Outlook for East Coast Oil Developments

Presentation to the National Energy Board's
2010 Energy Futures Conference

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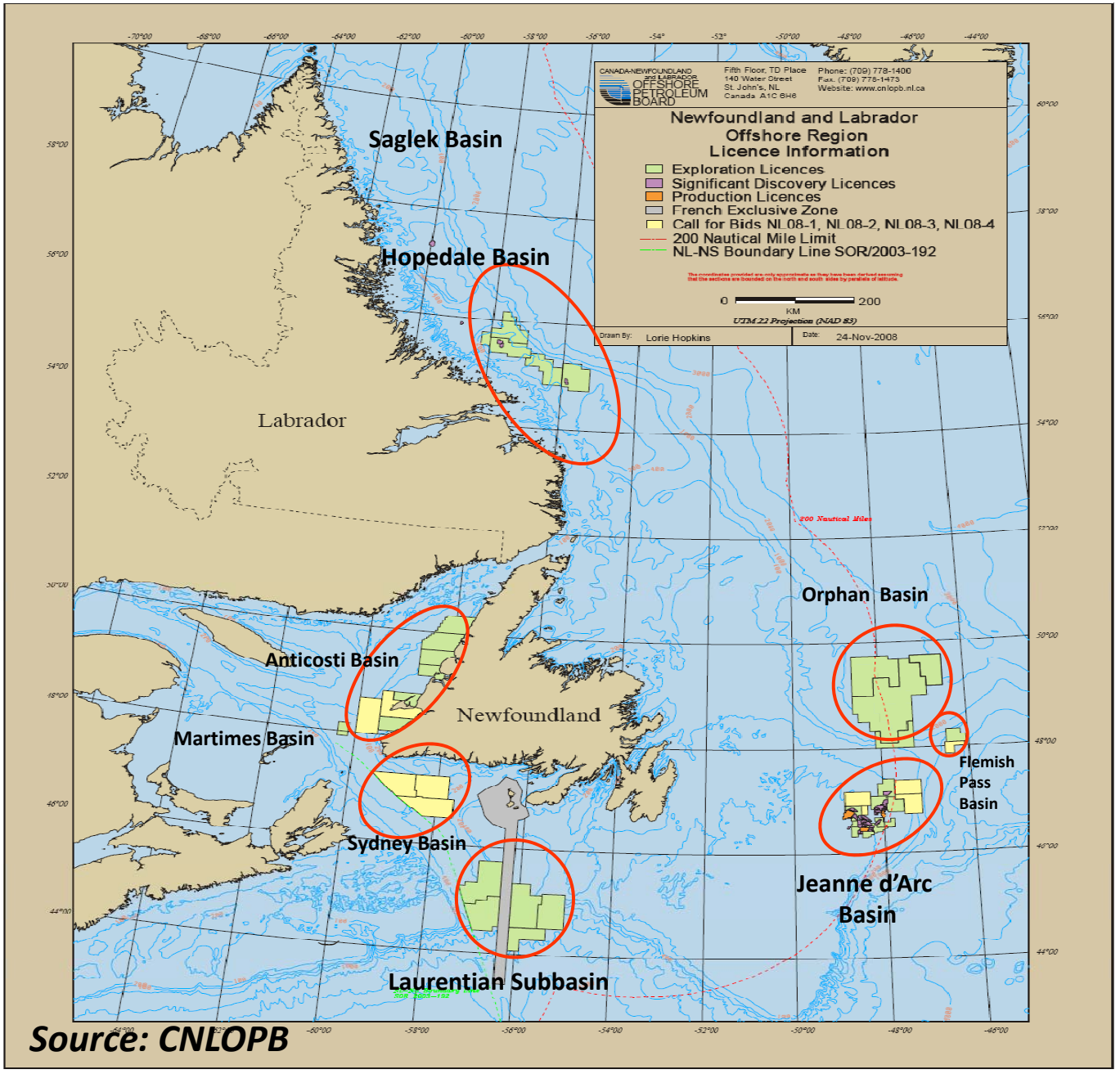
Presentation Outline

