

Canadian Energy Political Economy in the Shadow of the American Empire

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Main Points

- Canada – no formal energy policy
 - US policy dominates in oil & gas
 - Electricity still largely in public sector
 - Rapidly changing
 - US regulatory imperialism
 - US trajectory for energy domination in North America
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Oil and Gas

- ❑ U.S. control pervasive
 - ❑ No national debate
 - ❑ Resource nationalism elsewhere
 - Largest companies & reserves owned by nation states
 - ❑ All new exploration & production controlled by private sector (US)
 - ❑ Even energy security not discussed
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Significance for U.S.

- ❑ “Seamless” energy market throughout North America
 - ❑ Bush – 2000 election campaign
 - ❑ Cheney *National Energy Policy*
 - ❑ Canada & Mexico feature as energy sources
 - ❑ US severely energy stressed
 - ❑ US 1/4th of world’s consumption
 - ❑ 3% of world’s reserves
 - ❑ Cannot be energy independent
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Integration of US/Canadian oil industries

- Long history
 - Canada now US largest energy trading partner (oil, natural gas, electricity, uranium)
 - Exports to US 60% oil production
 - Exports to US 55% of natural gas
 - 87% of US gas imports (15% total needs)
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Oil Control

- Alberta - always a strong private US presence
 - Oil sector developed as extension of US interests
 - Regulatory policy designed to integrate markets
 - Integration cemented in 1961 National Oil Policy
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National Oil Policy 1961

- ❑ Alberta – supply oil west of Ottawa River
 - ❑ Quebec & Maritimes supplied from US based companies shipped from Venezuela
 - ❑ Through 1960s Canada conformed to US energy demands
 - ❑ National Energy Board – facilitated needs of oil & gas exporters
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Changes in 1970s & 80s

- OPEC crisis - huge price increases
 - Canada tries to reduce energy security (& foreign control)
 - Only 6.7% of oil then Cdn. owned
 - Creates Petro Canada 1975
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National Energy Program (NEP)

- US control and threat of energy scarcity – driving force
 - Initiated by Pierre Trudeau 1980
 - Main points:
 - Promote Cdn. Energy market (not trade)
 - Reduce vulnerability of eastern Canada
 - Expand Cdn. ownership
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What Happened?

- Lasted 18 months
 - Outraged oil & gas industries
 - Outraged Alberta
 - Outraged US (Ronald Reagan & Congress)
 - Cdn. Ownership increased from 6.7% to 34.7% (when privatized)
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Political Disaster

- ❑ Collapsing world oil prices
 - ❑ Tremendous power exerted (Alberta, US, industry)
 - ❑ Oil autonomy completely ended with 1985 Western Accord (Brian Mulroney)
 - ❑ Petro Canada fully privatized 1991
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Western Accord

- Market pricing (US)
 - Reduction in federal taxes
 - No barriers to foreign entry or control
 - Privatize existing public entities
 - Encourage exports
 - Low rents for resource
 - NEB locates in Alberta
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Oil and Gas Trade

