# America’s Natural Gas Market Challenge

American Gas Association

2005

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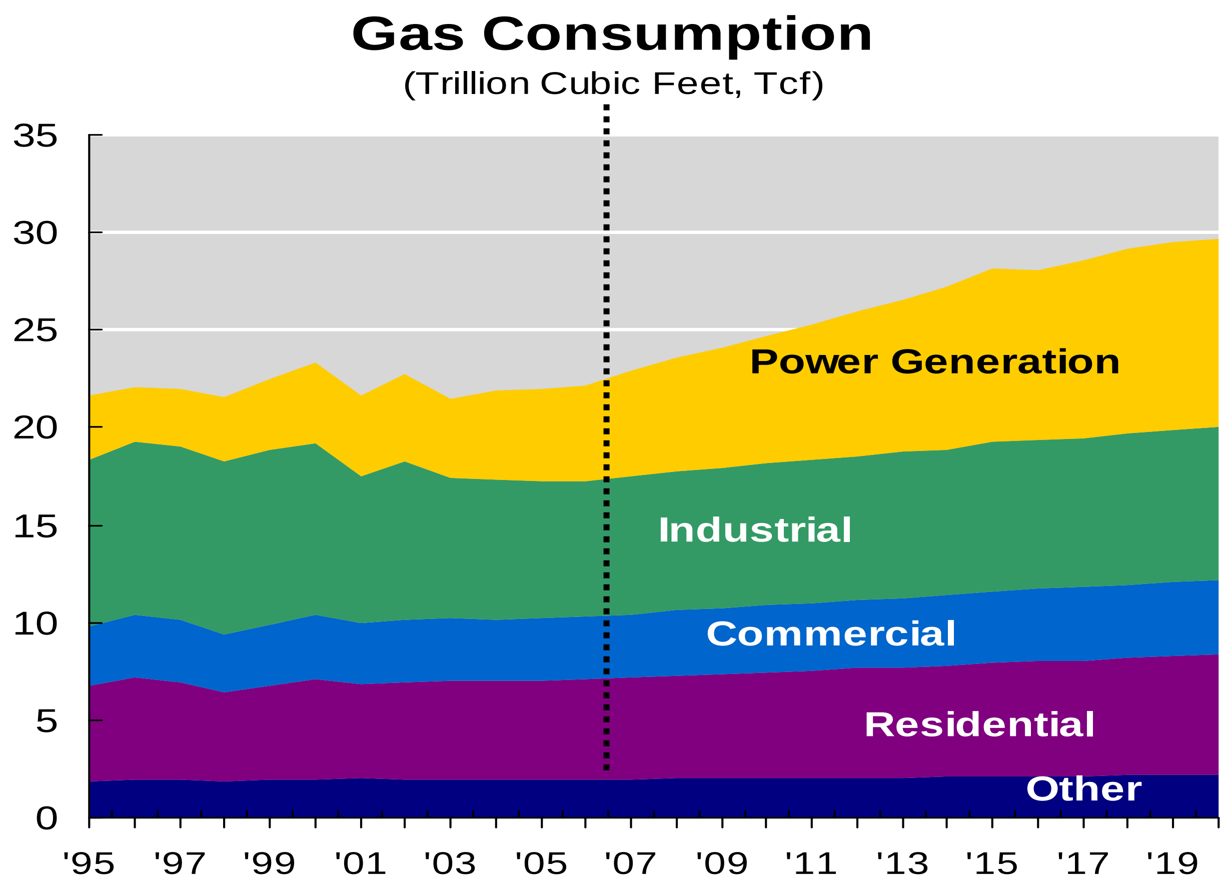
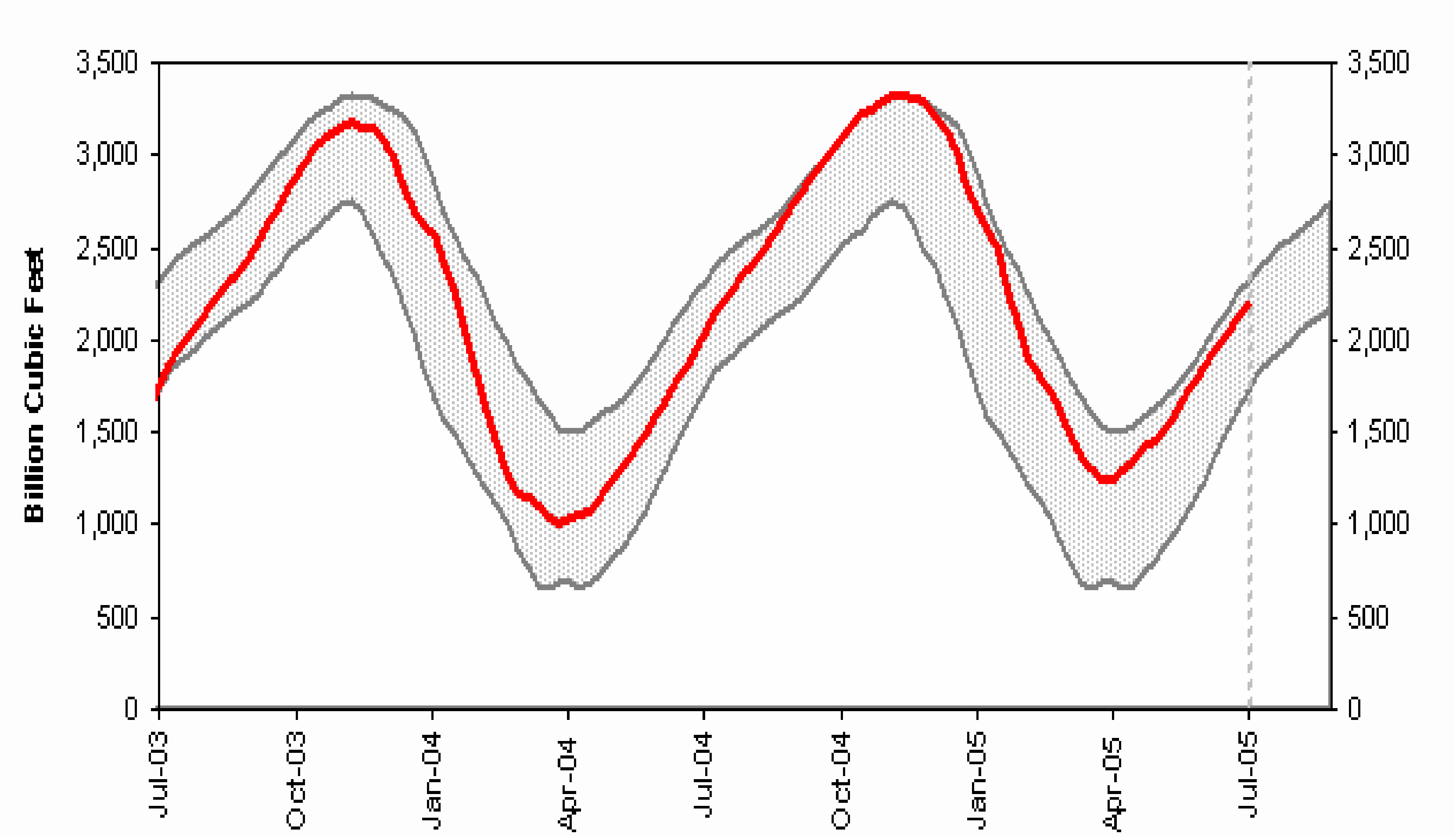
# Gas Demand Outlook