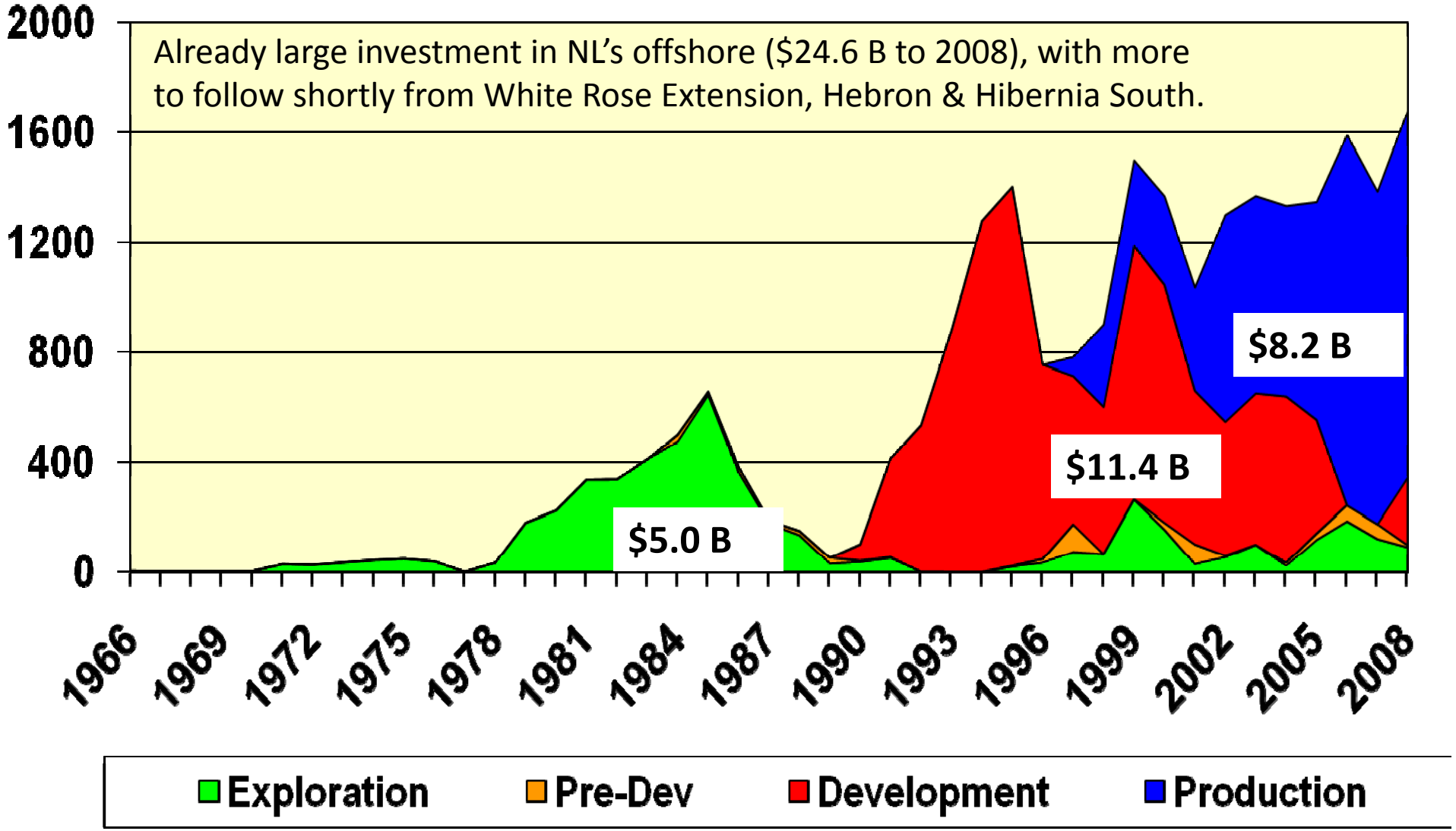
- Basins
- Investment
- Land Sales
- Exploration
- Recoverable Reserves
- Offshore Production
- Hibernia & Hibernia South Extension
- White Rose Expansion
- Hebron
- Orphan Basin
- Eyes to the Future
- Key to Arctic
- Conclusion