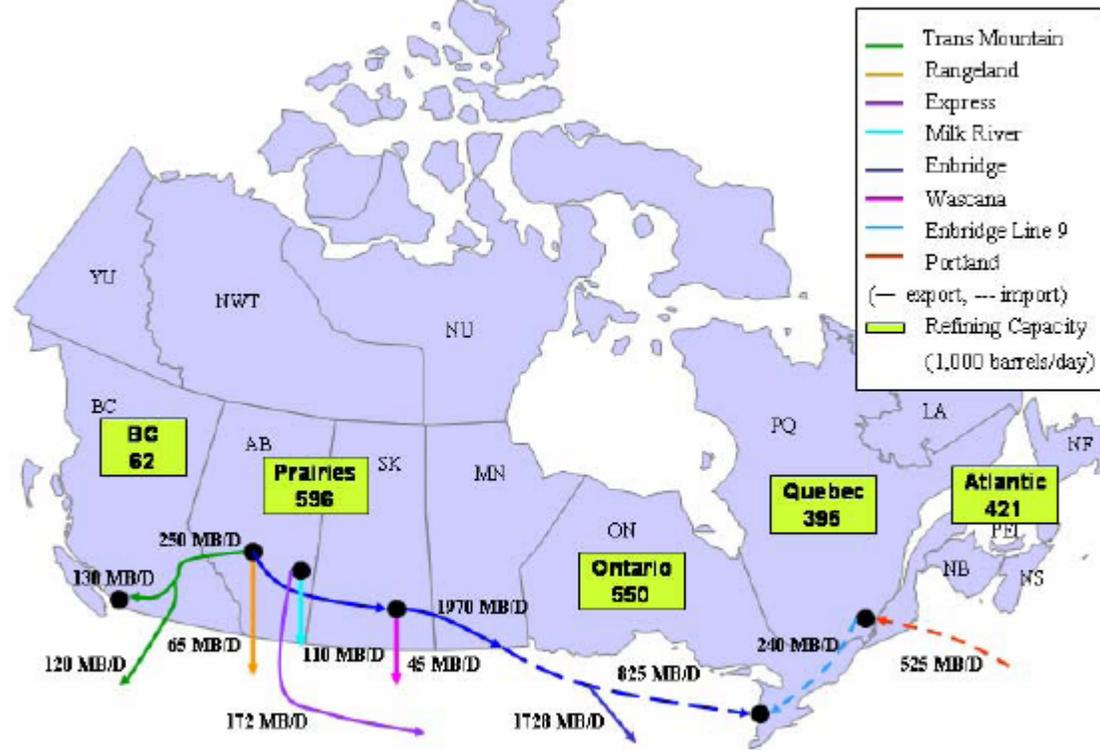
Exports to US

Imports from US

	1980	2004	1980	2004
Oil	455	2,118	108	141
(000bdp)				
Gas	979	3,544	0.1	395
(bcf)				

Oil – Canada

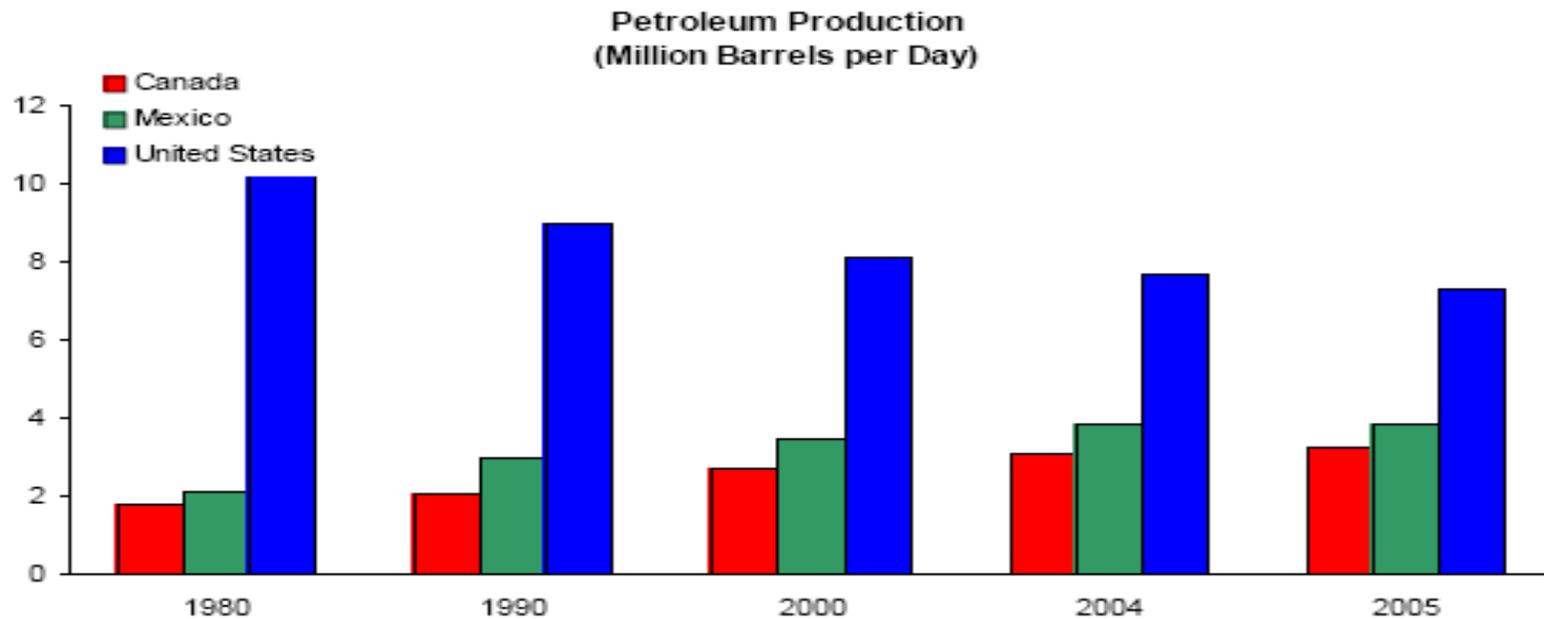
Canadian Oil Pipelines and Refining Capacity



