



Canadian
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Canada's Electricity Industry

Presentation for the U.S.-Canada Clean Energy Dialogue
2010 Conference - Increasing Trade in Clean Electricity

Pierre Guimond, President & CEO

Canadian Electricity Association

May 19 - 2010





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CEA's Corporate Utility Members





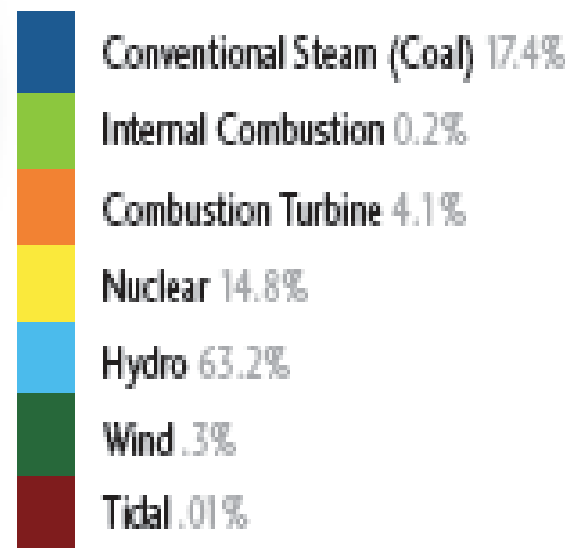
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Setting the Stage: Canada and US Electricity Mix

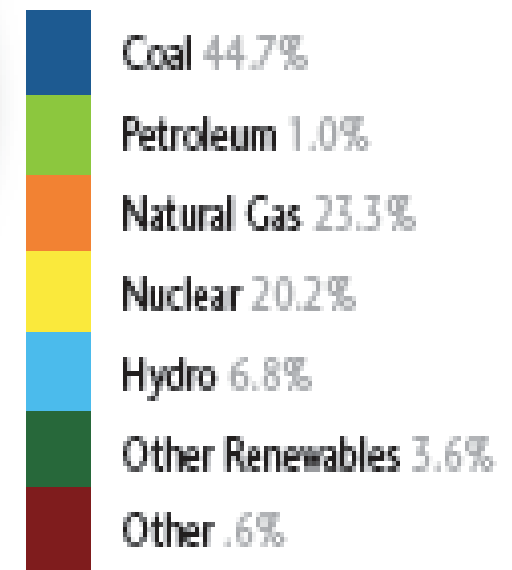
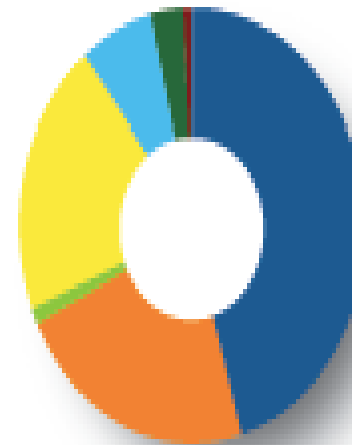
Canada Net Electricity Generation, 2009

Total = 575.2 TWh



U.S. Net Electricity Generation, 2009

Total = 3,951 TWh



*numbers may not sum up to 100% due to rounding. Source: Statistics Canada, *Survey 2151*, 2010