NL Basins



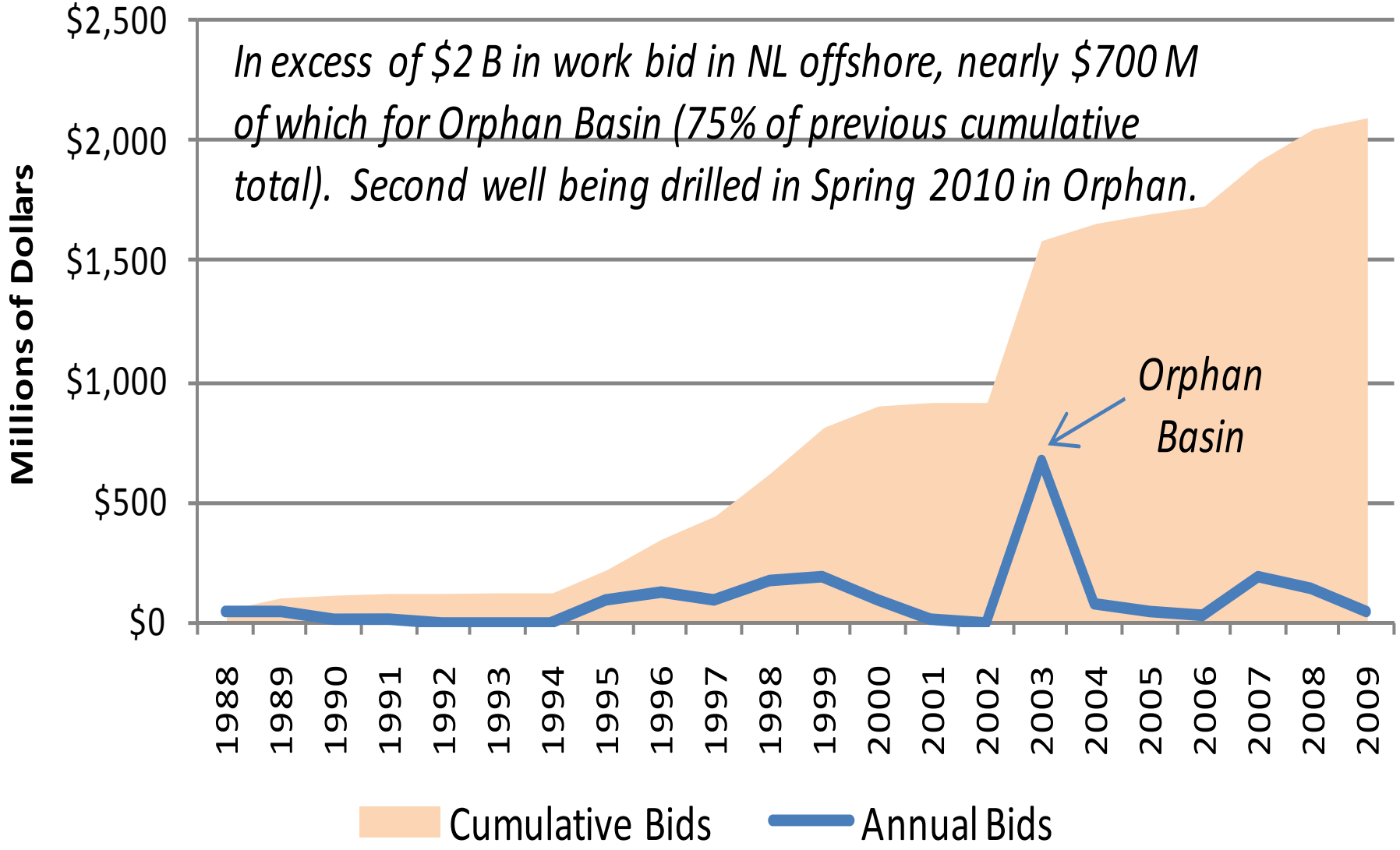
Source: CNLOPB

Offshore Expenditures NL



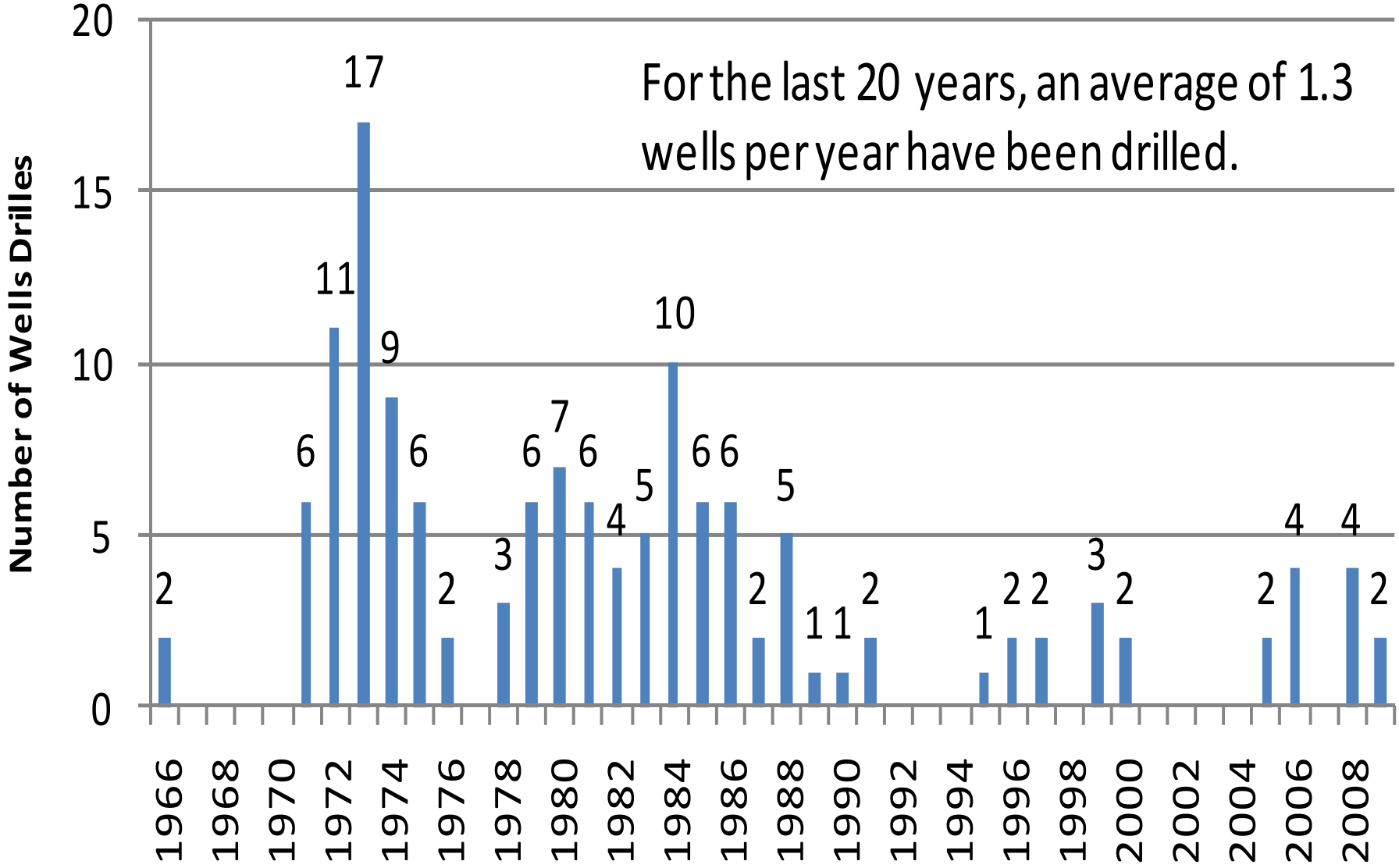
Source: CNLOPB

Bids for NL Offshore Parcels: 1988-2009

