

Economic Integration of Electric Markets; One Canadian's Perception

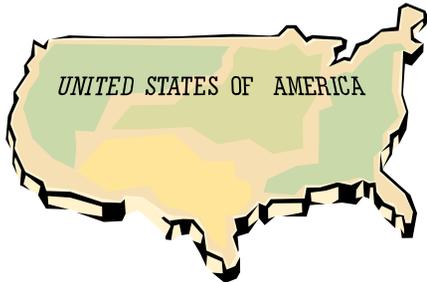
23rd IAEE North American Conference,
Mexico City, Oct. 19 to 21, 2003

Bruce T. Laxdal, P.Eng
Laxdal Consulting, S.A. de C.V.

Electric Integration: Economics and politics

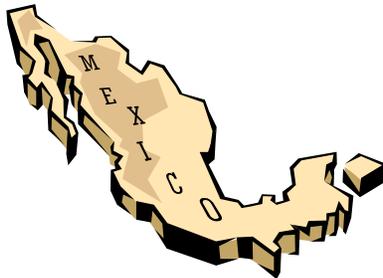


→ Exports are used to create jobs and to increase regional and national competitiveness



→ Energy supply security

→ Competitive wholesale markets, seamless bulk transportation system



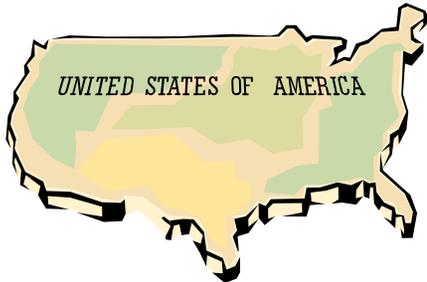
→ Sovereignty

→ Internal cash constraints, need to fund social development

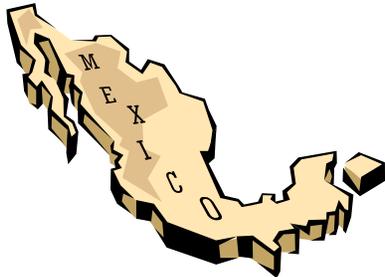
Electricity Integration: Regulation



→ Primarily a provincial responsibility



→ Mix of federal and state responsibilities



→ Exclusively a federal responsible

Common Policy – or – Integration

Differences in energy policy don't necessarily limit electric coordination opportunities

- Integration and trade are simply the sum of individual commercial transactions
- Companies will create opportunities if the environment is conducive to doing business
- **States must create the type of electric market necessary to allow the results they want**

The State sets the stage

- A State defines the boundaries to trade and coordination
 - must decide what it wants to accomplish through increased integration
 - Must respect international agreements (NAFTA)
- Types of activities:
 - Export/import of electricity
 - Foreign direct investment in electric systems
- The resulting level of coordination will depend on the perceptions companies have regarding:
 - the receptivity of the State to trade and investment;
and
 - the quality of electric market and supporting structures

Market Framework

- Electric Markets:
 - Are not all equal; and
 - Will always be evolving
- Market “failures”
 - *It's the big mistakes in market design that kill*
- States looking to create the “right” market conditions
 - should declare the basic model at political level after studying the alternatives and understanding the consequences
 - can find many examples to learn from
 - can leave the detailed design and implementation to the experts
 - must leave sufficient time to implement new market designs

Distinctions in Market Models

Retail Competition			
Wholesale Competition			
Single Buyer			
Vertically Integrated Monopoly			
	State/Public Entity	Public/Private Mix	Private Ownership
	Ownership Structure		

Electric Market Regulation: Attributes

Market Model	RC	Political process in forefront	Market forces in forefront	
	WC		Regulator in background • “Referee”	
	SB	Regulator, if one exists, is not totally independent	Regulator in forefront	
	VIM		<ul style="list-style-type: none"> • Oversight role • Acts as proxy for competition 	
		State/Public Entity	Public/Private Mix	Private Ownership
		Ownership Structure		

