Québec’s Energy Strategy
2006-2015
An overview for the representatives from the United States of America

Welcome

August 31st 2011
Québec’s Energy Strategy

Challenges

- Secure access to reliable and affordable energy
- Develop and consume energy while respecting environment
- Implement projects with the largest public support possible
- Foster economic development and innovation
Renewable energy

- Over 40,000 MW of clean electricity already available for domestic and exportation purposes
- Adding 4,500 MW of hydropower by 2015
- Adding 4,000 MW of windpower by 2015
  - 1,000 MW tender in 2003
  - 2,000 MW tender in 2005
  - Two tenders of 250 MW for First Nations and local communities in 2009
- Adding 150 MW for smaller hydroprojects (less than 50 MW)
- Adding 125 MW for cogeneration projects
Opportunities for the U.S.

- Support States objectives in reducing their GHG emissions
- Support nation wide economic growth with stable and competitive prices for electricity
- Support regional economic development with the possibility to plan for a diversified energy portfolio
Projects in Quebec

- Eastmain 1-A / Sarcelles / Rupert - 918 MW
- La Romaine - 1 550 MW
- Northern Pass - 1 200 MW
- Ontario’s Interconnexion - 1 250 MW
Energy consumption in 2009

- Electricity: 40.1%
- Biomass: 7.4%
- Coal: 0.9%
- Oil products: 39.1%
- Natural Gas: 12.6%
Crude oil

- Québec is importing all of its crude oil but is a net exporter of petroleum products
- The Strategy set an objective to reduce crude oil imports dependancy
- On March 24th 2011, the Federal and Québec governments signed an agreement for the joint management of hydrocarbons development in the gulf of Saint-Lawrence
- The potential seems to be promising
- For the Old Harry Structure alone - potential recoverable oil reserves are estimated to be 1.5 to 2 billion barrels
Old Harry location

- Old Harry Structure
Natural Gas

- Utica Shale Gas formation presents interesting potential to reduce Quebec natural gas imports from Alberta
- After a careful review of the situation, that included public hearings, the government decided to conduct a Strategic Environmental Assessment before going to full scale exploration and exploitation phases
- The Industry understands the government position and is participating in the process
Opportunities for U.S.

- A potential new supply source of crude oil and natural gas from a stable jurisdiction that is close to the Northeast U.S. markets
- An opportunity to exchange information and best practices in offshore/onshore exploration and drilling for oil and shale gas production
Biofuels

- Objective: 5% ethanol by 2012
- Current ethanol production (corn based): 150 M litres/year
- Future production: cellulosic ethanol (hydrolysis and thermogeneration)
- R&D support:
  - Sherbrooke University Research Chair (2007)
  - Enerkem Inc thermogenic demonstration plant (2007)
  - CRB Innovation Inc. hydrolysis demonstration plant (2011)
- Current biodiesel production: 35 M litres/year
Innovation and Transportation

- Action Plan for Electric Vehicles
  - Use our clean and renewable electricity
  - Develop an industrial base for key vehicles components based on current strong expertise
  - Work on refueling infrastructures
  - Support consumers access to electrical vehicles
  - Support electrification of public transportation
Energy Efficiency

- Reduce GHG emissions by 20% by 2020
- Enter a Cap and Trade GHG emissions system under the WCI by January 1\textsuperscript{st} 2012
- Increase energy efficiency:
  - 11 TWh for electricity
  - 10% reduction for oil product consumption
  - Save 350 millions Cubic meters of natural Gas
- Energy efficiency programs now under direct Ministry responsibility since July 1\textsuperscript{st} 2011
Conclusion

- Quebec’s green and renewable energy portfolio can contribute to the U.S. objectives in:
  - Acquiring more renewable energy;
  - Reducing GHG emissions;
  - Developing new biofuel technology.

- Quebec is also interested in increasing trade possibilities in the hydrocarbon sector.