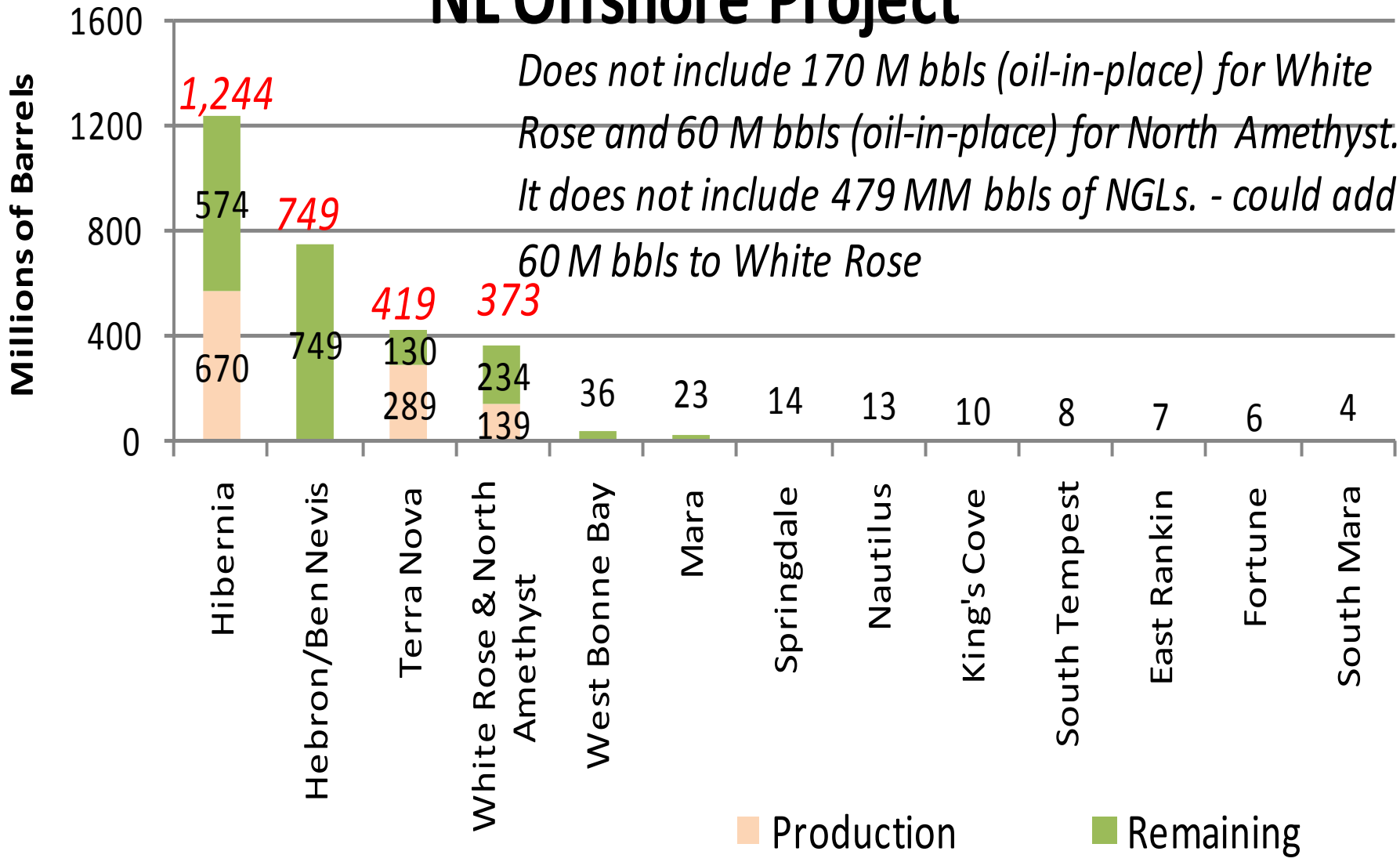


Data Source: CNLOPB website

Exploration Wells Drilled Offshore NL



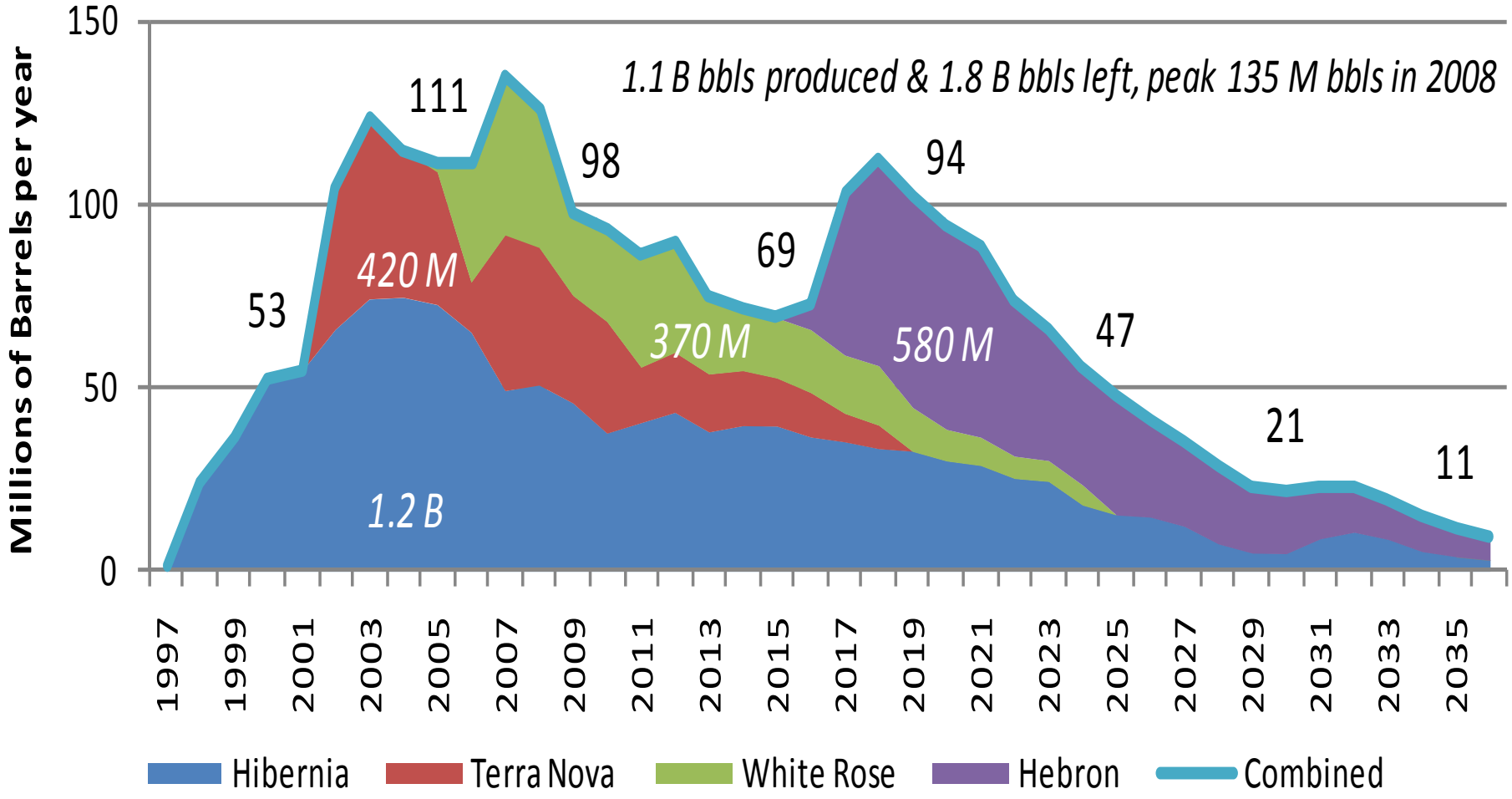
Recoverable Oil Reserves/Resources
NL Offshore Project



Does not include 170 M bbls (oil-in-place) for White Rose and 60 M bbls (oil-in-place) for North Amethyst. It does not include 479 MM bbls of NGLs. - could add 60 M bbls to White Rose

