749 | 739 | 743 | 766 | 770 |
| Average Kyoto Gap (Mt/yr) | 185 | | | | |
| Commitment Period Projected Excess Emissions (Mt) | 924 | | | | |

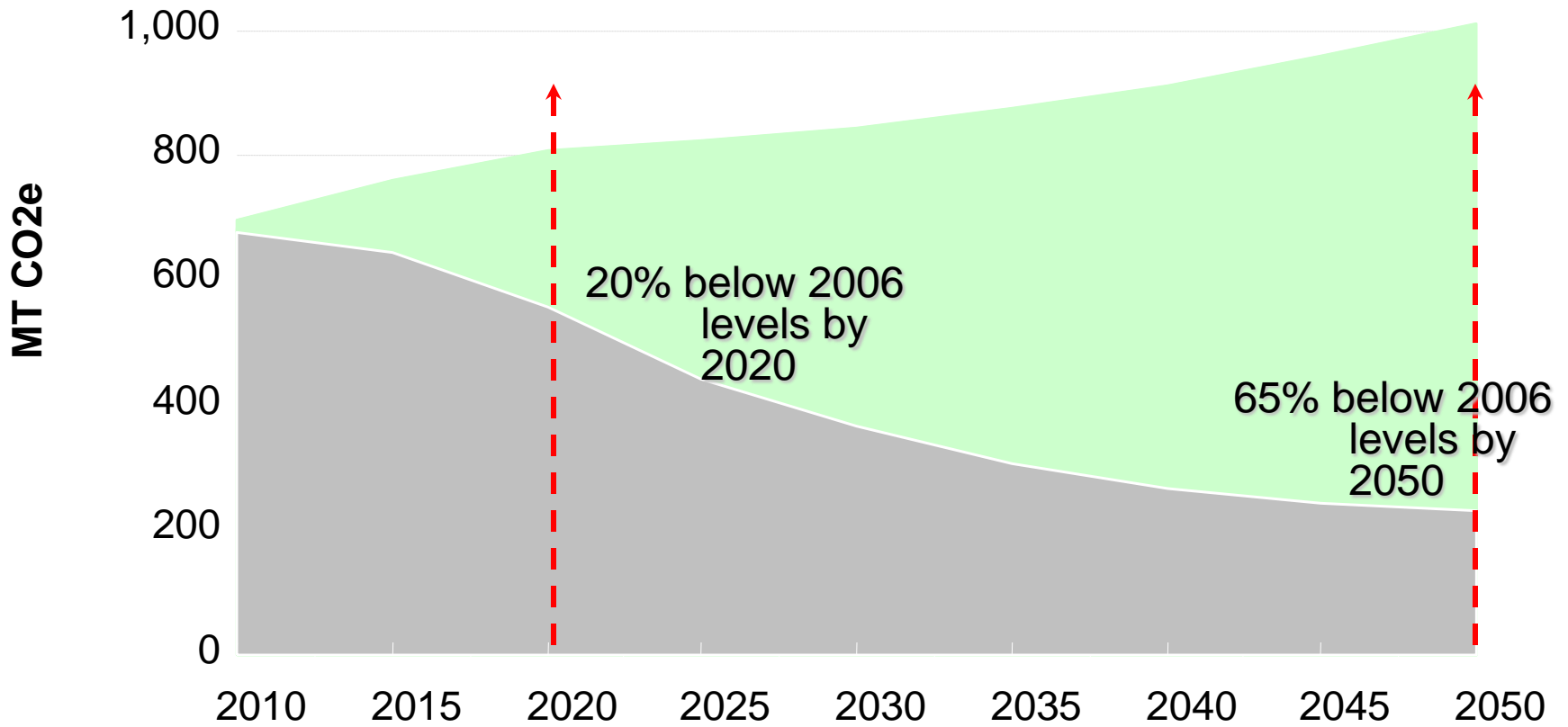


Compliance with Kyoto Protocol and Compatibility with 2020 Target





Canadian Emission Reduction Targets





Canadian Climate Policy



Canadian Climate Policy to Date

- **Aggregate of federal and provincial measures**
 - **Federal level – 2 dynamics:**
 1. Sign Kyoto, “hurry up and wait”
 2. Ignore Kyoto, not achievable, focus on post-2012 framework
 - **Provincial – 2 dynamics**
 1. Forge ahead in absence of federal policies
 2. Form common policy and political fronts to influence federal actions to do more or less
- ***Result: Fragmentation of efforts, but Harmonization appears more likely ahead.***

