



# Atlantic Canada Energy Market Update

PetroSul

Vitória, Espirito Santo, Brazil

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Dr. Toby Balch, Director, Business & Technology

Nova Scotia Department of Energy



# Energy - Atlantic Canada's Economic Hub

- 19,300 direct energy jobs in region
- 60% of Atlantic CDN exports are energy related
- \$4 billion in offshore exploration expenditure commitments
- \$7.5 billion major energy project investment in 2015



# The Energy Sector

- Offshore Oil & Gas (NS)
- Offshore Oil & Gas (NL)
- LNG
- Tidal Power
- Hydroelectricity
- Ocean Technology



Newfoundland  
Labrador

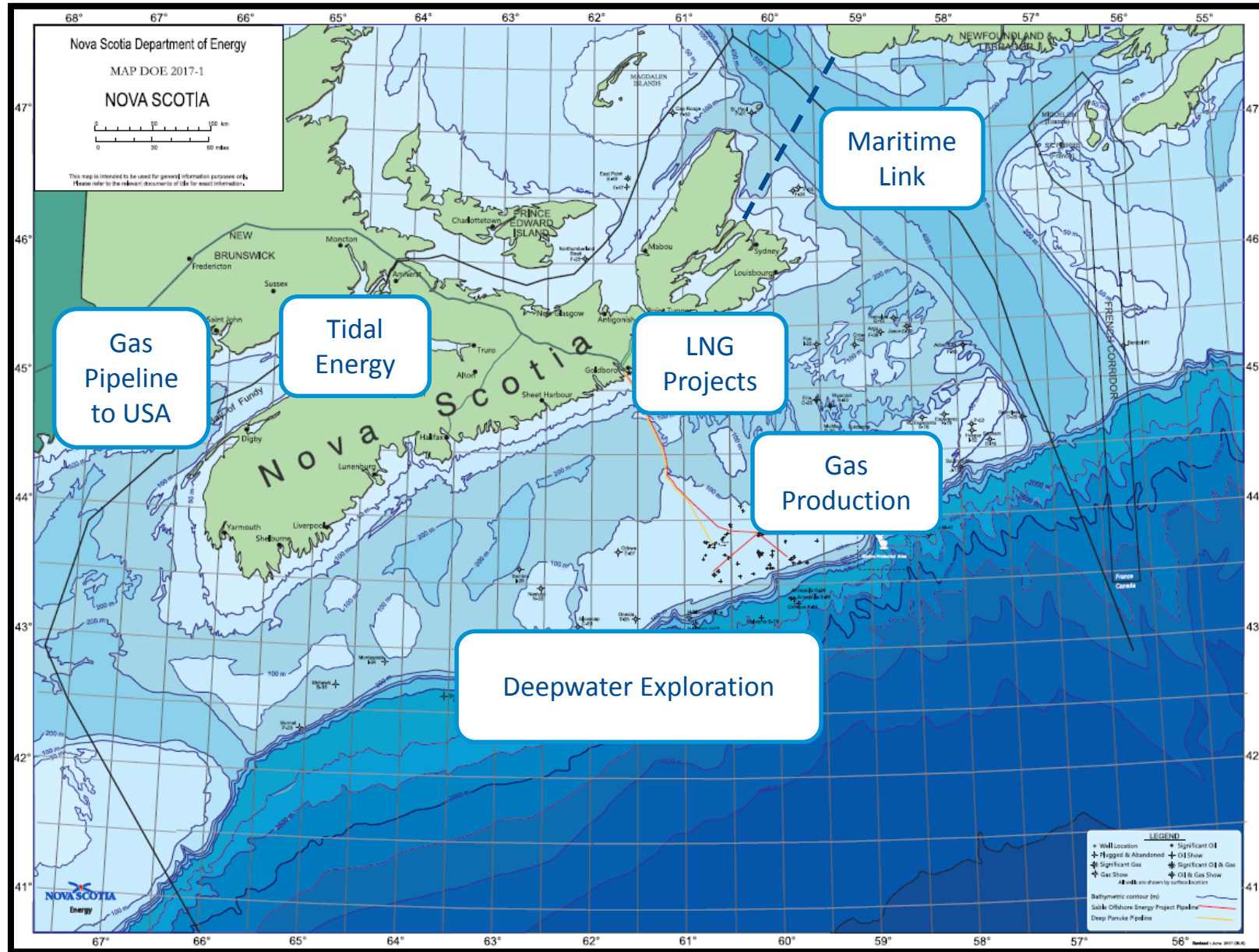
NOVA SCOTIA

# Deepwater Development

- 12% of global resources in deepwater
- 10% of global hydrocarbon development within 20 years
- Technically challenging
- Atlantic Canada moving to deeper water



