



# Proposal to Monetize Grand Banks Natural Gas

August 2006

# Purpose

- **To discuss near-term potential (5-8 years) to develop Grand Banks natural gas through NL domestic use strategy.**
- **To gauge interest in pursuing a business case.**
  - ❖ **Joint study and evaluation of complete delivery chain economics. (Husky et al., NL Hydro, NL Refining Co.)**

# Hydro Overview



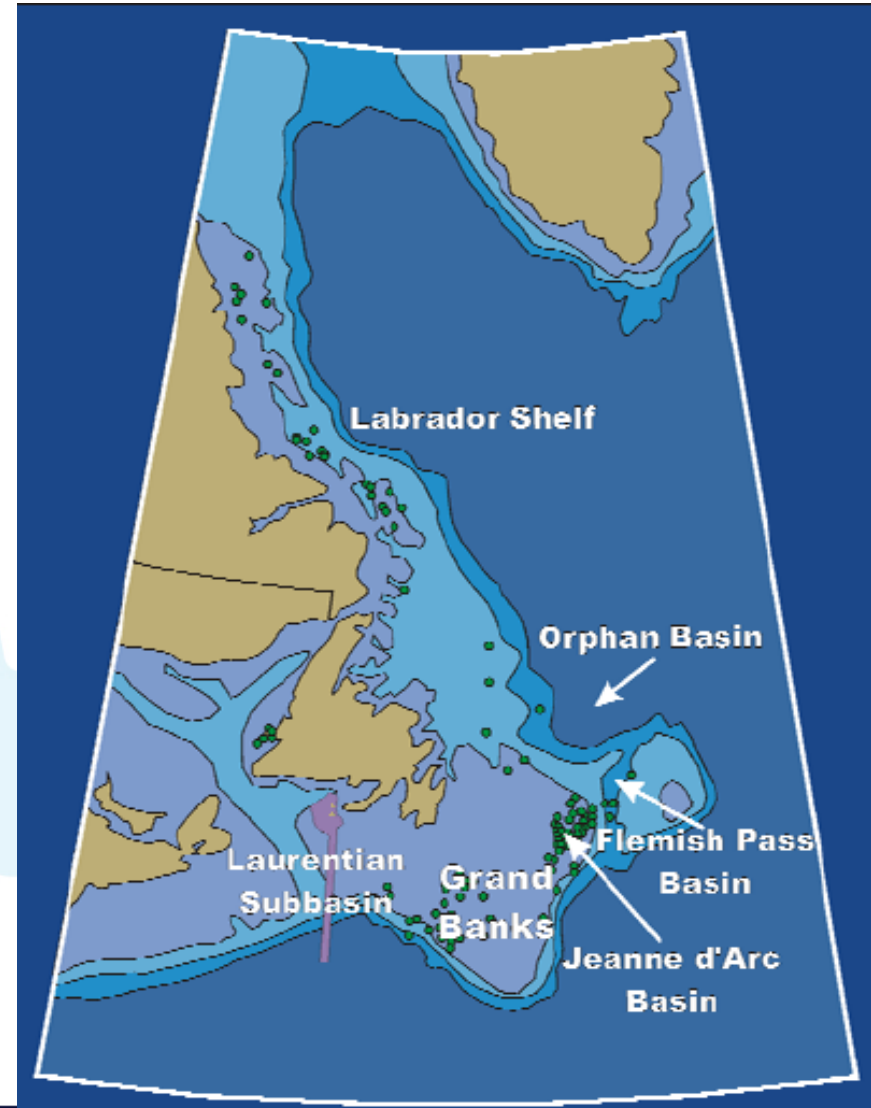
- Province's main energy provider
- 4th largest utility in Canada
- Generating capacity – 7,300 MW
- Generates over 80% of NL electricity
- Providing power to NL for over 50 years
- Power generating assets:
  - ❖ Churchill Falls Generating Station
  - ❖ 10 hydroelectric plants
  - ❖ Holyrood Thermal Station
  - ❖ 4 gas turbines
  - ❖ 26 diesel plants

# New Mandate - Reorganization

- Reorganized company in 2005
- Four lines of business
  - ❖ Regulated Operations
  - ❖ Churchill Falls
  - ❖ Lower Churchill
  - ❖ Business Development
- Engineering and operations company
- Strong focus on safety, environment and performance

# Commercialize Stranded Grand Banks Gas

- Project internally driven by Hydro
- Hydro as the “Market Maker”
- Concept includes:
  - Development of CCCT gas plant
    - ❖ Displacement of Bunker ‘C’ at Holyrood Thermal Generating Station
    - ❖ Growing domestic load through partnerships with energy intensive processes
    - ❖ Export of electricity through DC link to North American grid
    - ❖ Development of natural gas value-added market