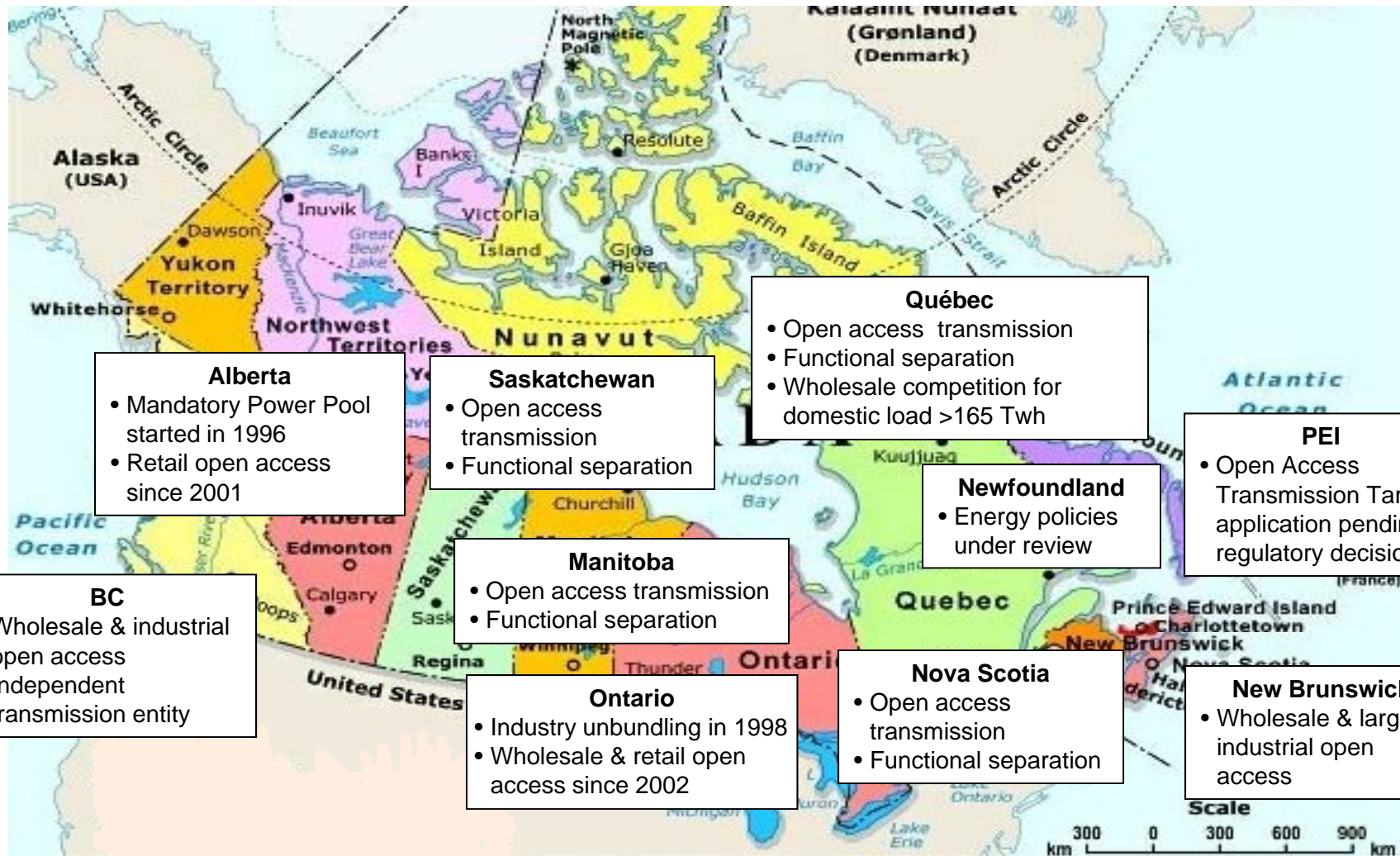
The Great Divide: Canada's Multi-Jurisdictional Environment

Jurisdictional Division of Responsibility	
Provincial/Territorial Governments	Federal Government
<ul style="list-style-type: none">resources management within provincial boundariesintra-provincial trade and commerceintra-provincial environmental impactsgeneration and transmission of electrical energyConservation and demand response policies	<ul style="list-style-type: none">resource management on frontier landsnuclear safetyinter-provincial and international tradetrans-boundary environmental impactsenvironmental impacts where federal lands, investment or powers applyOther policies of national interest