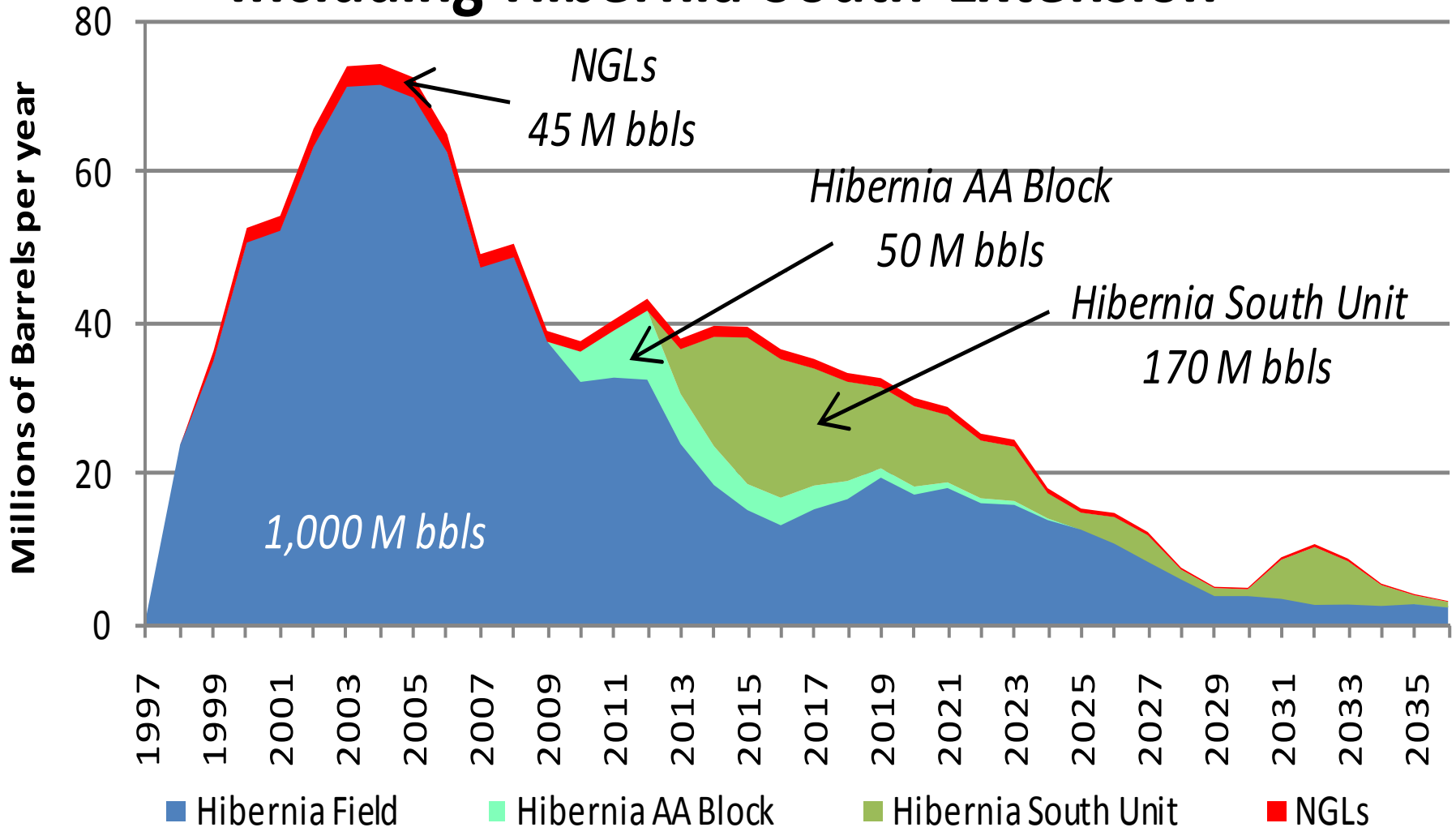
CNLOPB website - Production as of Jan 31, 2010

Production Profile NL Offshore - Actual and Expected



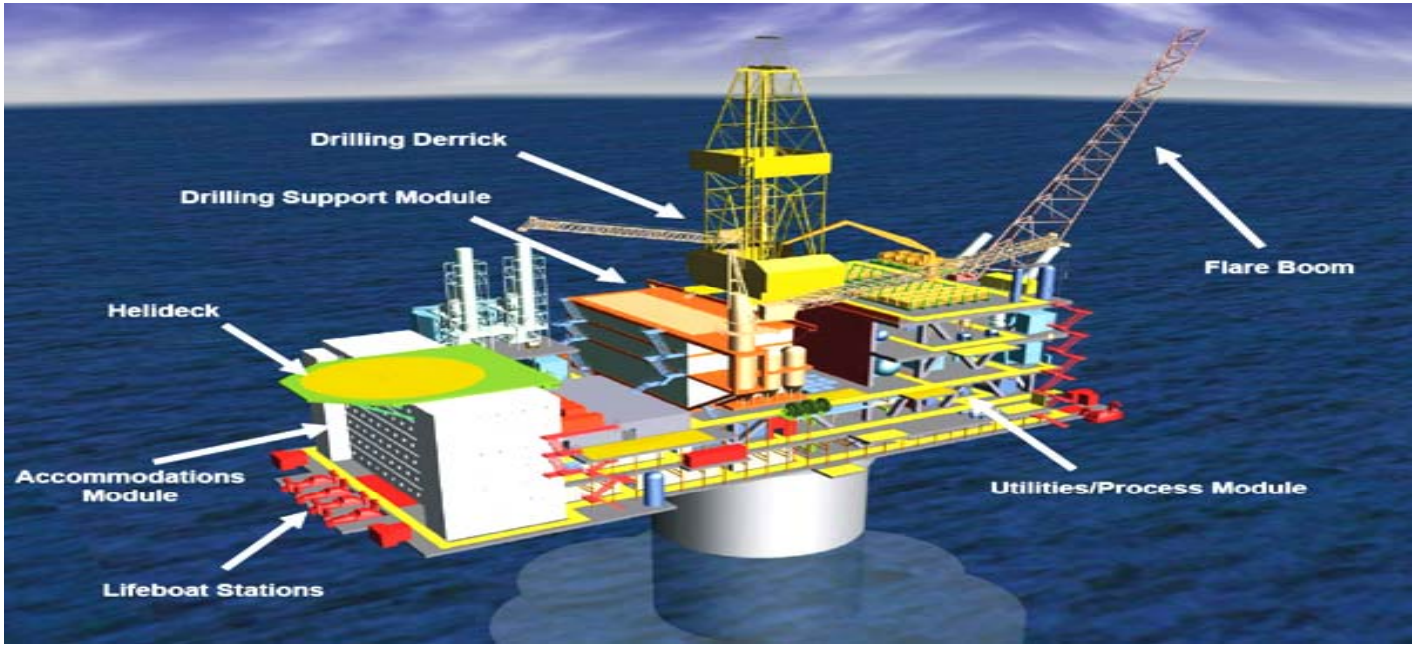
Data Source: Actual production - CNLOPB, estimated prodcution - Locke