# Nova Scotia





# Offshore Nova Scotia Projects



Cohasset Panuke  
1992-1999  
Nova Scotia Resources Ltd.  
(NSRL)



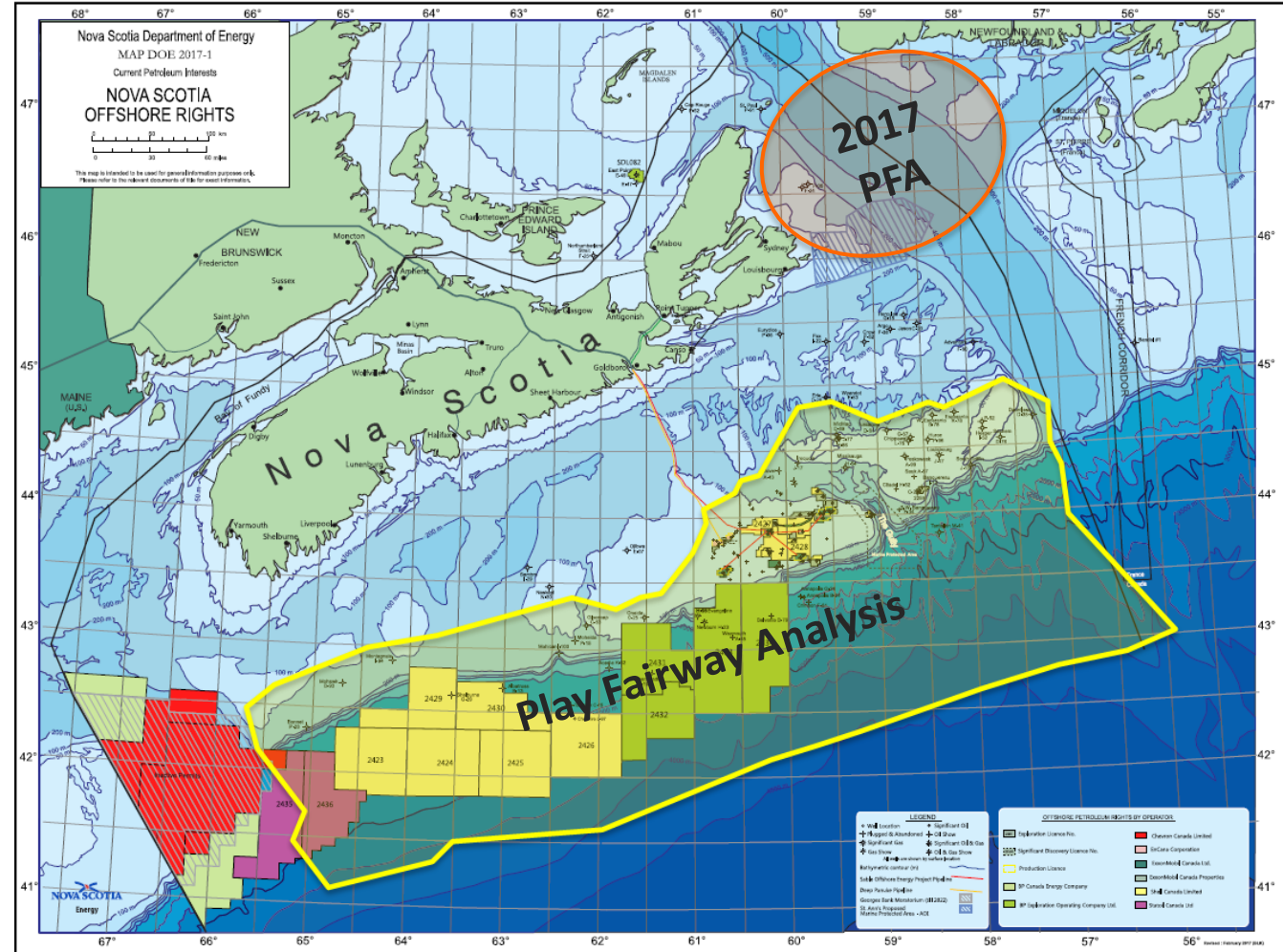
Sable Offshore Energy Project  
1999 –  
ExxonMobil