- Canadian and U.S. oil pipeline networks are largely well integrated

Oil Production

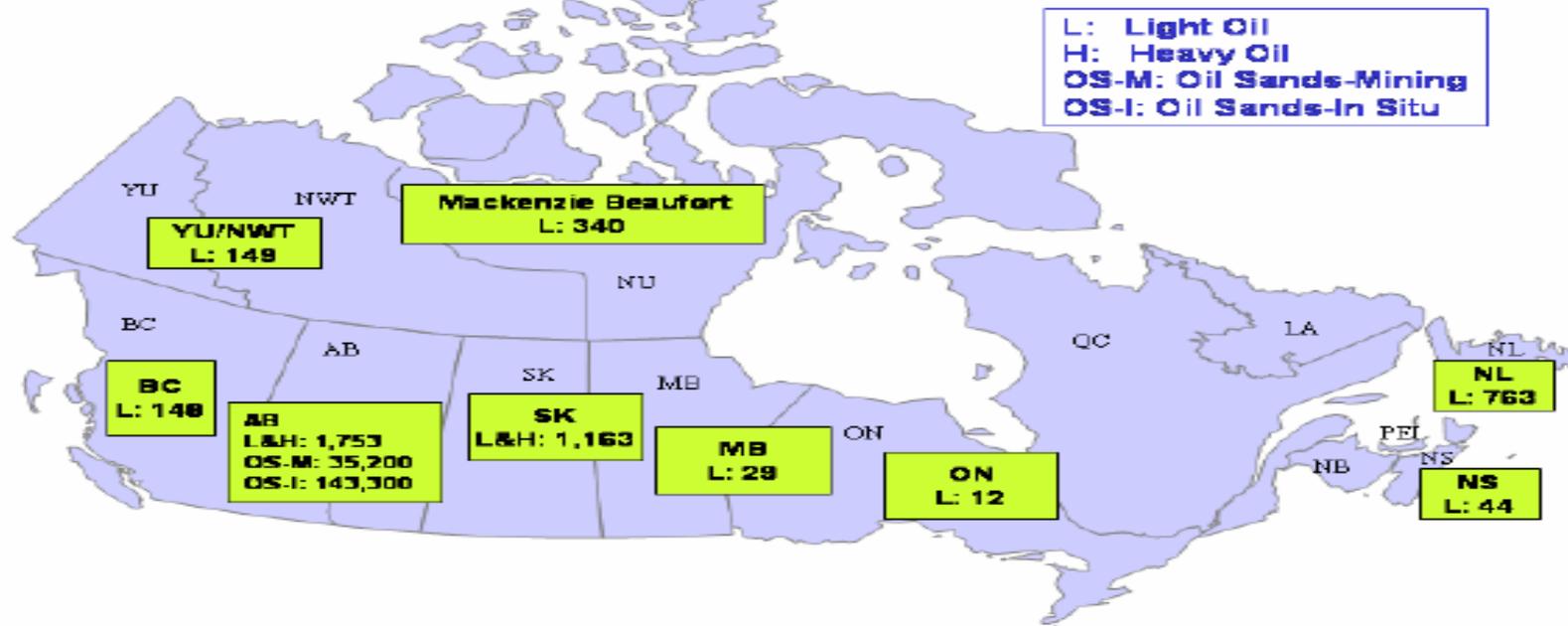
North American Energy Production



- North America produced over 14 millions barrels per day (MMbbl/d) of petroleum in 2004: Canada, 3.1 MMbbl/d; Mexico, 3.8 MMbbl/d; and the United States, 7.6 MMbbl/d.