Generation markets: Power Purchase Agreements or Merchant Plant

Market Model	RC	<p>Merchant generation can exist</p> <p><u>Generator</u> manages market risk</p> <p>Market power must be mitigated</p>		
	WC			
	SB	<p>Generation owned or purchased via PPAs</p> <p><u>Monopoly</u> manages market risk</p> <p>Market Power exists by definition</p>		
	VIM			
		State/Public Entity	Public/Private Mix	Private Ownership
		Ownership Structure		

Other Necessary Attributes

Market Model	RC	<div style="border: 1px solid black; border-radius: 15px; padding: 10px; background-color: #e0f0ff; margin-bottom: 10px;"> <ul style="list-style-type: none"> ✓ Strong regulator (refocused) ✓ Independent system operator ✓ Competition law ✓ Market surveillance ✓ Derivatives regulation </div>
	WC	
	SB	
	VIM	
		<ul style="list-style-type: none"> ✓ Transparency ✓ Respect for contracts ✓ Arbitration ✓ Property rights
		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">State/Public Entity</div> <div style="text-align: center;">Public/Private Mix</div> <div style="text-align: center;">Private Ownership</div> </div> <p style="text-align: center;">Ownership Structure</p>

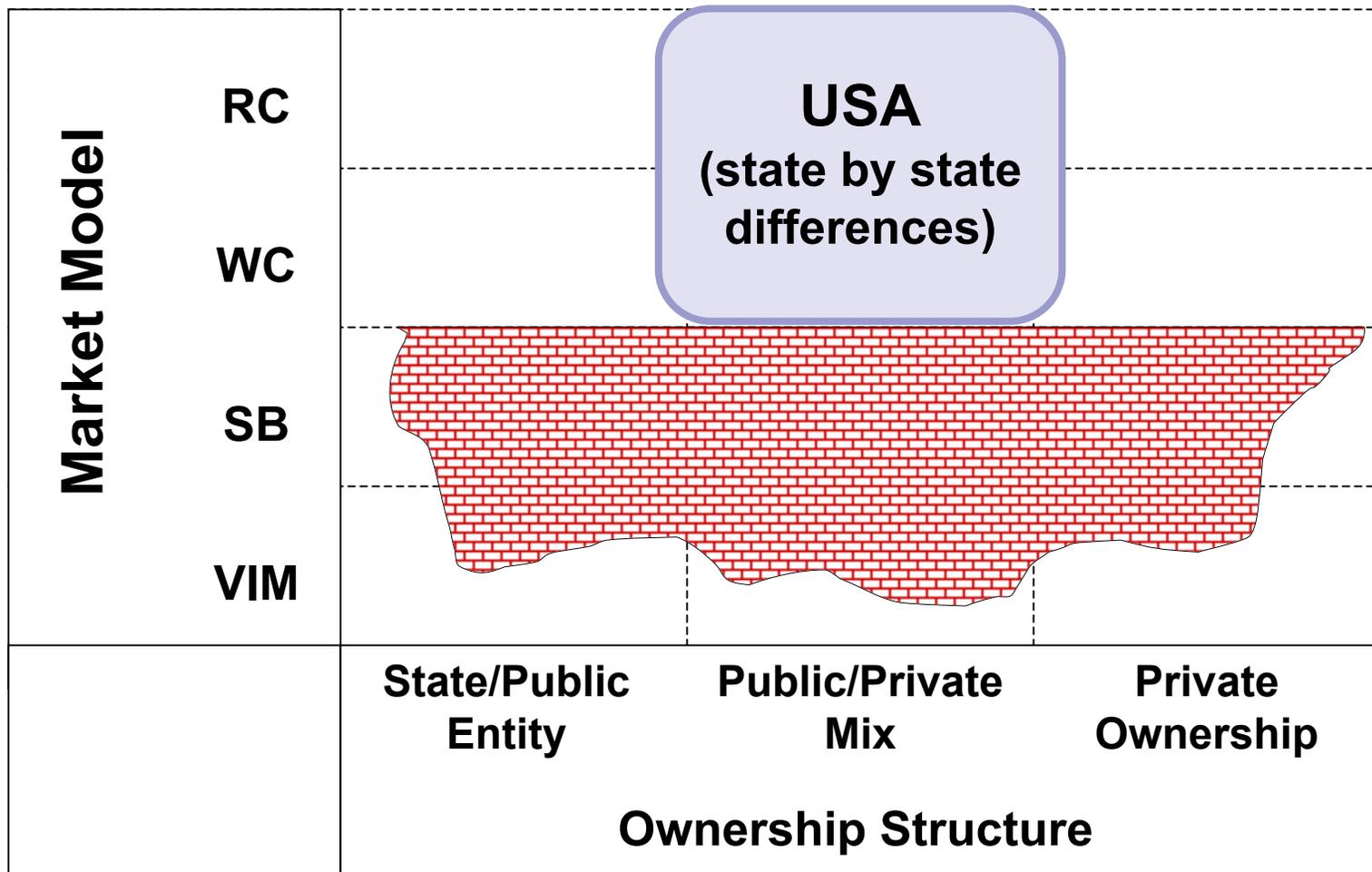
Available Commercial Options

Market Type	Electricity Imports	Foreign Investment In Generation	
		Contract PPAs	Merchant Plant
Retail Competition	Yes	Yes	Yes
Wholesale Competition	Yes	Yes	Yes
Single Buyer	Yes	Yes	No
Vertically Integrated Monopoly	Yes	No	No