Deep Panuke  
2013 –  
EnCana

# Nova Scotia Prospectivity

- 2011 PFA: Est. 8 bbl oil, 120 TCF gas
- 2017 PFA: Est. 2 bbl oil, 2 TCF gas
- Active exploration environment:
  - \$2 billion exploration commitments since 2012
  - 14 exploration licences
  - Shell, BP, Statoil
  - Current BP drilling activity



# Geoscience Research

38

Projects

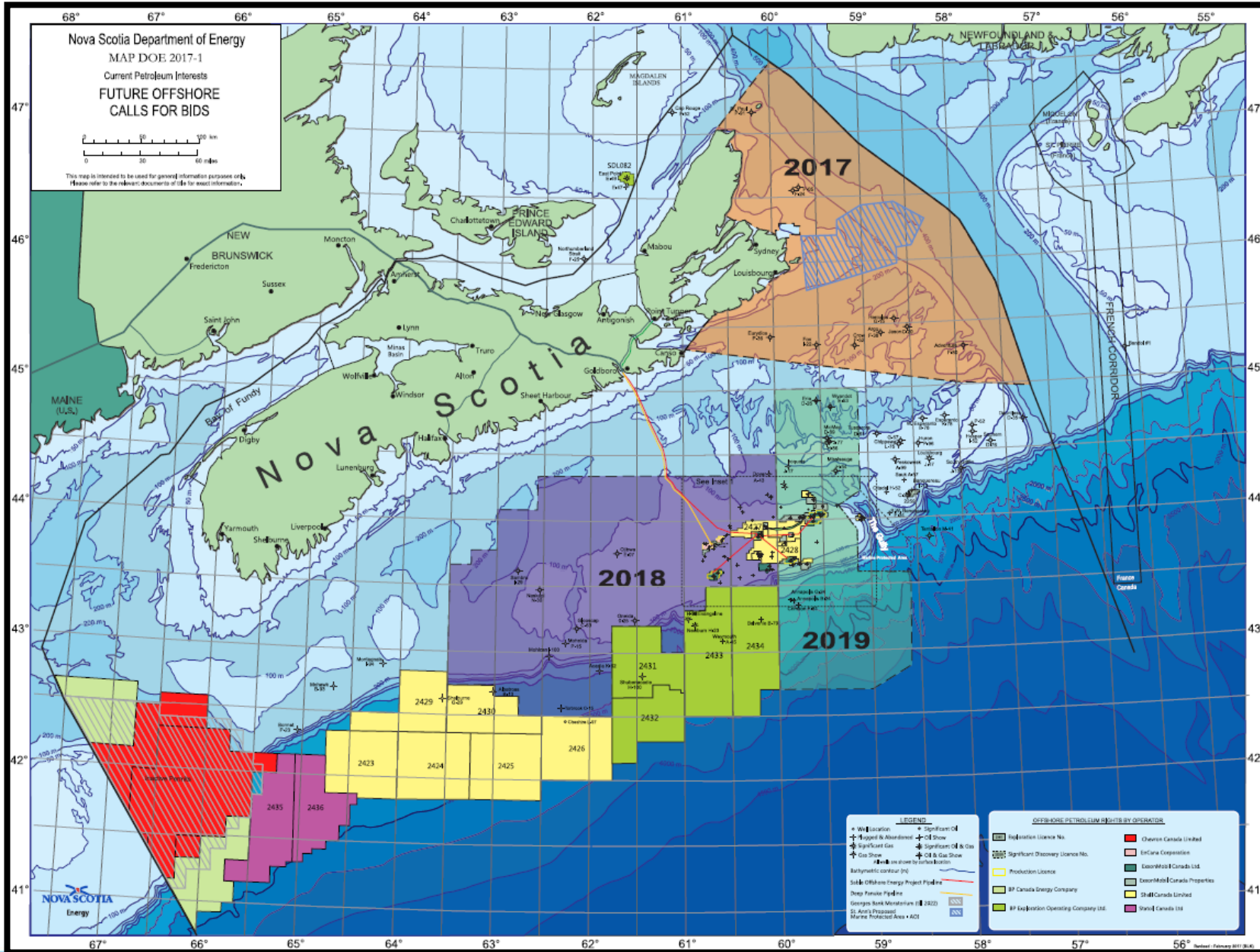
\$32M

Total research expenditures by March 2018

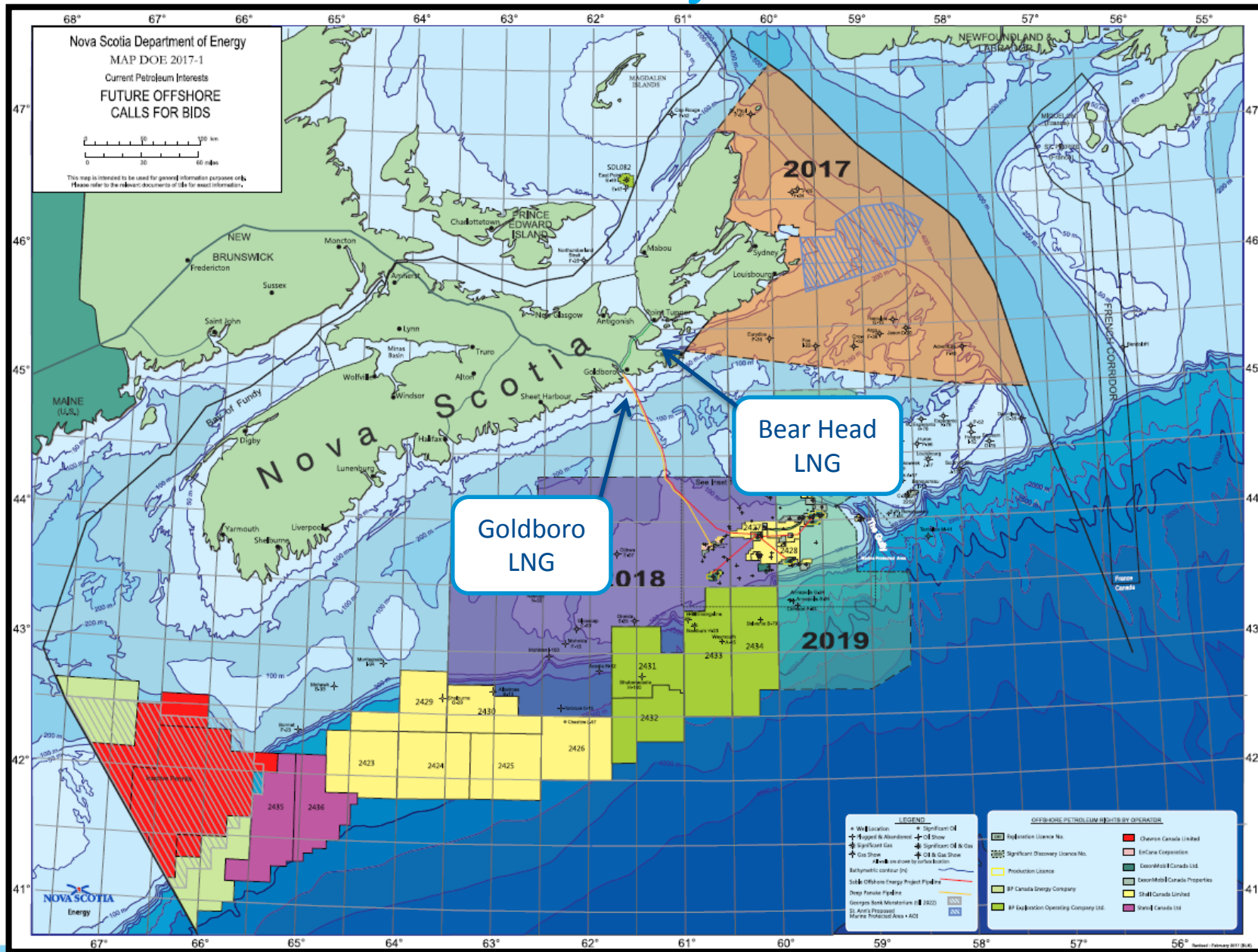
- ✓ Petroleum Systems Modeling
- ✓ Data Reprocessing
- ✓ Biostratigraphy
- ✓ Sedimentology
- ✓ Margin Dev. & Salt Structure
- ✓ Geochemistry
- ✓ Piston Coring Programs
- ✓ Depositional Environments



# Nova Scotia Call for Bids



# LNG Projects





# Nova Scotia's LNG Advantage

- ✓ Offshore resource
- ✓ Deep tide-water ports
- ✓ Infrastructure
- ✓ Community support
- ✓ Global demand
- ✓ Pipeline connections
- ✓ Pre-zoned industrial lands
- ✓ Proximity between markets & supply