Canadian Reserves

Oil - Remaining Established Reserves Year end 2005 (Mbbbls)

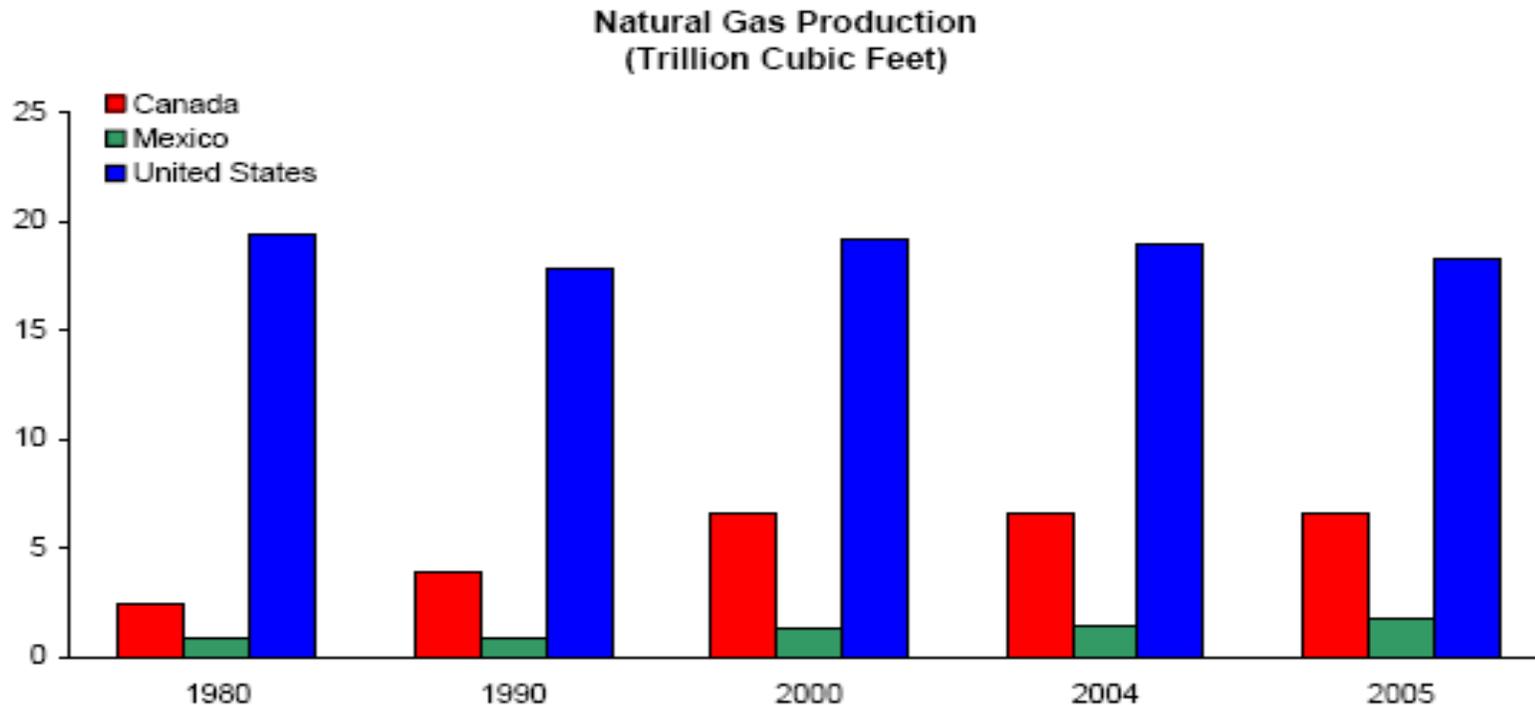


- Alberta's oil sands reserves put Canada among the world's leaders in established oil reserves.

