

# Lower Churchill Project

Canadian Nuclear Society

June 6, 2011

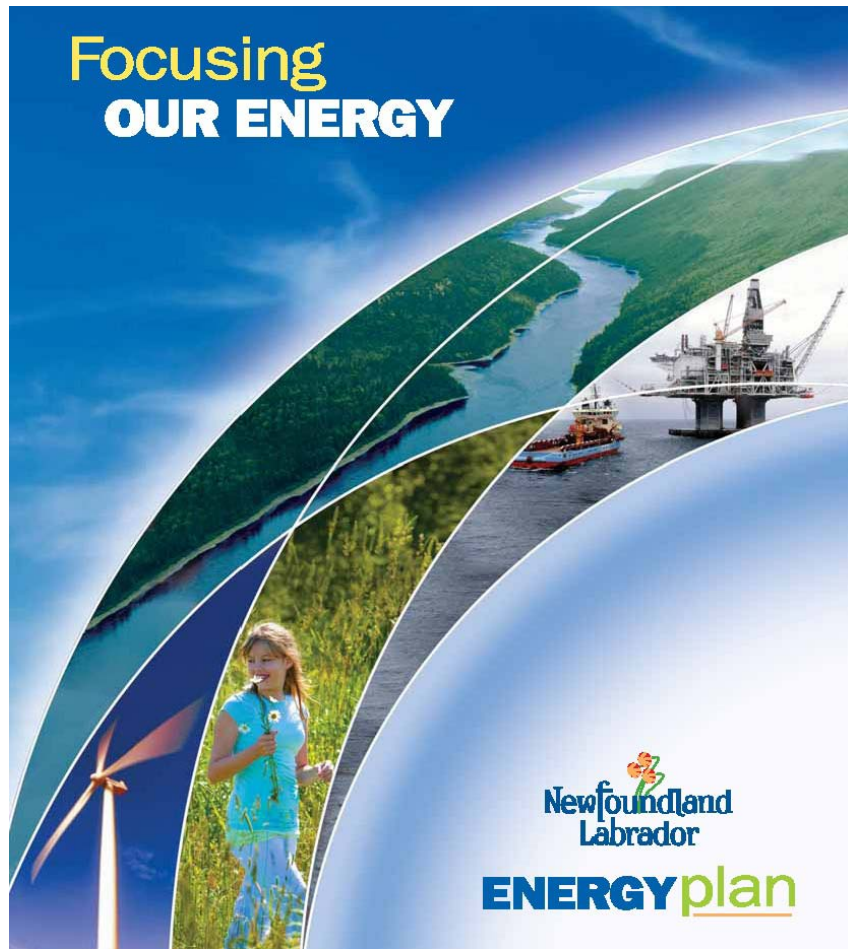
Boundless Energy



# Safety Moment

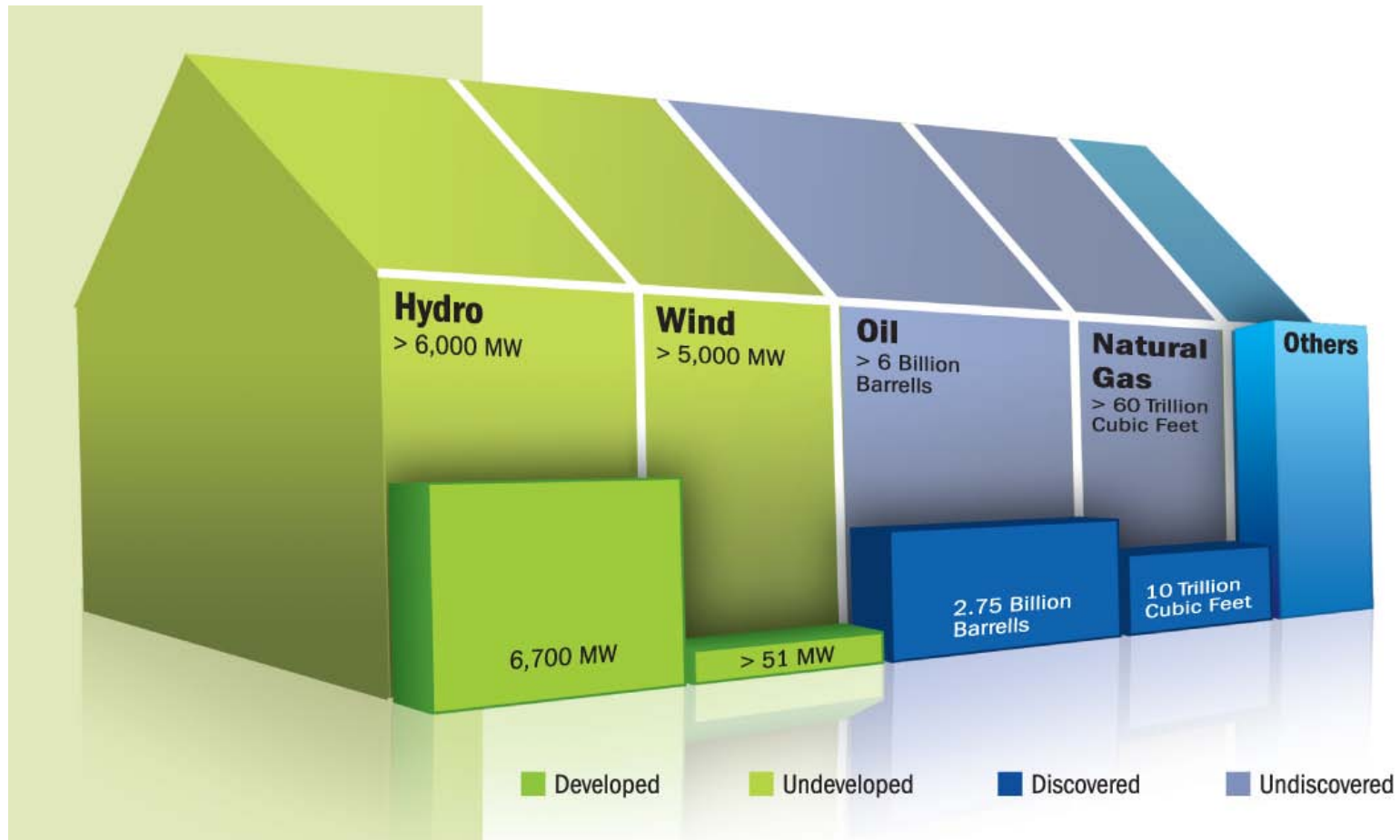
- Reflect on the role that you play in ensuring the safety of your personnel and the general public

# Provincial Energy Plan



- Long term focus - 2041
- Energy Warehouse
- Non-renewables to renewables
- Creation of Nalcor
- Opportunity to get it right