# Decommissioning

- 7 offshore platforms
- 5 fields
- 21 wells
- 340 km of subsea pipeline
- Onshore facilities and pipeline

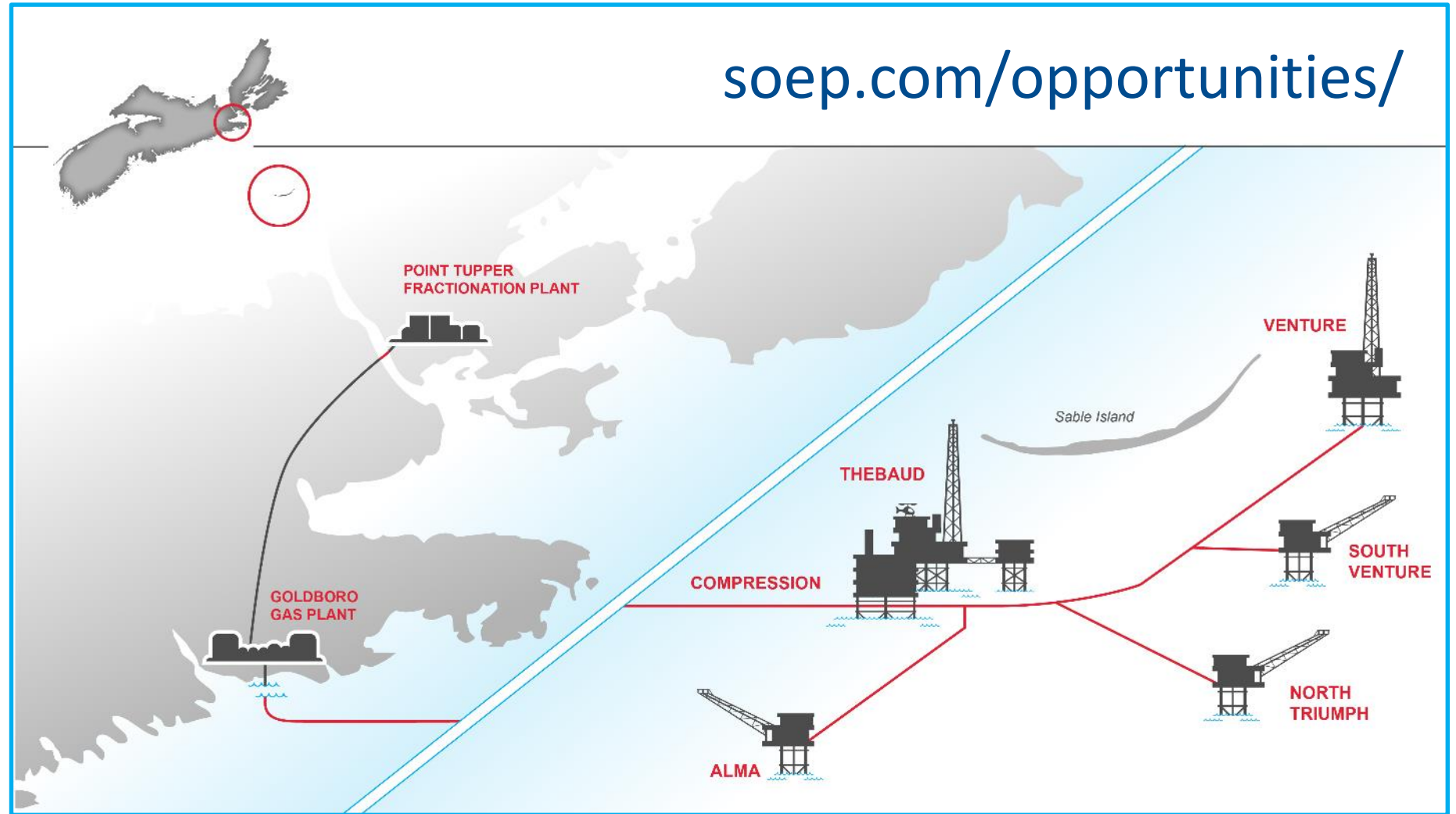


Photo credit: Soep.com

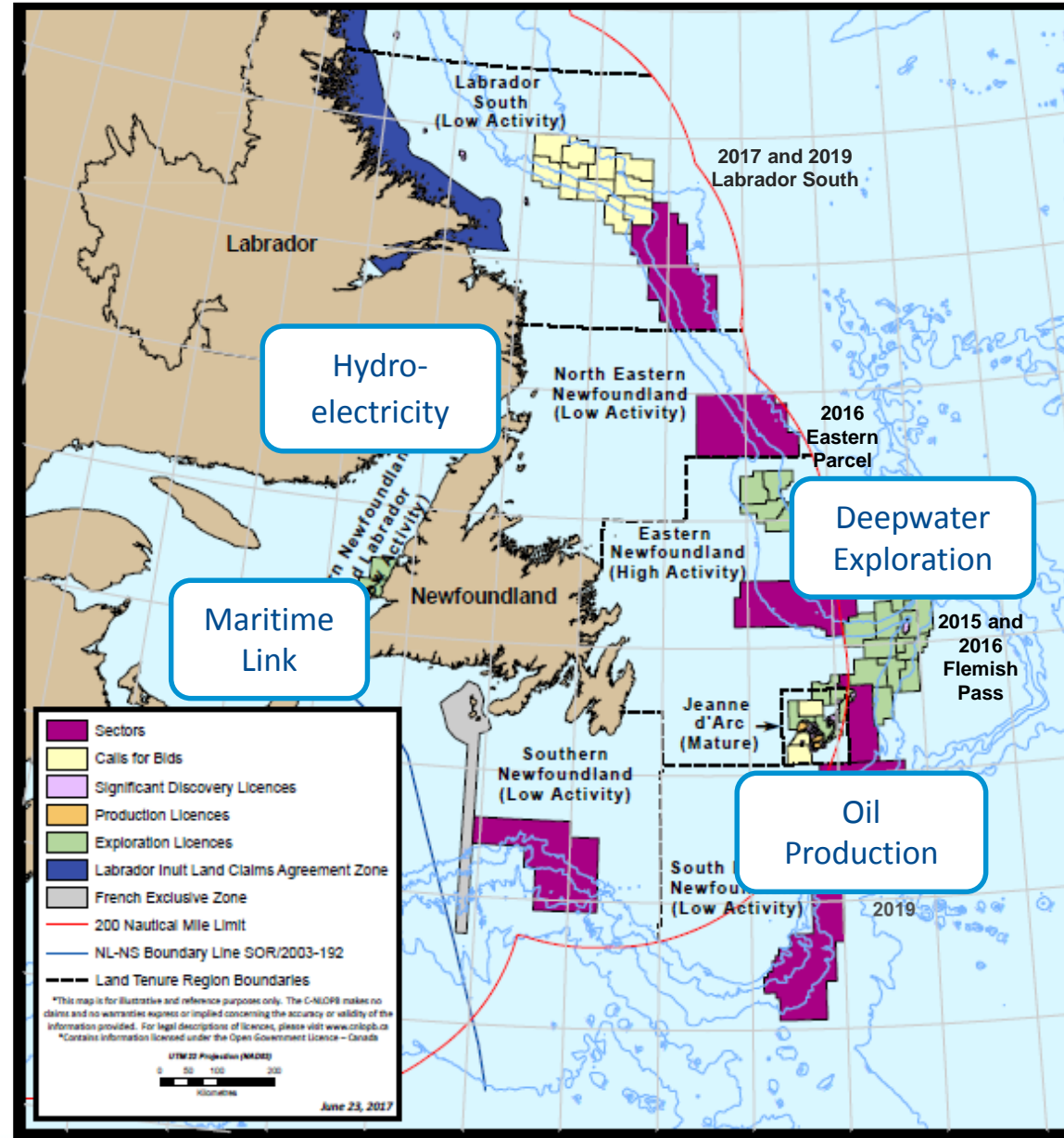


# Tidal Power

- Bay of Fundy - most powerful tides in the world
- 2,500 megawatts of extractable potential
- Global Players investing in tidal
  - 5 approved projects
  - 22 megawatts of tidal energy
- Marine Renewable Energy Act - to establish licensing regime



# Newfoundland & Labrador





# Offshore Newfoundland & Labrador Projects

Hibernia  
1997 –  
ExxonMobil



White Rose  
2005 –  
Husky Energy



Terra Nova  
2002 –  
Suncor Energy



Hebron  
2017 –  
ExxonMobil



# Newfoundland & Labrador Geoscience

- Nalcor invested in a TGS/PGS regional 2D seismic program
- Identified more than 20 basins and 350 prospects
- 8 seismic data acquisition programs scheduled for 2017