Natural Gas

- ❑ North America self-sufficient
 - ❑ Canada supplies most US imports
 - ❑ Problems with meeting future demand
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NA Gas Production



- In 2004, U.S. natural gas production was 18.9 trillion cubic feet (Tcf), compared to 6.6 Tcf in Canada and 1.5 Tcf in Mexico.
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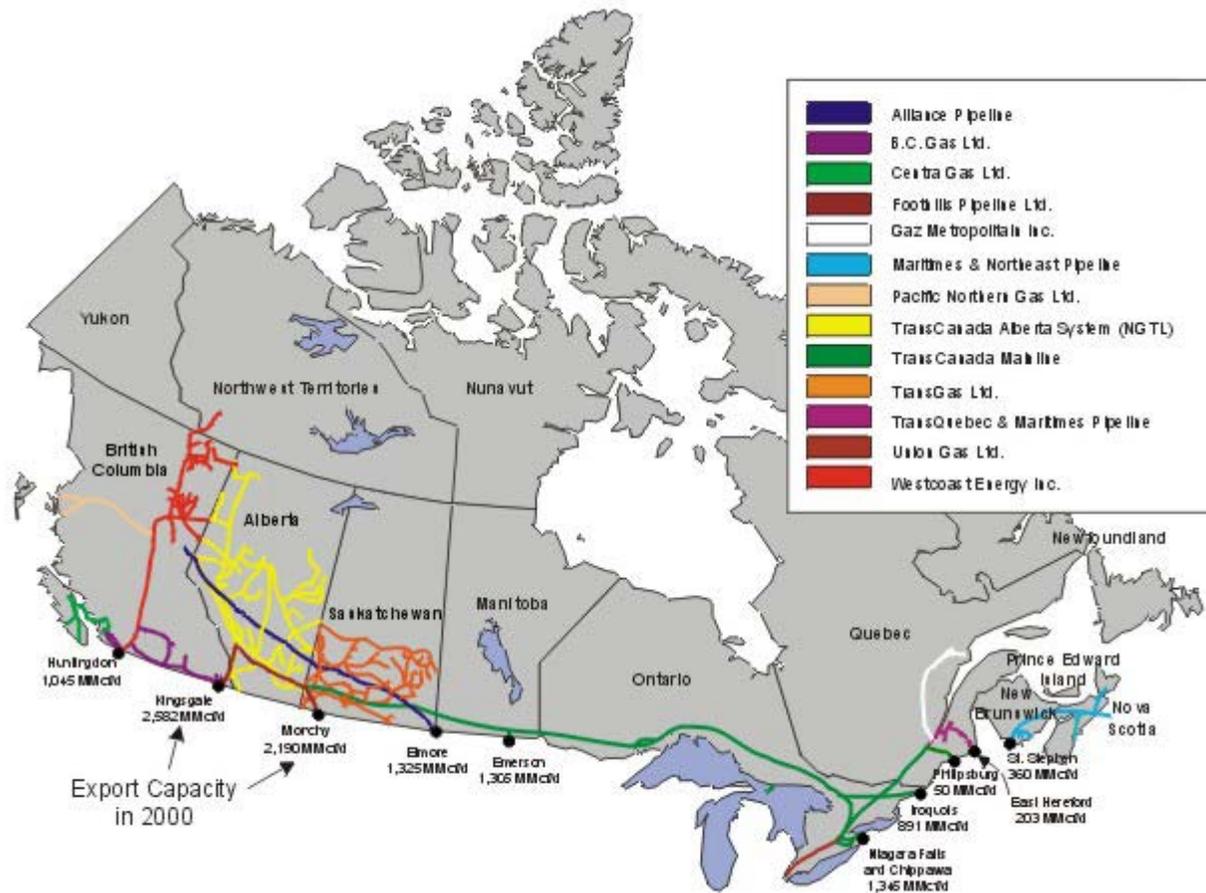
Deregulation in Canada