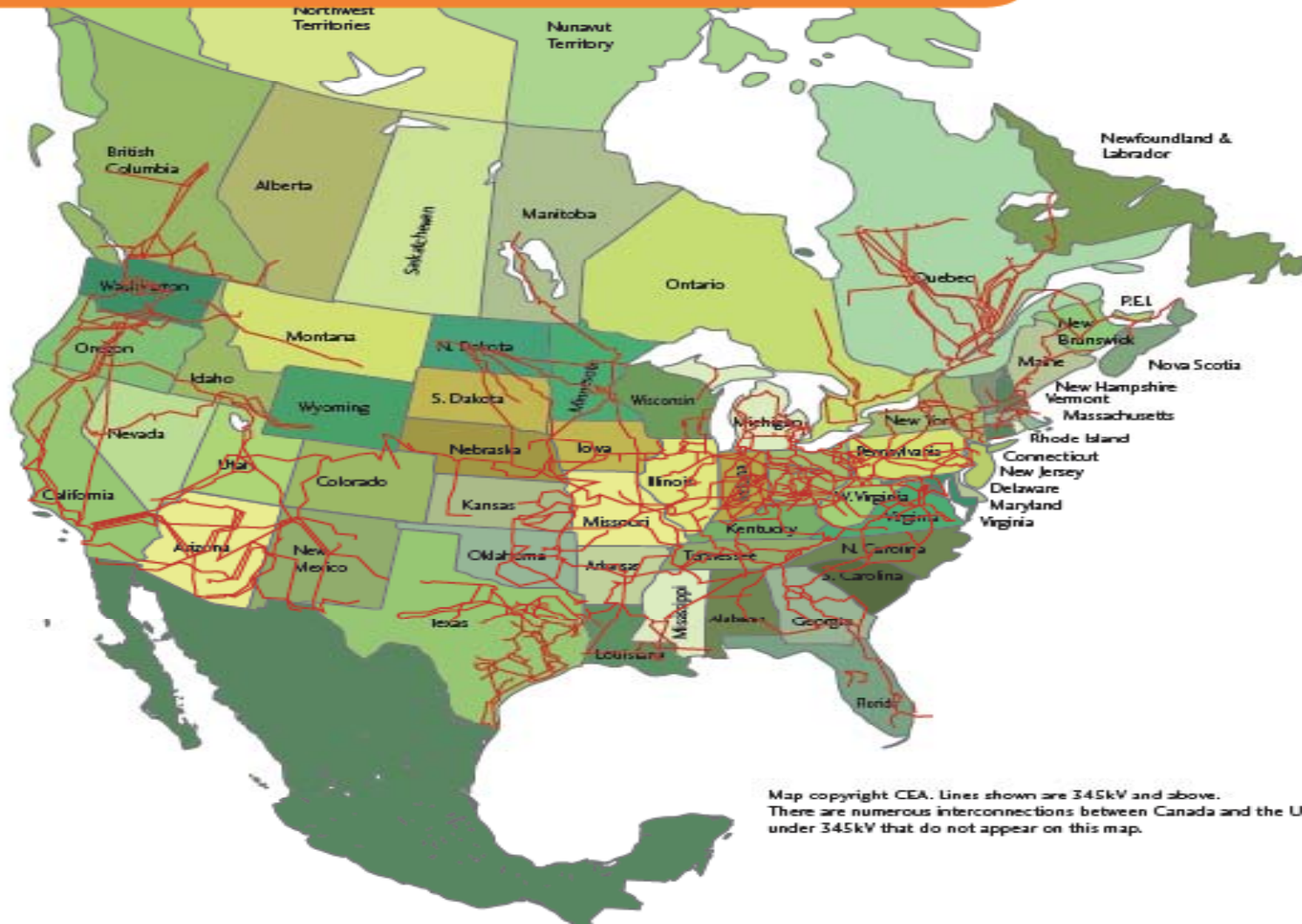


A Colourful Tapestry: Canada's Electricity Markets



Good Neighbors: North