Hibernia Production - Including Hibernia South Extension



Derived from CNLOPB Staff Analysis 2009-08-07, Table A.2.2 HDP Amendment Application

Hebron

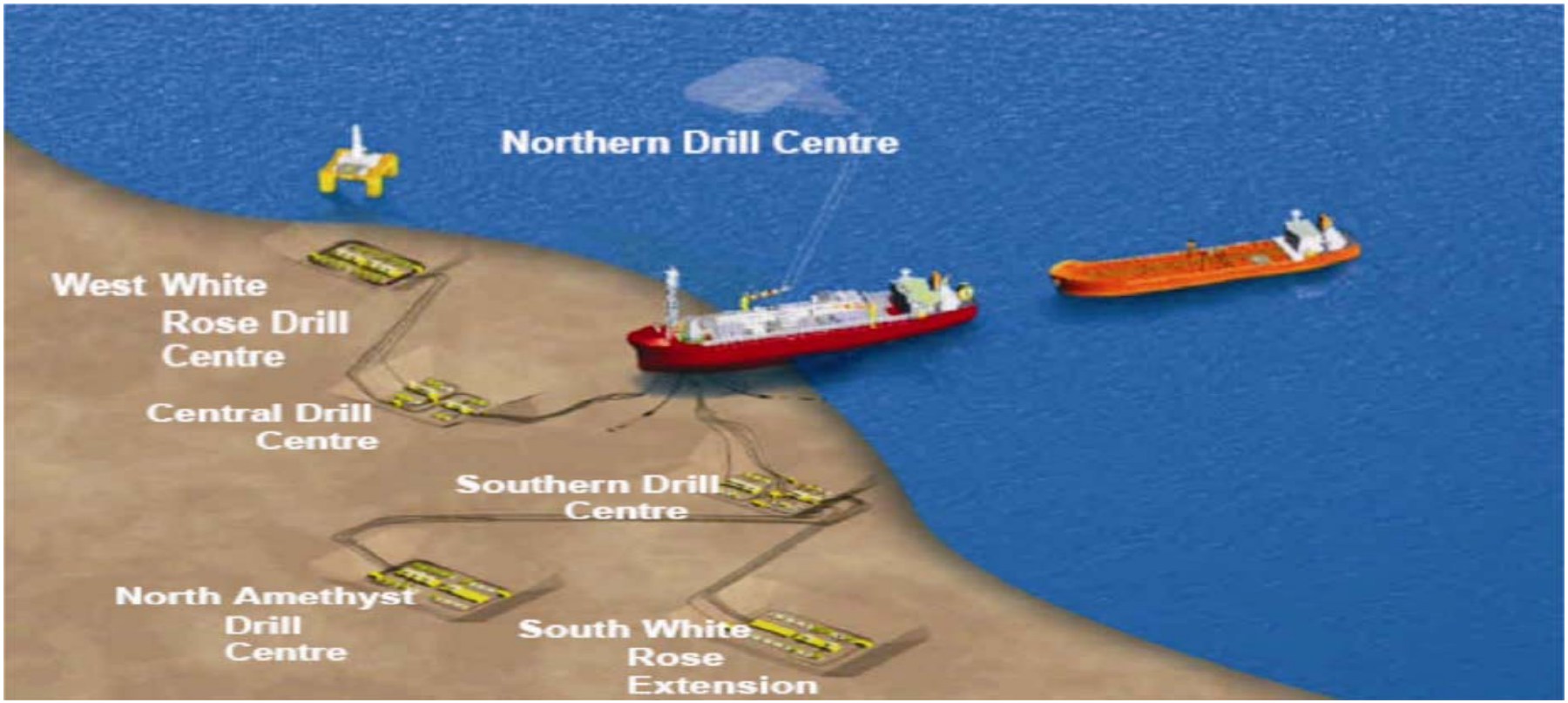


http://www.hebronproject.com/

- GBS development
- $4-6 B investment
- approx 600 M bbls
- first oil 2017
- heavy oil – Ben Nevis pool (80% of production) has 20^{o} API
- 90 metres water depth

White Rose Extension

- Tie-back to FPSO (main field)
- $3.5 B investment
- Double production (200 M bbls



Source: Petroleum Development, 2008 Annual Report, Gov NL

Orphan Basin

- *Chevron Canada Limited and its Orphan Basin co-venturers (ExxonMobil Canada Ltd., Imperial Oil Resources Ventures Limited and Shell Canada Energy) to drill an exploration well (Lona O-55) in the Spring of 2010.*
- *The water depth, at 2,600 metres, will set a new record for offshore wells drilled in Canada.*
- *Chevron plans to use the Stena Carron drillship. The Orphan Basin exploration well will take several months to drill and evaluate.*