- ❑ Profound changes since mid-1980s
 - ❑ Continental market in gas
 - ❑ Canada: “has the most open natural gas market in the world, with competition extending from production to final consumer marketing” (US – ITC)
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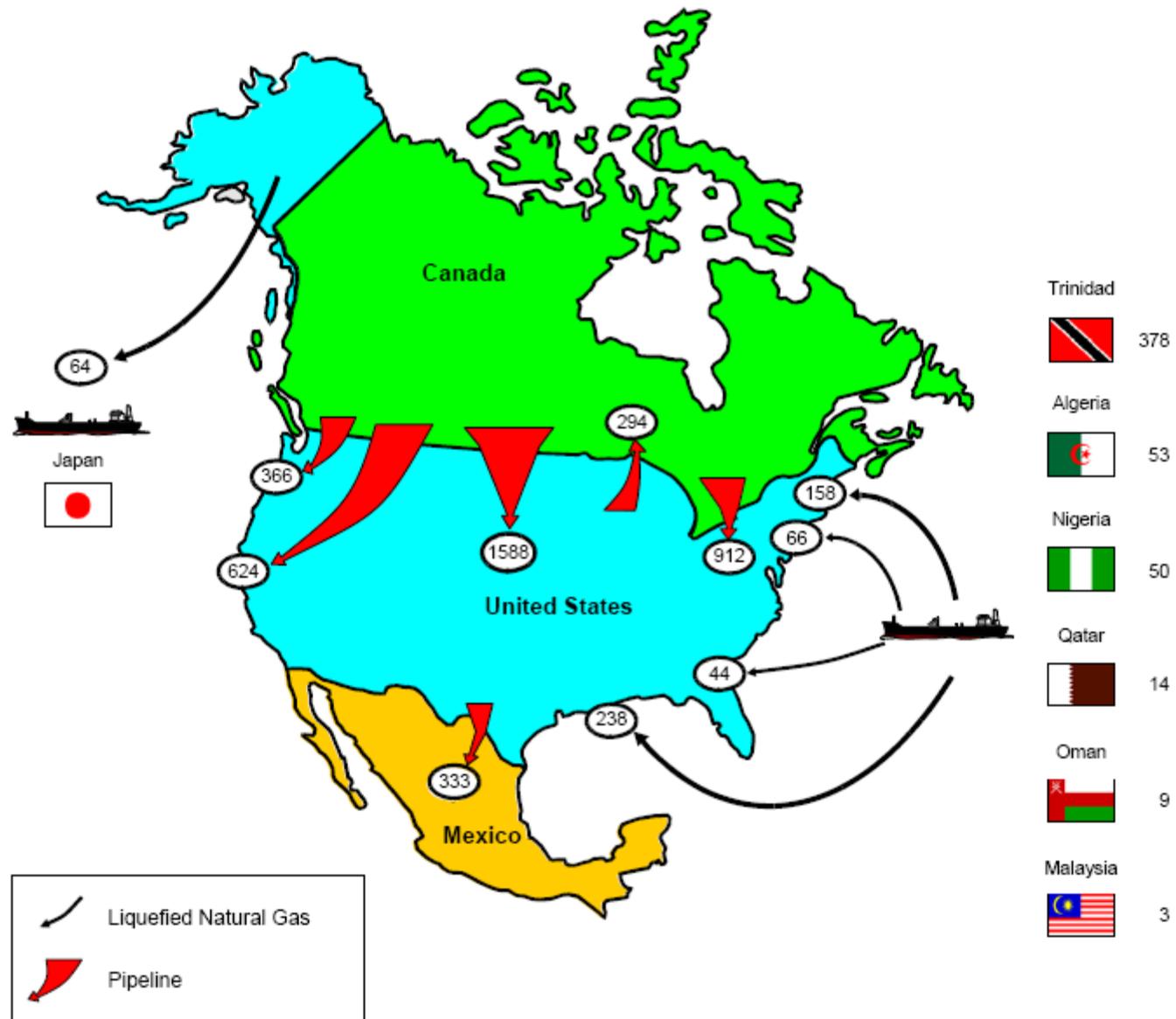
Competition

- ❑ Introduced in 1985 – Agreement on Natural Gas Prices and Markets
 - ❑ Buyers purchase gas directly
 - ❑ NEB ensure access to transmission
 - ❑ NEB – oversight over exports
 - ❑ Now – completely private
 - ❑ Large pipeline growth
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Major Gas Pipelines



North American Flow of Natural Gas Imports and Exports, 2003 (Billion Cubic Feet)



Results:

- Convergence of Canadian & US prices
 - Long-term contracts with variable prices
 - Development of financial market
 - Futures for gas
 - Wide fluctuations in gas prices
 - Price volatility & uncertainty systematic
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More results

- Prices structurally higher than any other time in history
 - Emergence of 'spot market' – encouraged indexing of contracts to this highly visible commodity pricing
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Outlook

- Supply tight
 - Increase from unconventional sources
 - Coalbed methane
 - LNG regasification facilities
 - Arctic gas
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Electricity

- Restructuring in U.S. chaotic

 - Electricity still mostly in public sector in Canada (large integrated utilities)