*Source: Energy and Environmental Analysis (EEA)*

# Working Gas in Underground Storage Compared With 5-Year Range (EIA)

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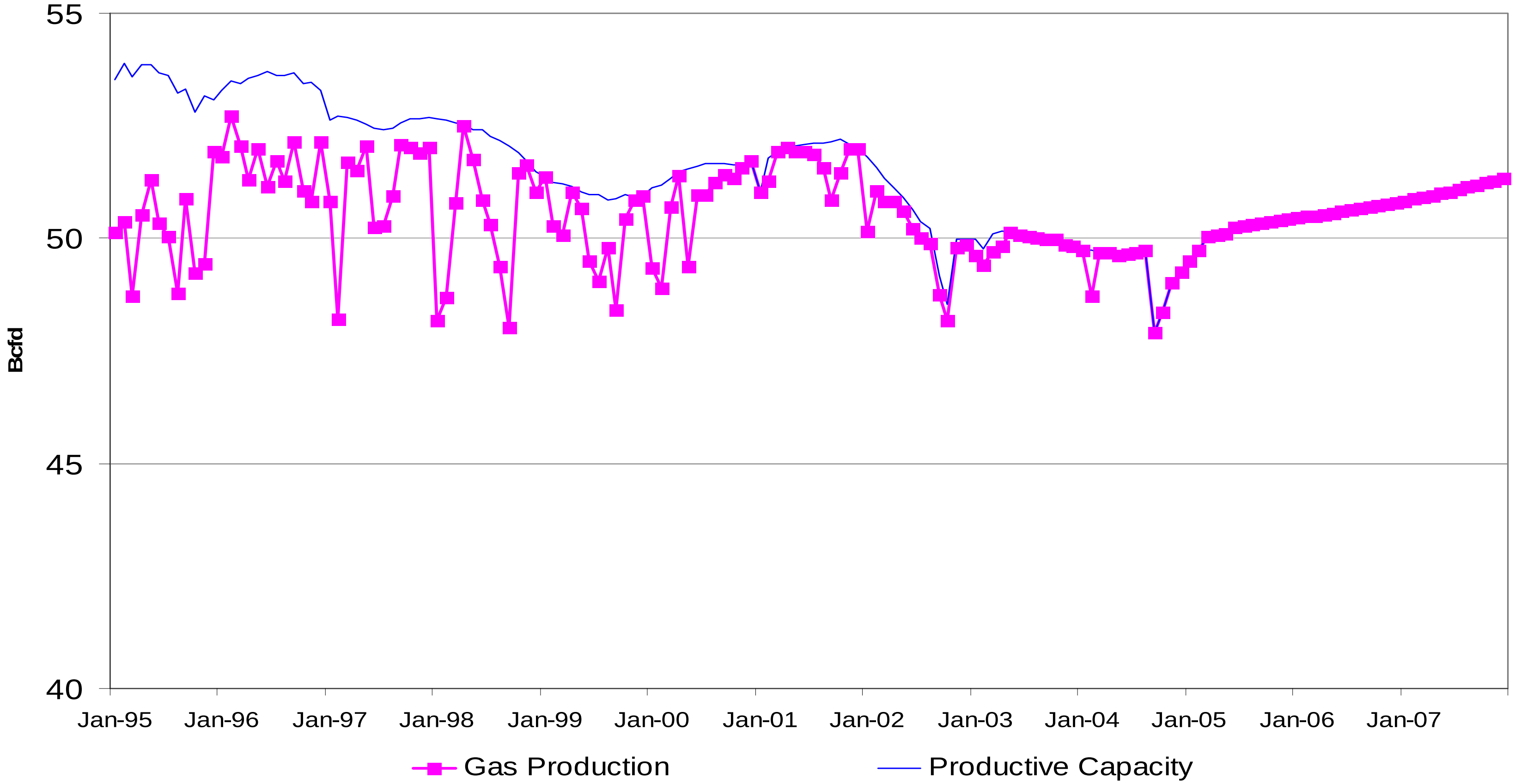
# Lower-48 Dry Gas Production vs. Dry Gas Productive Capacity

Source: Energy and Environmental Analysis, Inc.