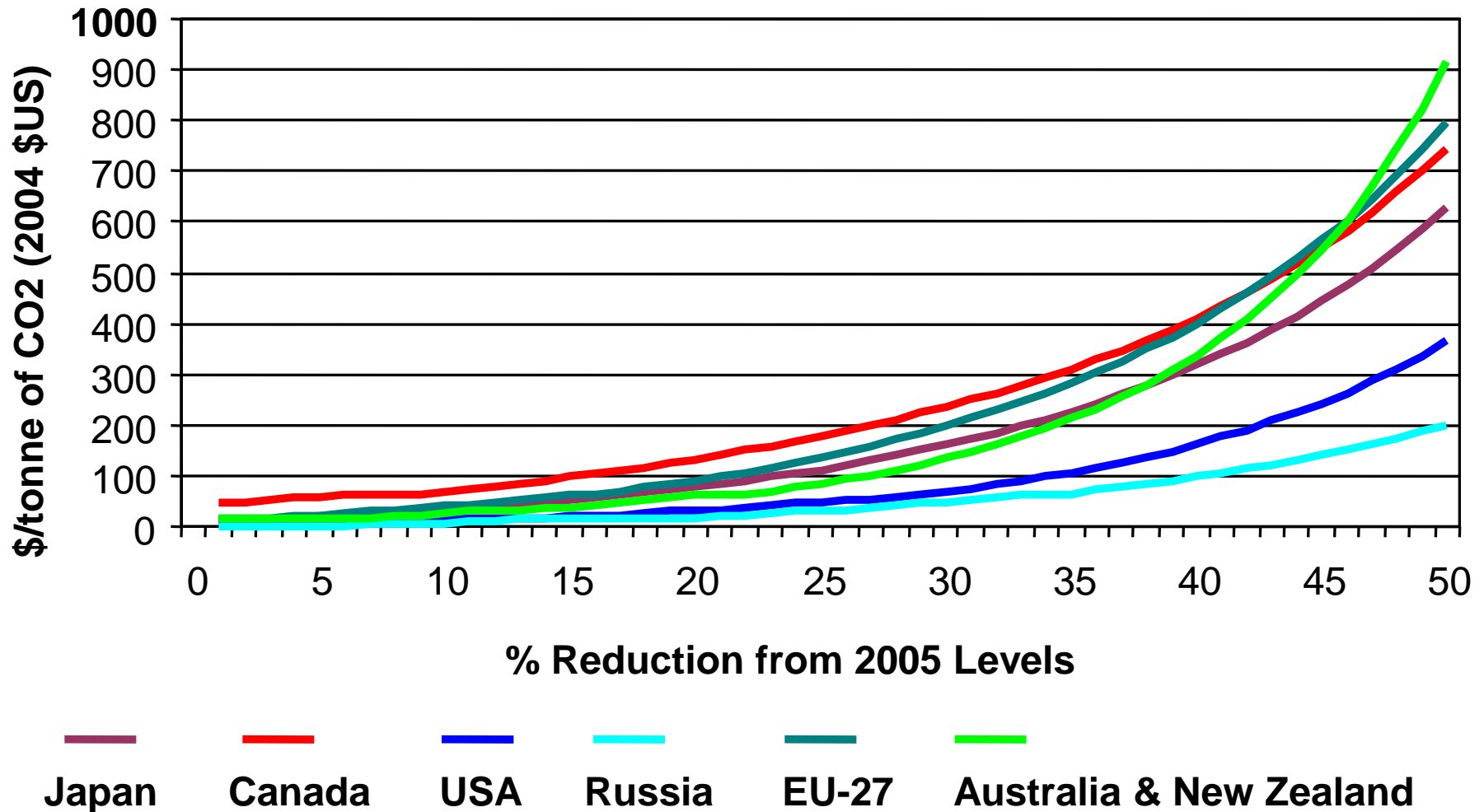


Domestic Factors Influencing Canadian Climate Policy Approaches

- Energy economy / political economy
 - *Large, growing energy exports to U.S.*
 - *Uneven regional emission profiles across country*
- Kyoto Protocol targets easier for some than others
- Public consensus not yet there
- Minority Parliament constraints
- Common provincial approaches (cap/trade *not* tax) & Individual provincial approaches (carbon tax; Green Energy Act)
- And now....it's the economy.



Differences Between Energy-economies: Marginal Abatement Cost Curves*



*Figure courtesy of Environment Canada.



Government of Canada's Key Climate Change Principles

1. Balance environmental protection and economic prosperity
2. Maintain a long-term focus
3. Develop and deploy clean technologies
4. Engage all emitting countries
5. Constructive engagement in international negotiations



Federal Climate Policy Elements

1. Regulatory approach
 2. Intensity targets leading to hard caps
 3. Implied cap-and-trade for LFEs
 4. Offset market
 5. Technology fund: \$15/ton, growing by GDP
 6. Vehicle emissions – match U.S.
 7. Sectoral approaches (coal-fired electricity plants)
- *Timing: 2009 - Policies*
 - 2010 - Regs*
 - 2011 – Implementation*
 - *But it depends on Copenhagen...*



Provincial Climate Actions

British Columbia

- Carbon tax
- Member of WCI

Alberta

- Intensity regulations with offset market
- CCS funding (\$2 B)