 - Each system responsible for a large area
 - Plans supply, distribution, conservation

 - Inexpensive electricity (because hydro based)
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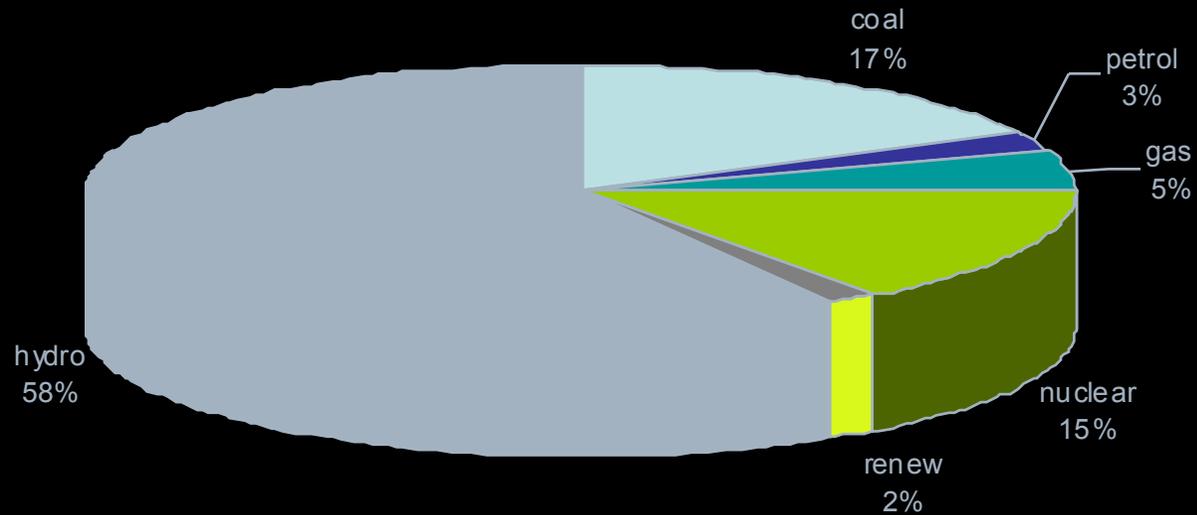
Massive Changes

- Canada rapidly deregulating & privatizing electricity

 - Two main reasons:
 - US regulatory imperialism

 - Private sector demands (Enron initiated)
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Electricity Generation --Type



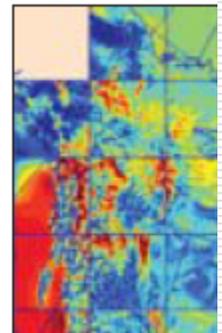
Transmission connections between Canada & US And within Canada



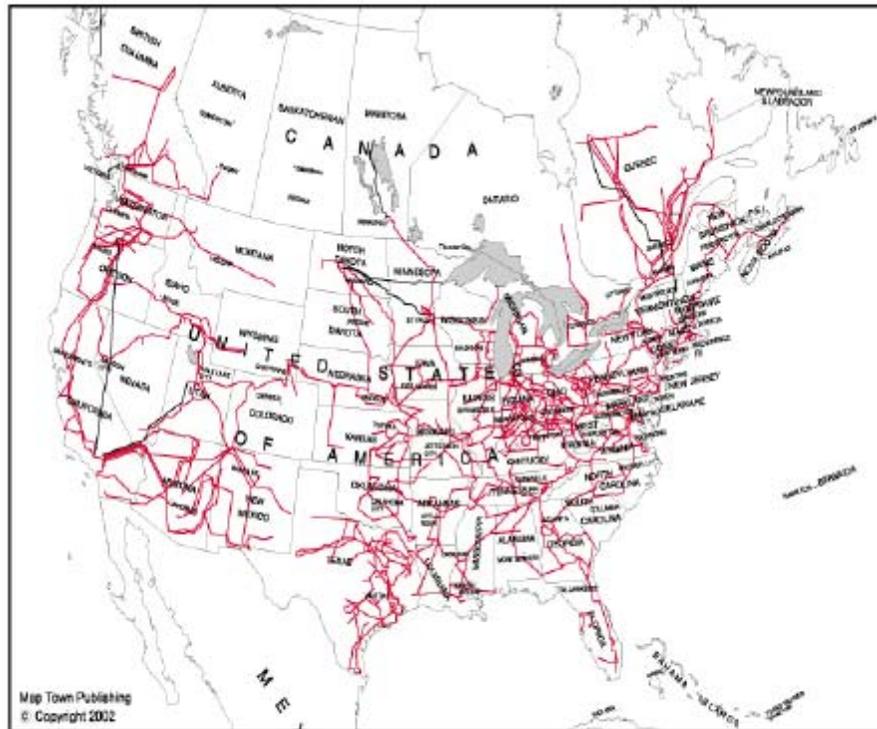
Figure 7 – Major Interprovincial Transmission Interconnections in Canada (Source: NEB 2003)