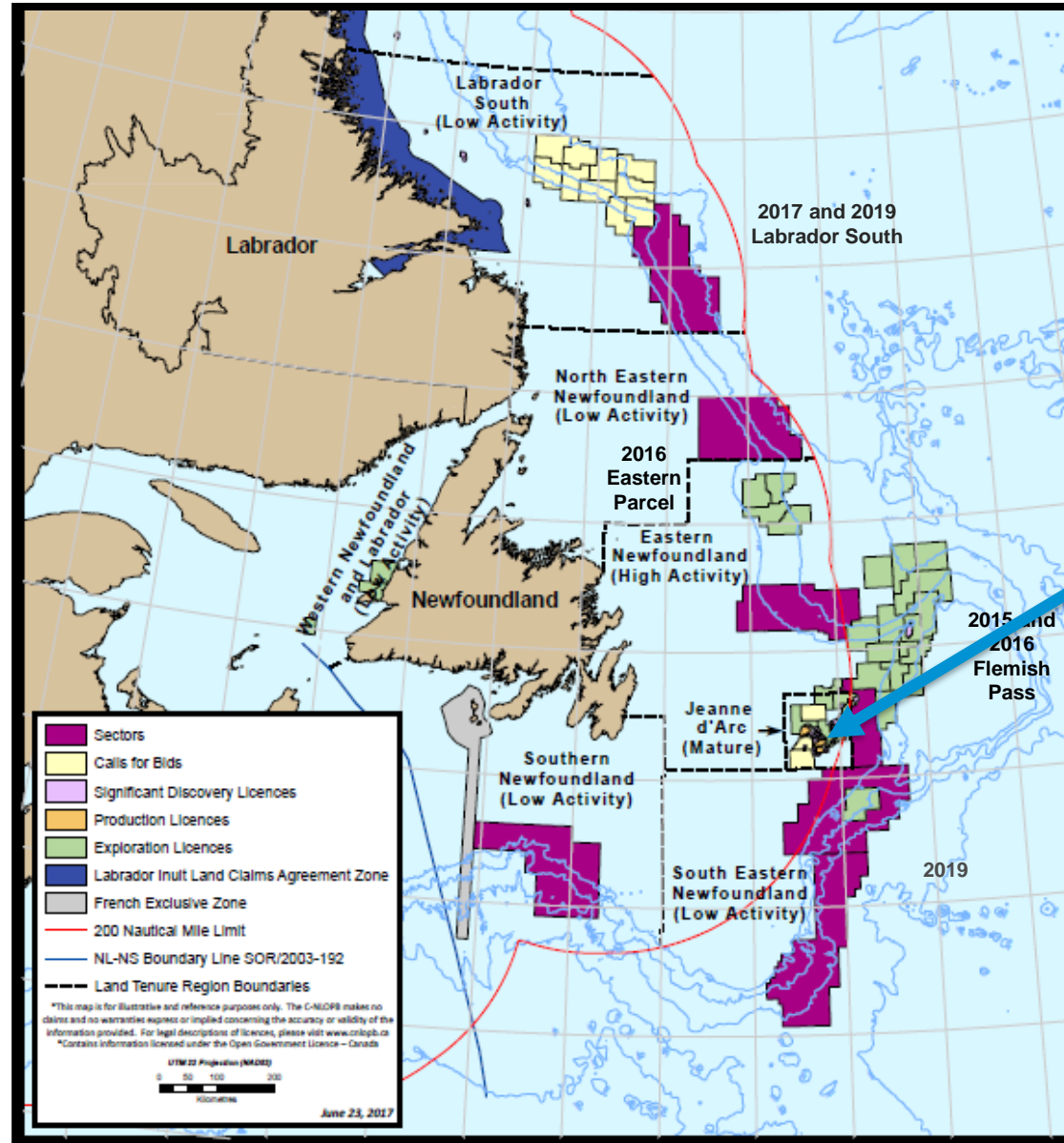


# Newfoundland & Labrador Prospectivity

- 2015 resource assessment identified potential for 12 billion barrels of oil and 113 TCF of gas in one area of the Flemish Pass
- 2016 resource assessment, identified potential for 25.5 billion barrels of oil and 20.6 TCF of gas in West Orphan basin
- Active exploration environment:
  - Over \$2.5 billion in commitments currently
  - 29 exploration licences
  - ExxonMobil, Chevron, Statoil, Husky Energy, BP, Nexen, Navitas, Suncor