American Bulk Transmission Lines

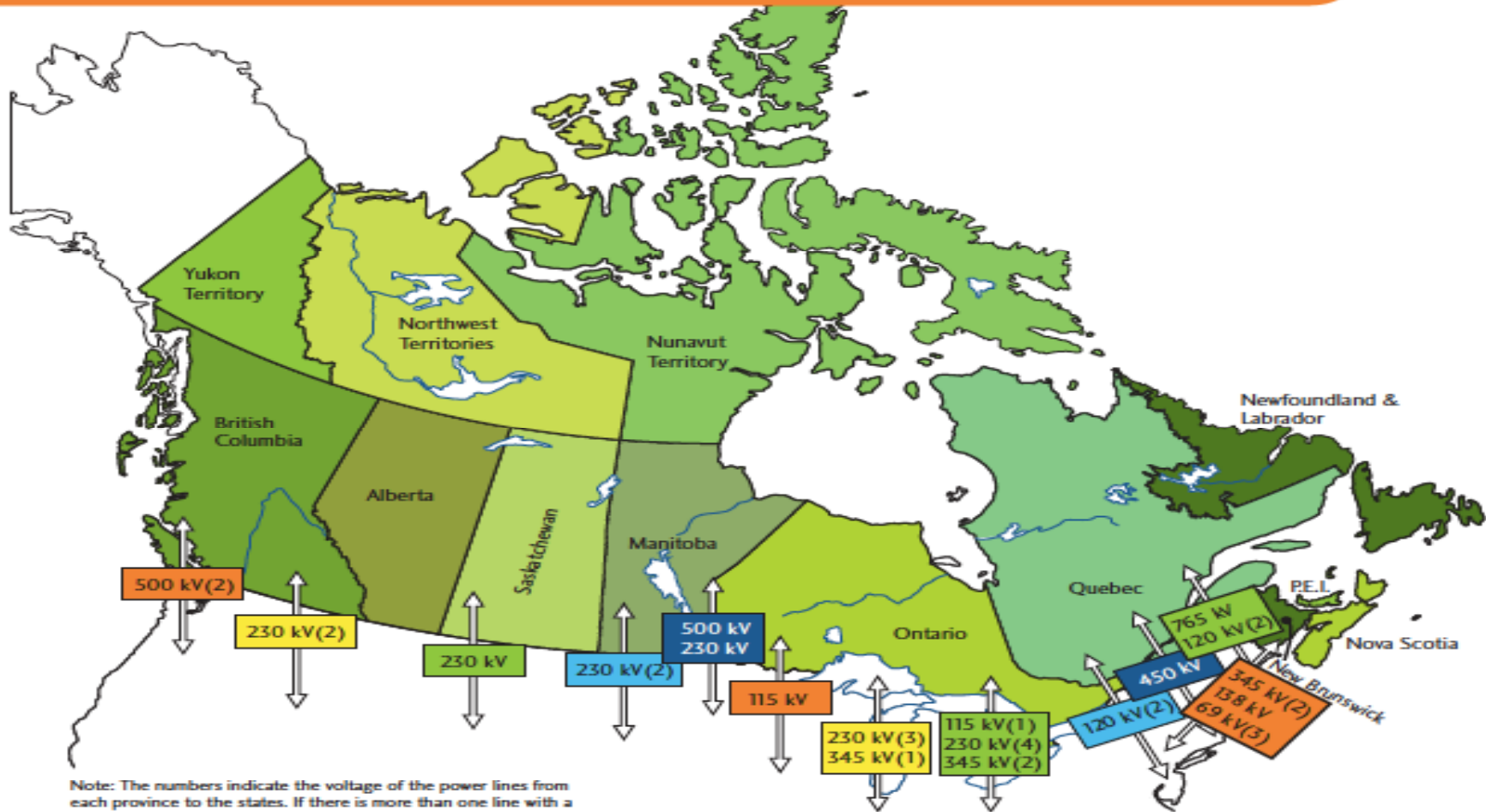
The Integrated North American Transmission Grid