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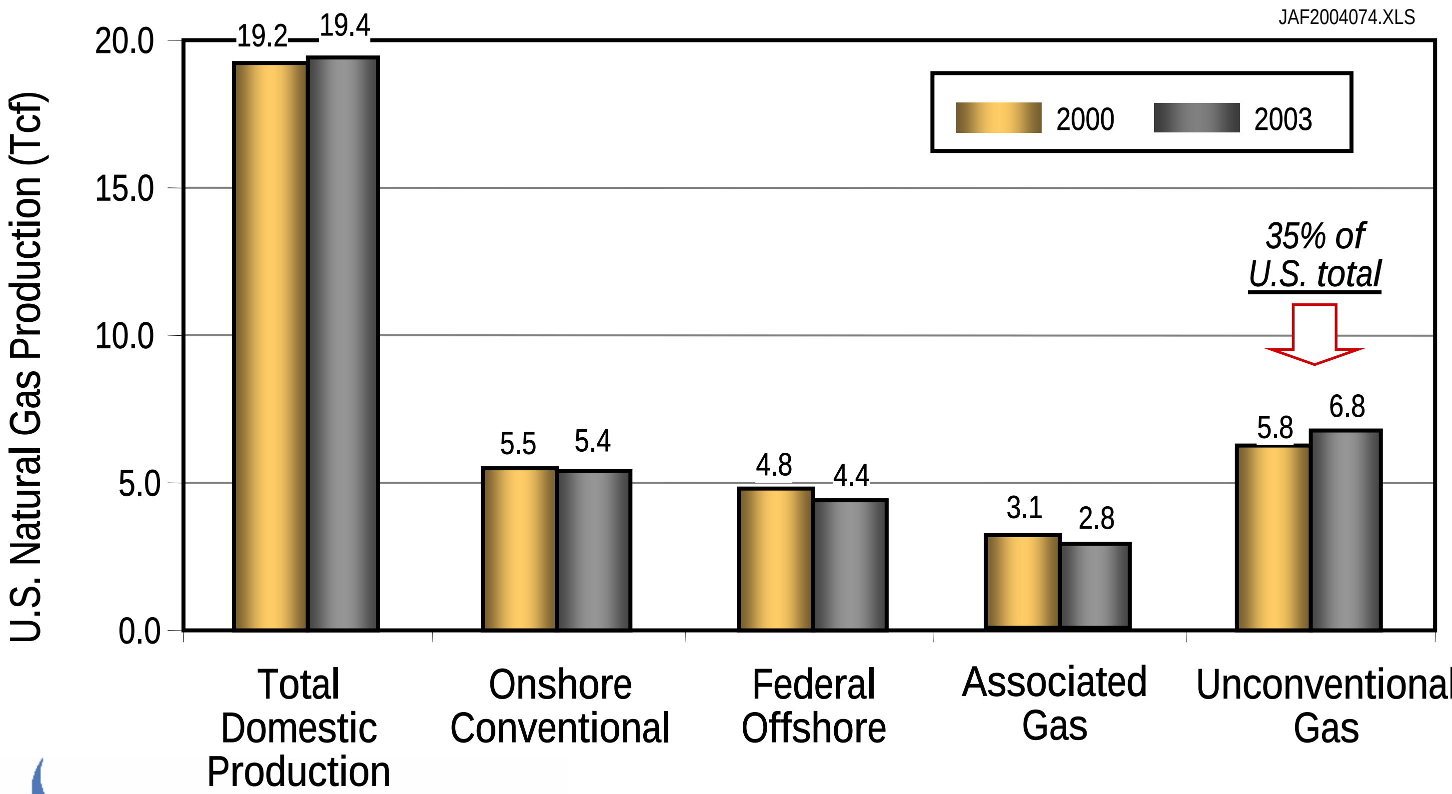