# Newfoundland & Labrador Call for Bids



2017  
Call for  
Bids

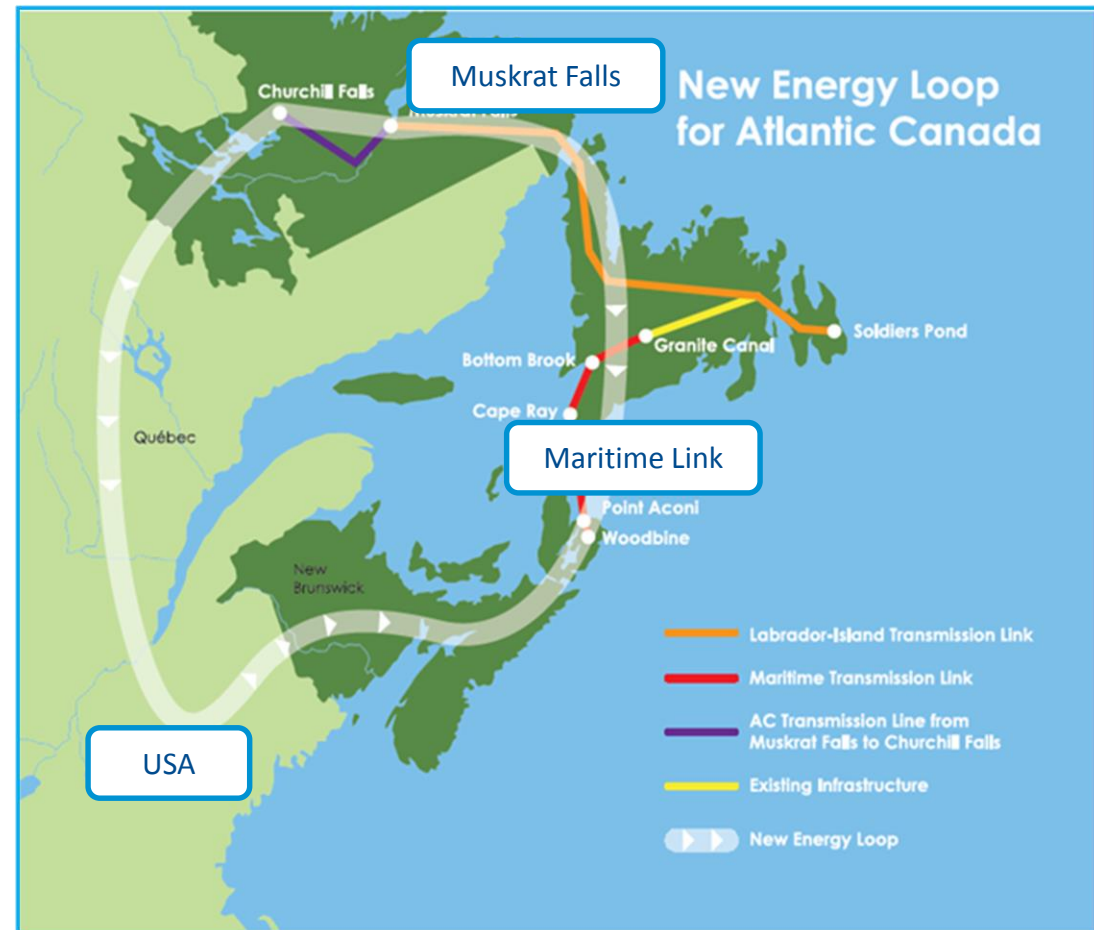
# Regional Collaboration - Hydroelectricity

## Carbon Reduction

- Canada responsible for under 2% of global GHG emissions

## Muskrat Falls and the Maritime Link

- Energy at a long-term fixed price
- System reliability
- Regional power distribution





# Our Ocean Advantage

## COVE





# Experienced Supply Community

- Largest concentration of ocean tech firms in North America
- Educated
- Experienced Competitive
- Predictable regulatory environment
- Accessible



[www.maritimesenergy.com](http://www.maritimesenergy.com)



[www.noia.ca](http://www.noia.ca)



[www.marinerenewables.ca](http://www.marinerenewables.ca)



[www.otcns.ca](http://www.otcns.ca)





September 30 – October 4, 2017  
Halifax, Nova Scotia Canada

# Mark your Calendar

World Energy Cities  
Partnership AGM & 35th  
Annual Core Energy  
Conference

[wecphalifax2017.com](http://wecphalifax2017.com)  
[coreconference.com](http://coreconference.com)



# Atlantic Canada Open for Business

[toby.balch@novascotia.ca](mailto:toby.balch@novascotia.ca)

