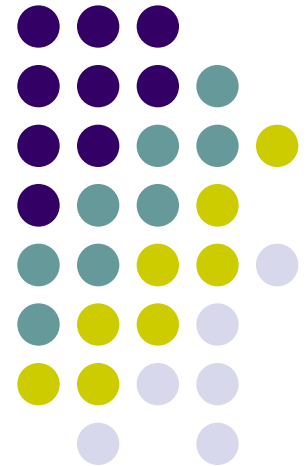


Climate Change and NAFTA

Opportunities for Cooperation

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Peterson Institute for International Economics
June 2009



Developing a Carbon Regime



- The US and Canada face a significant challenge in meeting 2020 targets, as well as the deep cuts sought by 2050.
- Mexico, unlike most developing countries, is also seeking substantial reductions in GHG emissions.

Emissions and Targets

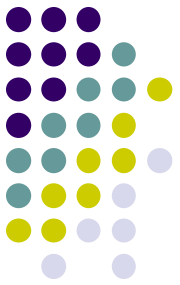
Emissions, MMT CO₂e



	1990	2005	2020*	Target: 2020	Target: 2050
US	5975	6964	5571	20% from 2005	83% from 2005
Canada	579	732	574	20% from 2006	70% from 2006
Mexico	460	630	-----	-----	50% from 2002
World	30,055	37,767	TBD	TBD	TBD

* Target emissions level.

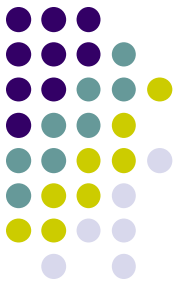
Totals exclude land use changes. Source: CAIT, WRI



Each country faces different political economy constraints.

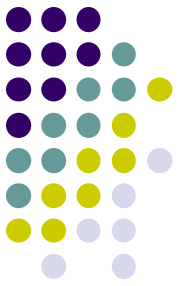
- US: Congress and President eager to take on climate change, but how far and how fast?
- Canada: Conflicting interests in climate change and oil sands development.
- Mexico: Aggressive goals compared to other developing countries, but capacity and financial constraints.

Shared Interests...



- Shared environment and long history of cooperative arrangements
 - International Boundary and Water Commission
 - NADB
- Large energy goods trade
 - Almost 30% of US oil comes from North America.
 - In 2007, about 70% of the crude oil produced in Canada was shipped to the US.
- Electricity trade
- NAFTA trade in environmental goods

Bilateral Energy Trade (\$Billion)



	1993	2000	2007
US-Canada	14.19	37.06	92.93
US-Mexico	1.69	5.60	9.73
Canada-Mexico	0.13	0.31	0.76

Includes SITC divisions 33, 34, and 35. Source: UN COMTRADE

Electricity Trade, Canada → US, 2007

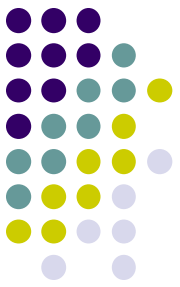


To	From	GWh	% Total	% Renewable*
VT	Quebec	2200	38	94
ME	New Brunswick	1776	11	17
ND/MN	Manitoba	9861	12	99
NY	Ontario	7497	5	22
NY	Quebec	6815	5	94
New England	Quebec	6897	5	94
WA	British Columbia	3402	3	95
OR	British Columbia	1440	3	95

Sources: EIA, StatCan, NEB

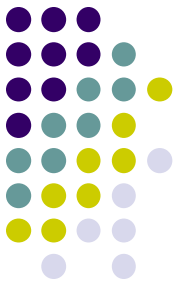
* Renewable energy includes wind and hydro.

Trade in Environmental Goods: 2006



		EXPORTING COUNTRIES		
		Canada	Mexico	US
IMPORTING COUNTRIES	Canada	---	\$0.2 billion	\$3.3 billion
	Mexico	N/A	---	\$2.1 billion
	US	\$2.7 billion	\$4.4 billion	---

Source: UNCTAD-TRAINS via WITS (2009). Based on World Bank (2007) list of environmental goods (at 6-digit HS level).



...But Different Challenges

- **Regional differences among countries**
 - US is a major consumer of petroleum; Canada and Mexico are major producers.
 - Sources of energy differ among countries.
 - The US is dependent on coal for about half of its electricity.
 - Canada obtains 58% of electricity from hydro, and 16% from coal.
 - Mexico obtains 87% of electricity from petroleum and natural gas.
 - Competitiveness concerns

Percentage of Total Electricity Generation, 2006



	US	Canada	Mexico
Coal	49	16	5
Hydro	7	58	4
Petroleum	2	1	55
Natural Gas	20	6	32
Nuclear	19	17	1
Other	3	2	2

Regional Differences Within Countries



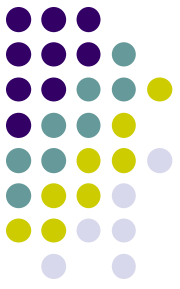
- Tensions between and among US states and Canadian provinces.
 - Different energy sources
 - Different industrial concentrations
 - Alberta: Development of carbon-intensive oil sands could contribute significantly to emissions growth.