While there is some exchange of electricity between provinces, many provinces currently have stronger interconnections in a north-south direction (see Figure 7, which shows transmission links within Canada and with the United States), in order to allow for lucrative electricity trade with the United States rather than

The electricity genera-

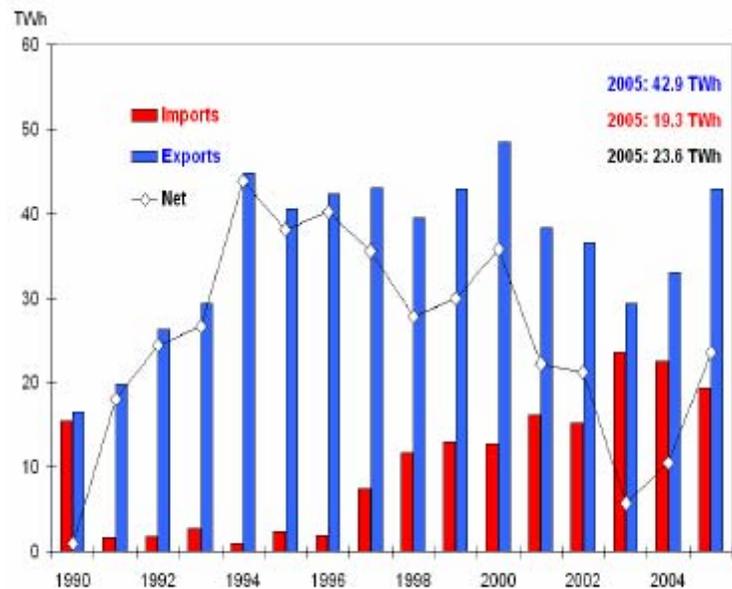


The Transmission Grid: A North-South Phenomenon



- Electricity trade occurs at a range of points across the Canada-US border, reflecting the largely north-south nature of the Canadian grid.
- Lines shown are 345kV and above.
- There are numerous interconnections between Cdn. and the U.S. that do not appear on this map.

Canada/United States Electricity Trade Volume



Source: National Energy Board, *Electricity Exports and Imports*

Exports are firm and interruptible

- Exports current account for 4% of Canadian generation and less than 1% of U.S. consumption
- U.S. imports into Canada have increased significantly over the last few years. Time of day exchanges account for much of the growth
- Decline in exports reflects the tightening of supply/demand conditions in Canada, particularly in B.C., Manitoba, Ontario, Quebec, and New Brunswick

FERC Rules

- US Federal Energy Regulatory Commission
 - US National Energy Policy
 - Integrated N.A. electricity market
 - Problems
 - Adequate Supply
 - Public sector Control
 - Transmission
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Solutions for U.S.

- ❑ US control of transmission grid
- ❑ Standard Market Design
- ❑ Regulatory Imperialism
- ❑ Change public nature of systems in US & Mexico



How it will work

- ❑ Regional Transmission Organizations
 - ❑ Ensure private producers have access to public grid system
 - ❑ Completely separate generation from transmission control
 - ❑ US maintain control of N.A. transmission system
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- ❑ FERC requiring that Cdn. System mirror US (in order to trade electricity)
 - ❑ Not a NAFTA requirement
 - ❑ All large systems in Canada comply
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Results

- Increase in private producers
 - Increase problems with reliability
 - Encourage expansion for export
 - Increase in power traders (not producers)
 - Increase in prices
 - Domination of Cdn. System by U.S. regulator
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Results

- Environmental exploitation
 - Loss of energy sovereignty
 - Loss of energy revenues
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