Good Neighbours: Major Canada-U.S. Interconnections

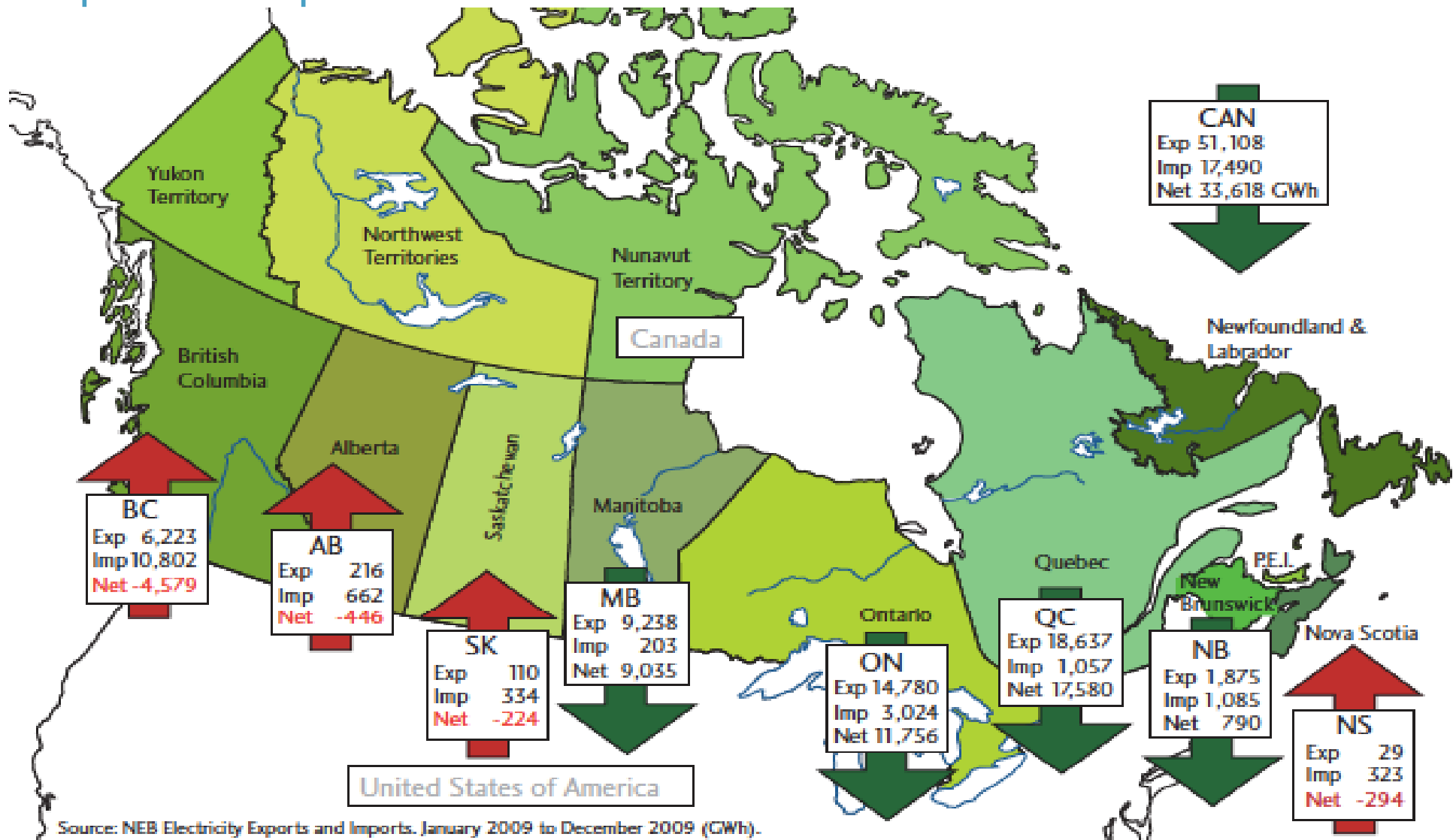
Major Transmission Interconnections Between Canada and the U.S.



Note: The numbers indicate the voltage of the power lines from each province to the states. If there is more than one line with a given voltage, the number of lines is indicated in parentheses.
Source: National Energy Board (NEB), CEA and Natural Resources Canada.