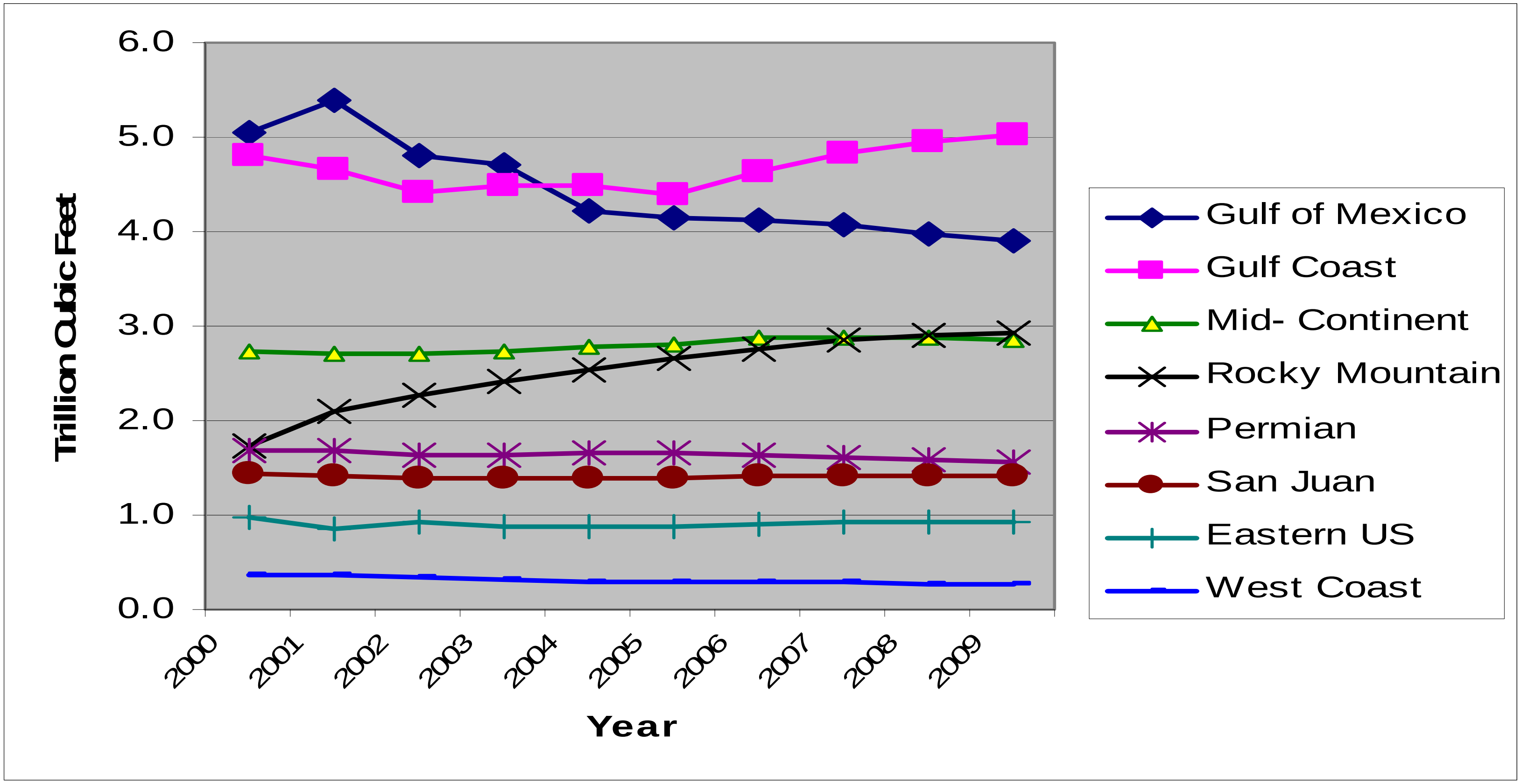
# STATUS OF U.S. UNCONVENTIONAL GAS PRODUCTION