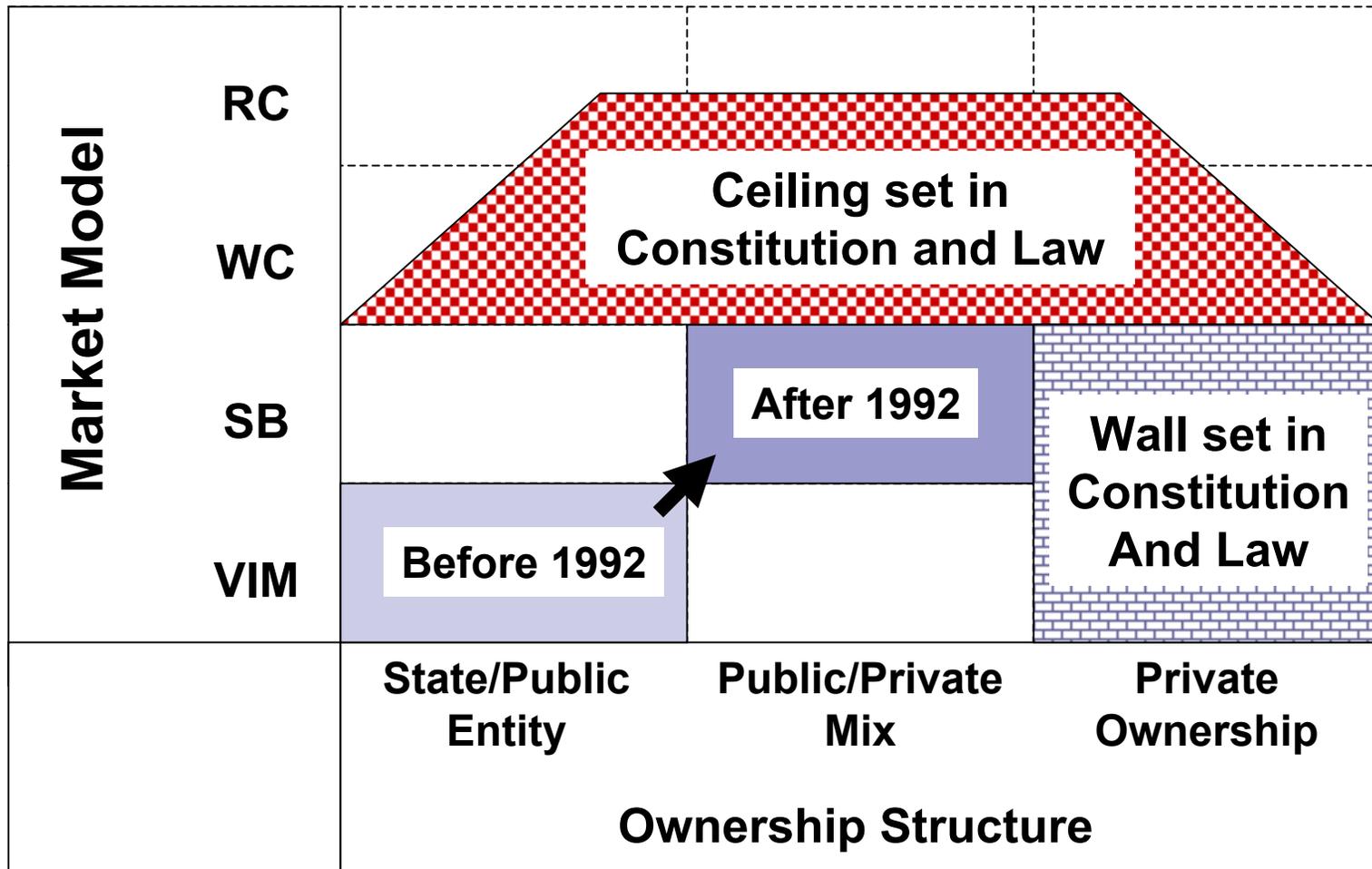
Canadian Electric Market Status

Market Model	RC		Alberta Ontario	
	WC		British Columbia	
	SB	New Brunswick Saskatchewan Quebec Manitoba	Newfoundland	Nova Scotia Prince Edward Island
	VIM			
		State/Public Entity	Public/Private Mix	Private Ownership
Ownership Structure				

Market Status in USA

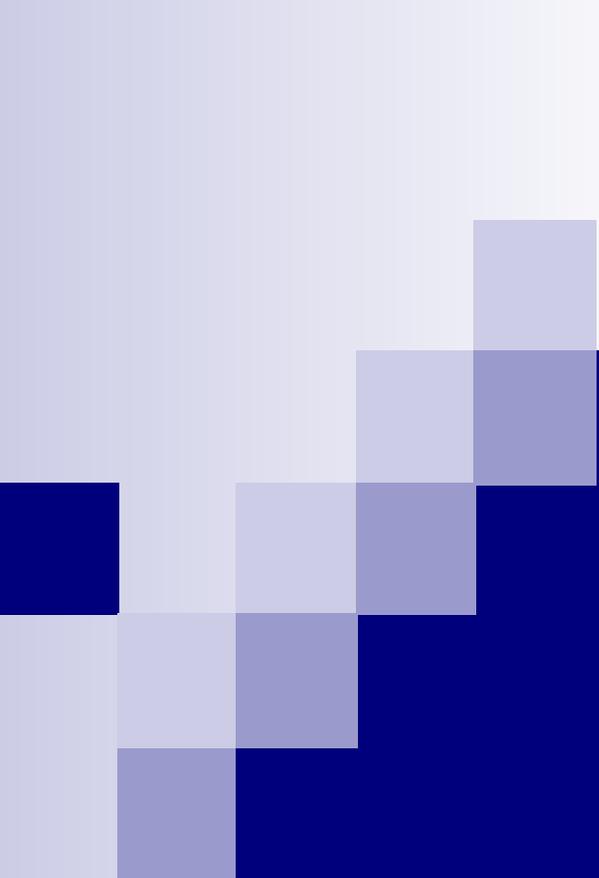


Mexico: Looking at Reform Possibilities



Conclusion

- Significant coordination already exists between the three countries
 - There is room to expand
- Its up to each State to create the environment for increased electric coordination
 - set clear and complete market structures
 - must meet the State's internal objectives while respecting international agreements
- It is not necessary to have common electric policy or similar market structures
- Companies will cause increased coordination and trade to occur if the environment is right



Laxdal Consulting