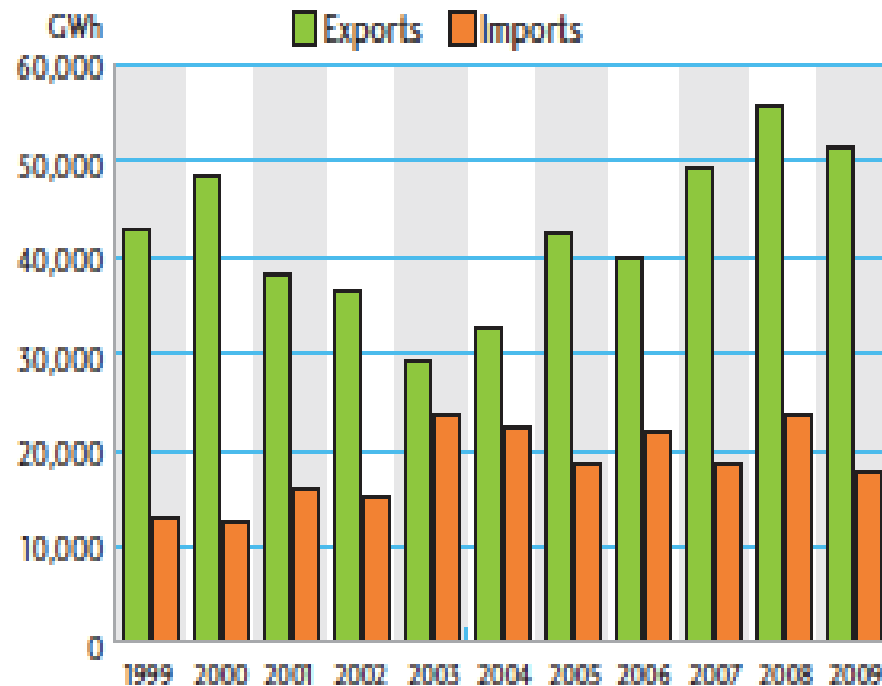


Exports & Imports Between Canada & US 2009





Electricity Exports from Canada & Imports from the US 1999-2009



Source:
NEB Electricity Exports and Imports. Monthly Statistics, 1999-2009.

Top 5 US importers of Canadian electricity

1. New York
2. New England
3. Minnesota / North Dakota
4. Michigan
5. Washington

Top 5 US Exporters of Electricity to Canada

1. Washington
2. New York
3. Michigan
4. Minnesota/North Dakota
5. Maine





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The National Landscape: Canada's Electricity Priorities

- Grow electricity supply, with emphasis on sustainability, while lowering greenhouse gas emissions
- Electrification of other sectors of the economy (transportation)
- Development and deployment of a “Smart” North American electricity grid





Federal Regulation of Greenhouse Gas Emissions in Canada

- Federal commitment to reduce national greenhouse gas emissions by 17 percent below 2005 levels by 2020, and by 60 to 70 percent by 2050.
- The Prime Minister has a goal of achieving 90% non-emitting electricity generation by 2020.
- Federal government intent was to arrive in Copenhagen (December 2009) with domestic policies in place for all sectors.
- Prime Minister Harper and Environment Minister Prentice have since indicated they will wait for further clarity on US GHG policies to ensure alignment.





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CEA Priorities for Federal Policy: Lowering Canada's Greenhouse Gas Emissions

- Align emissions reductions targets with capital stock turnover
- Avoid stranding existing assets
- Comparable effort
 - Technologically
 - Regionally
 - Internationally





Building the Next Generation of Electricity Infrastructure: Projected Capital Investment in Canada

Total Electric Sector Investment Projected by 2030 = \$CAN 237 Billion

		(Billions of 2007 CDN dollars)			
	Capacity Additions	Generation	Transmission	Distribution	Total
2007 – 2015	23 GW	\$40	\$15	\$33	\$88
2016 – 2030	51 GW	\$94	\$18	\$38	\$149
Total to 2030	74 GW	\$134	\$33	\$71	\$237

Source: International Energy Agency, *World Energy Outlook 2008*
2007 US-CAN exchange rate: *Bank of Canada*





Sustainably Meeting Our Future Electricity Needs: A North American Priority

- Canada and the U.S. have common electricity policy priorities
- System-wide comprehensive planning approaches are required
- There is a role for...
 - Conventional generation
 - Renewable/distributed/variable generation
 - Transmission & distribution improvements/Smart Grid
 - Efficiency/demand-side management
- More importantly...
 - Ensure Sustained Cross-Border Trade





CEA North American Policy Paper 2010

- The Integrated Electricity System -
- Sustainable Electricity as the Foundation for Economic Recovery in North America
- http://www.electricity.ca/media/pdfs/economic/canada_us_affairs/CEA_Enhancing_2010_final.pdf