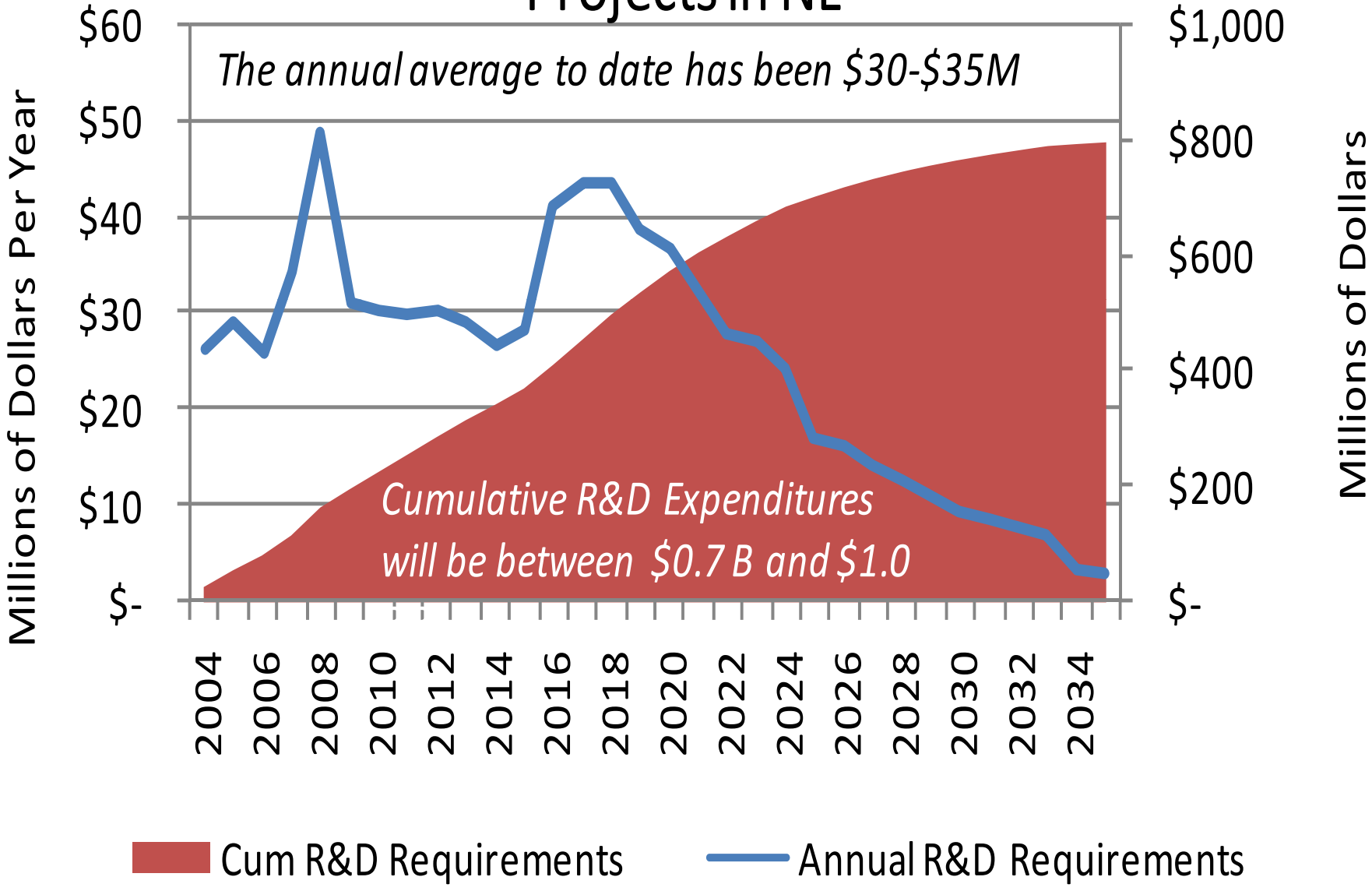
Eyes to the Future

- Mizzen (SDL 1047)
  - Follow on from Mizzen L-11 in 2003
  - Feb 22, 2010 given SDL status (Statoil & Husky)
  - 1,100 m water depth
  - Outside of 200 mile limit, but on continental shelf
  - Standalone development needed
- Ballicatters
  - Single well drilled to evaluate targets with two adjacent ELs under rig-sharing agreement
  - EL1113 validated but EL1092 conspicuously absent Period II extension
  - Rumors that barite sent to rig is consistent with a pressure event being encountered
- West Coast
  - 2 wells drilled in 2008 and 3 onshore wells to be drilled in 2010 by NALCOR

R&D – The Key to the Arctic

- Given NL's proximity to the Arctic;
- Given how NL has met the challenges for ice, icebergs and harsh ocean environments on the Grand Banks;
- Given the harsh climate challenges that NL will face in developing its gas fields off Labrador;
- Given the research expertise currently resident at C-CORE and MUN's Faculty of Engineering
- Given R&D and E&T commitments expected within NL as a result of its oil resources ($0.5 to $1 B from exiting & planned projects)
- NL is the natural gateway for the exploitation of resources in the Arctic. It can also act as a conduit for the R&D needed to overcome the Arctic challenges

R&D Requirements from Existing and Planned Oil Projects in NL



Source: Locke Presentation to NOIA 2009

Conclusion

- Activity first started in mid-1960s, with first oil in 1997 and 1 Bth barrel produced in 2009
- $25 B invested in offshore to date
- Three operating projects
- Hebron about to start development with production expect 2017
- White Rose Extension and Hibernia South Extension commenced
- Orphan basin has hugh potential
- Mizzen, Ballicatters and west coast hold promise
- Natural gas potential high (10.8 TCF)
- Gateway to the Arctic – R&D and logistics

Thank you for letting me share my ideas