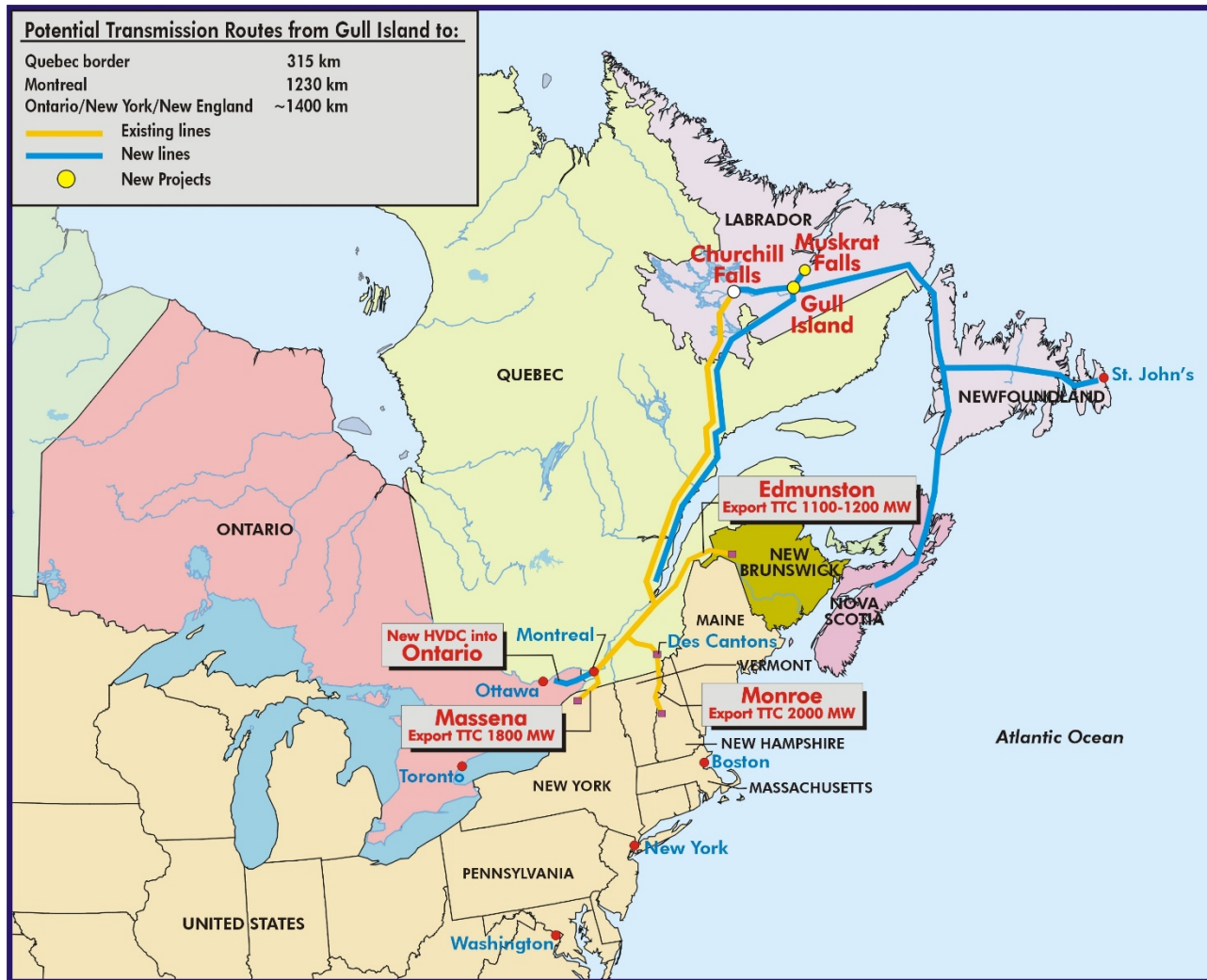




# The “4 Plays”



# Market Access Options



**Newfoundland  
and Labrador**

**Ontario  
Quebec  
Nova Scotia  
New Brunswick  
New England  
New York**

# The Opportunity – NL Natural Gas Demand

## ■ Near Term Anchor Customers

❖ Newfoundland Refining Corp.	120 mmscfd
♦ Hydrogen production & makeup fuel	
❖ North Atlantic Refinery Limited	~40 mmscfd
♦ Expansion	
❖ NL Hydro	60 mmscfd
♦ Holyrood conversion	
Sub-Total:	200 - 300 mmscfd ???

## ■ Longer Term Potential

❖ Gas-to-wire	150 mmscfd
♦ New 800 MW CCCT power generation plant	
❖ Gas to Liquids	300 mmscfd ??

**TOTAL: 300 - 750 mmscfd**



# Domestic Gas Considerations

- **Valuation of a potentially “stranded resource”**
  - ❖ Low risk, long term, utility type investments.
  - ❖ Stranded asset –Utility grade rate of return
  - ❖ Electricity generation target around 5 cents/kWh
  - ❖ Higher volumes and could lower thresholds for gas to wire export possibilities.
- **Transportation and storage risk**
  - ❖ CNG vs Pipeline
  - ❖ “Firm” load power generation for industry/winter.
- **Value chain ownership structures**
  - ❖ NL Hydro
  - ❖ Husky et al.
  - ❖ Newfoundland Refining Corp.
  - ❖ Others?

# Key Messages

- **Potential opportunity to monetize a portion of the natural gas asset in the near term for the benefit of all.**
- **Requires key anchor tenants to insure sufficient volumes for long term take or pay purchase agreement.**
- **Stranded nature of the asset provides the opportunity to both encourage domestic demand and provide a return to the developer with a long term contract.**
- **Potential to participate in North American electricity market.**