Manitoba

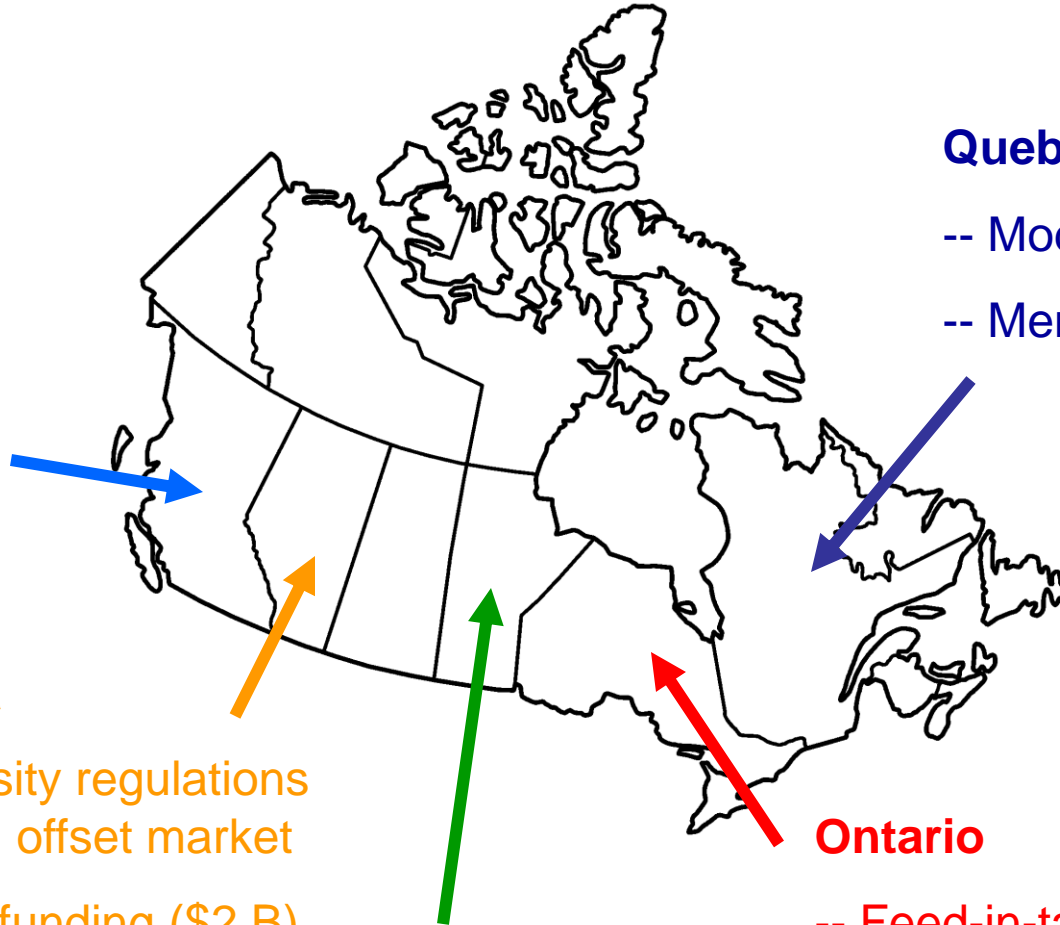
- Member of WCI

Quebec

- Modest gas tax
- Member of WCI

Ontario

- Feed-in-tariff for renewables
- Member of WCI





Where Are We At?

- **Transition to Copenhagen**
- **Federal government detailing more policies**
- **Provinces moving on carbon trading, green energy**
- **Watching U.S. developments – Waxman/Markey**
- **Following U.S. developments – vehicle emission standards**
- **Seeking to engage U.S. bilaterally – Clean Energy Dialogue**



Clean Energy Dialogue



Working Groups on: CCS, R&D, Electricity Grid



Context Ahead for LCS



Canadian Policy Pressures

- Crucial transition period: Canada/US;
Canada/Copenhagen
- Kyoto legally binding, if Copenhagen fails
- Canada becoming international ‘policy taker’
- 2020 domestic target increasingly ambitious – *and maybe out of reach*
- Economy-wide carbon pricing unlikely in short term
- Climate policy frameworks – pricing, technology, finance
federal/provincial – need to integrate
- Public not conditioned for transformational change



LCS Research in Canada

- **Little integrated research being conducted publicly**
- **LCS stream at Pacific Institute for Climate Solutions**
- **Focus has been on targets, costs, technology, sector regulations, and carbon pricing instruments – rather than broader LCS perspective**
- **Energy policy linkage pre-eminent**
- **Energy efficiency/district energy systems interest – QUEST initiative**
- **Economic modeling established tool**
- **Municipal/community initiatives present but varied**
- **Transition pathways, consumer behaviour, lifestyle options, etc has not been core research focus for governments**



www.nrtee-trnee.ca

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