Waxman-Markey as a Framework for US Policy



1. Cuts emissions
 1. 3% reduction for covered sources by 2012
 2. 17% reduction by 2020
 3. 42% reduction by 2030
 4. 83% reduction by 2050.
2. Alters the mix of energy sources
 - Renewable portfolio standard: 20% of electricity from eligible renewable sources or energy efficiency by 2020.

Waxman-Markey as a Framework for US Policy



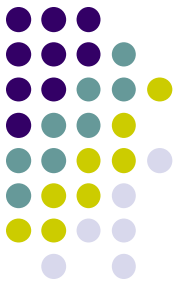
3. Most actions necessary for compliance with the bill will be subsidized by free allowances and auction revenues over the first decade or so.
 - Electricity consumers: 44% of allowances in 2012, 35% in 2016.
 - \$23 billion to \$31 billion value in 2012;
 - \$28 billion to \$37 billion value in 2020.
 - Trade-vulnerable industries: Maximum of 15%
 - State energy efficiency programs: 10% from 2012 to 2015.
 - REDD: 5%

Allowances Allocated and Auctioned Under Waxman-Markey: Percentages of Total Available Allowances



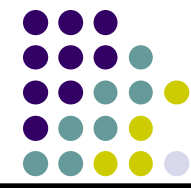
	2012	2016	2020
Electricity	43.8	35.0	35.0
Low-Income Consumers	15.0	15.0	15.0
Trade-Vulnerable Industries (Legal Maximum)	2.0	15.0	15.0
State Energy-Efficiency Measures	9.5	7.0	6.0
Budget Deficit Reduction**	13.9	0.0	0.0

Waxman-Markey as a Framework for US Policy



4. Waxman-Markey will reduce the budget deficit, although not by much.
 - Our estimate: Waxman Markey's budget deficit provision will reduce the budget deficit by \$17-23 billion from 2010 to 2019.
 - CBO: Cumulative budget impact will be a \$24 billion deficit reduction between 2010 and 2019.
 - Obama's original budget proposal: Cumulative \$650 billion in revenues (2012-2019) from 100% auctioning of allowances.

Value of Earmarked Allowances/Allowance Revenues, Billions of 2005 Dollars



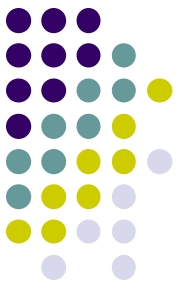
		2012	2015	2020	Est. Total, 2012 - 2020
Electricity	MIN	22.7	24.7	28.4	229
Consumers	MAX	31.0	32.3	36.8	302
Low-Income	MIN	7.8	9.5	12.2	92
Consumers	MAX	10.6	12.5	15.8	121
Trade-Vulnerable	MIN	1.0	9.5	12.2	78
Industries	MAX	1.4	12.5	15.8	103
State Energy	MIN	4.9	6.0	4.9	46
Efficiency Pgrms	MAX	6.7	7.9	6.3	61
Budget Deficit	MIN	7.2	1.2	0	17
Reduction	MAX	9.8	1.6	0	23

Implications of Waxman-Markey for North American Trade and Cooperation



- **Regional cap-and-trade systems preempted.** What happens to Canadian members?
- **Cross-border electricity trade:** How will Canadian hydro be treated under Waxman-Markey's renewable portfolio standard?
- **Competitiveness provisions:** What role for border adjustments?
- **International Offsets:** Could provide channel for US support of GHG mitigation in Mexico.

Conclusion: Opportunities for North American Cooperation



- US and Canada should negotiate how foreign electricity will be handled under RPS.
- Standardized definitions of renewable energy?
- Further cross-border integration of grids.
- Work together in WTO to promote coherence of trade and environment objectives.
 - WTO “peace clause,” climate change code.
 - Environmental goods and services negotiations.

Conclusion: Opportunities for North American Cooperation



- North American cooperation on monitoring, reporting, and verification for offsets.
- CEC as clearinghouse for climate change-related data.
- Chapter 11: potential litigation risk?
- Capacity building for Mexico.
 - Potential resources from selling carbon permits.
 - Increased size and scope of NADB.