# NL Energy Warehouse







# Lower Churchill Hydroelectric Generation Project

A dam and powerhouse at  
Gull Island



2250 MW/ 12 TW-h/yr  
Reservoir length – 232 km  
Flood area – 85 sq km

Two dams and powerhouse at  
Muskrat Falls

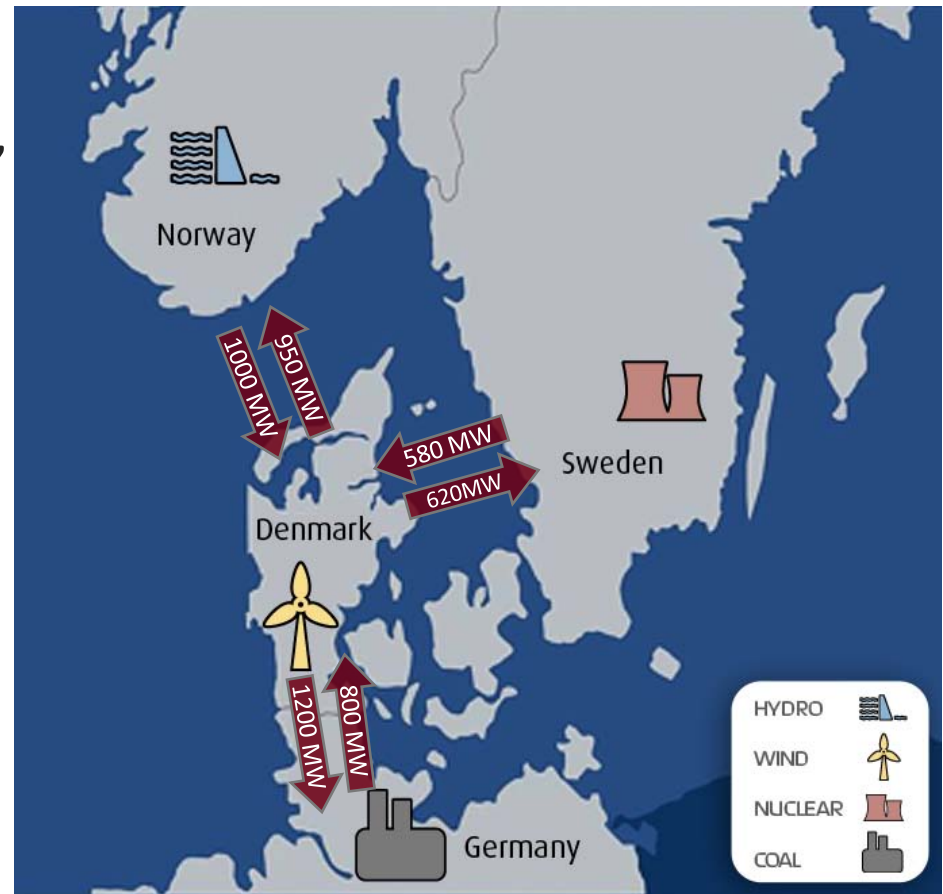


824 MW/ 5 TW-h/yr  
Reservoir length - 60 km  
Flood area – 41 sq km

- Interconnecting Transmission Lines between Muskrat Falls, Gull Island, and Churchill Falls

# The Scandinavia Success Story

- Scandinavia cooperation achieved a collective vision, while maintaining distinct individual identities.
  - Development of resource base in each country
  - Increased security of supply
  - Portfolio balancing ability
  - Treasury benefits resulting from energy export



# Phase 1 – Muskrat Falls, Labrador Island Link and Maritime Link

## Labrador-Island Transmission Link

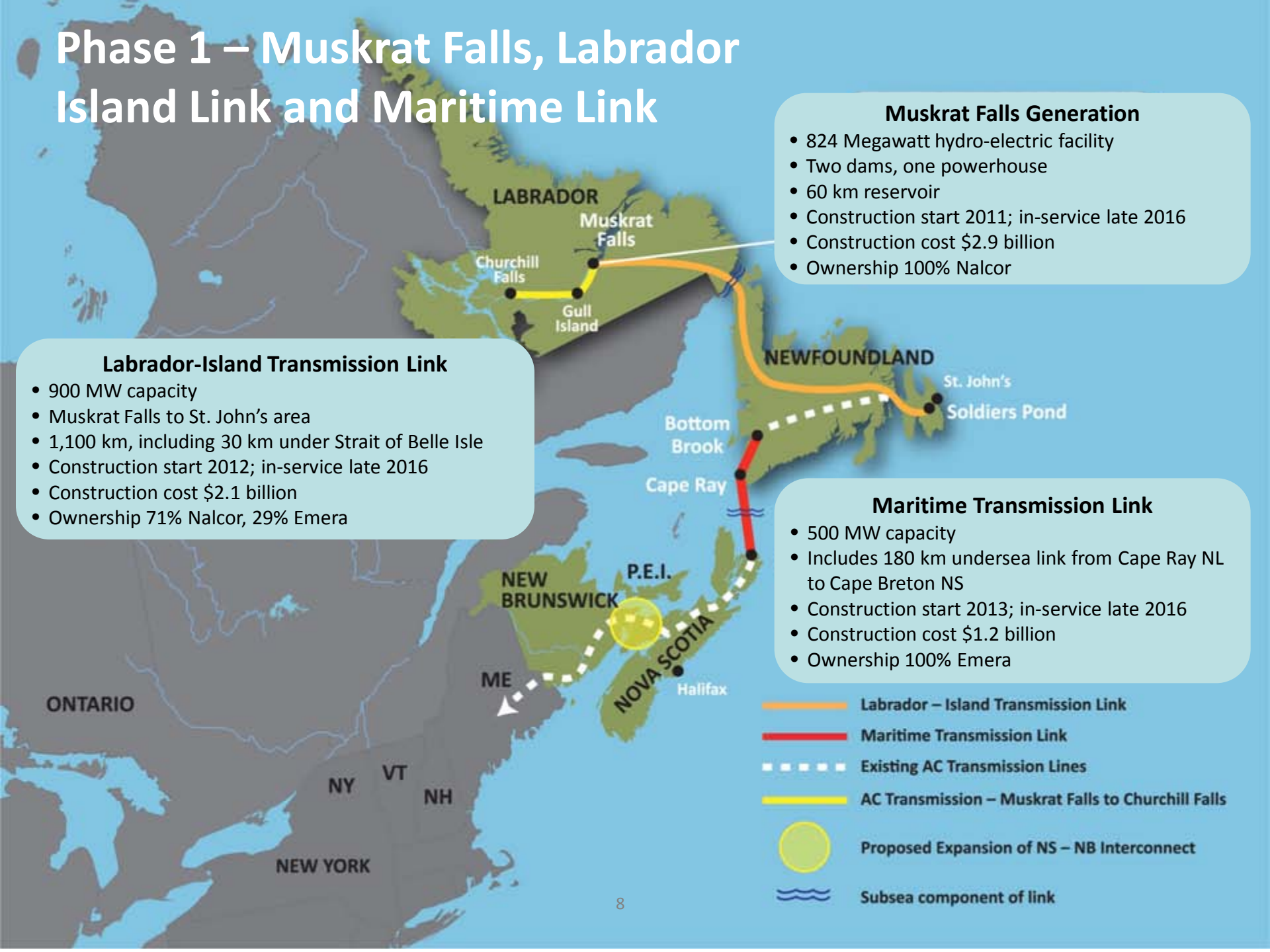
- 900 MW capacity
- Muskrat Falls to St. John's area
- 1,100 km, including 30 km under Strait of Belle Isle
- Construction start 2012; in-service late 2016
- Construction cost \$2.1 billion
- Ownership 71% Nalcor, 29% Emera

## Muskat Falls Generation

- 824 Megawatt hydro-electric facility
- Two dams, one powerhouse
- 60 km reservoir
- Construction start 2011; in-service late 2016
- Construction cost \$2.9 billion
- Ownership 100% Nalcor

## Maritime Transmission Link

- 500 MW capacity
- Includes 180 km undersea link from Cape Ray NL to Cape Breton NS
- Construction start 2013; in-service late 2016
- Construction cost \$1.2 billion
- Ownership 100% Emera





# National Interest

- Jobs and economic benefits across Canada
- 45,000+ person years of employment
  - 21,000+ in Atlantic Canada
  - 12,000+ in Quebec
  - 11,000+ in Ontario
- Interprovincial electricity grid integration
- Significant contribution to lower emissions (4.5M tonnes/year)
- Enables development of other renewable generation
- Labour and business income of \$3.5 billion

# Phase 2 – Gull Island