In the past three years, unconventional gas has helped maintain U.S. production and now accounts for 35% of U.S. natural gas supplies.




Source:
- Conventional/Offshore – EIA Annual Reserve Reports.
- Unconventional – Advanced Resources International data base.

# Lower-48 Annual Gas Production By Region 2000-2009

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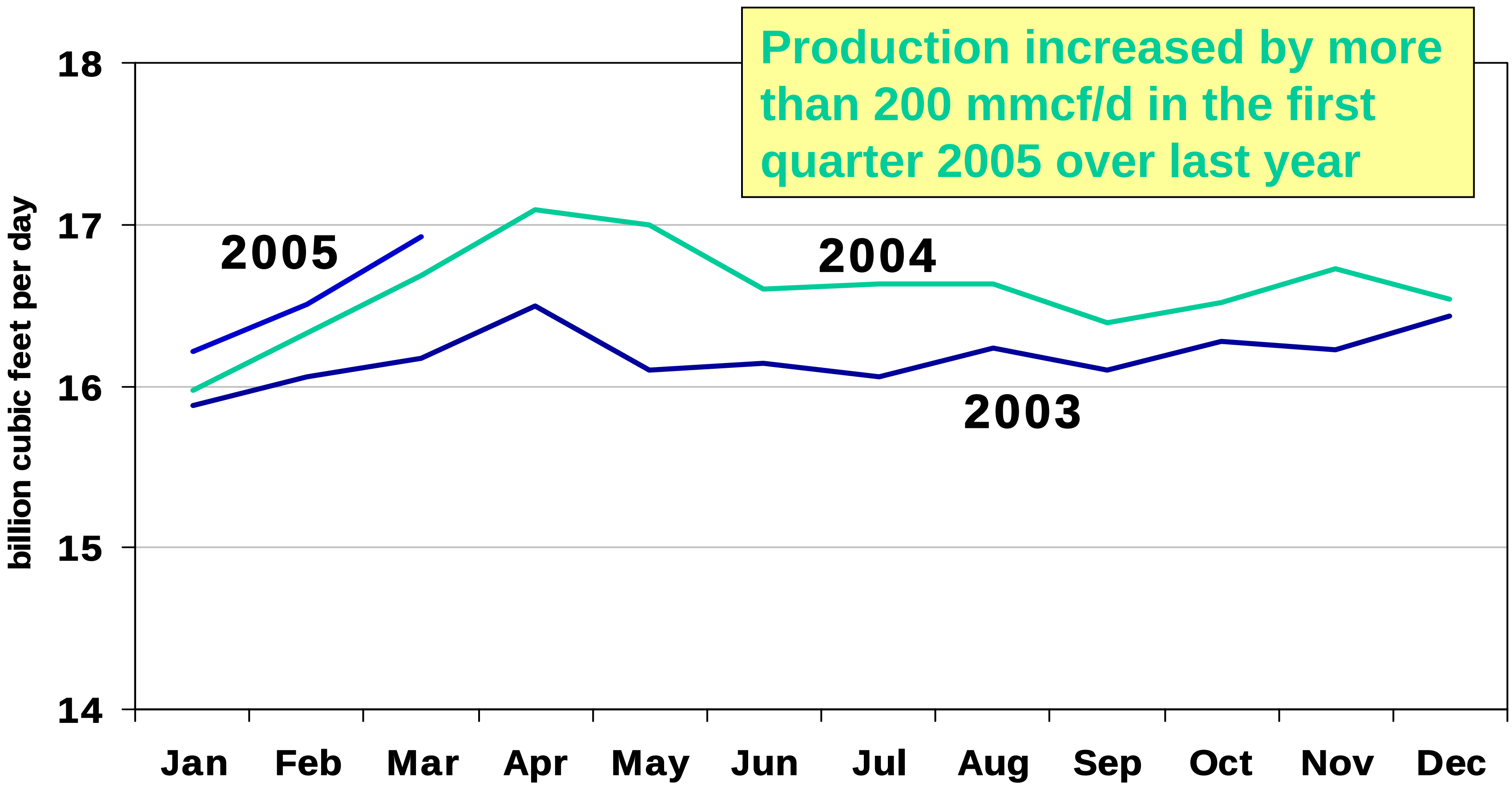
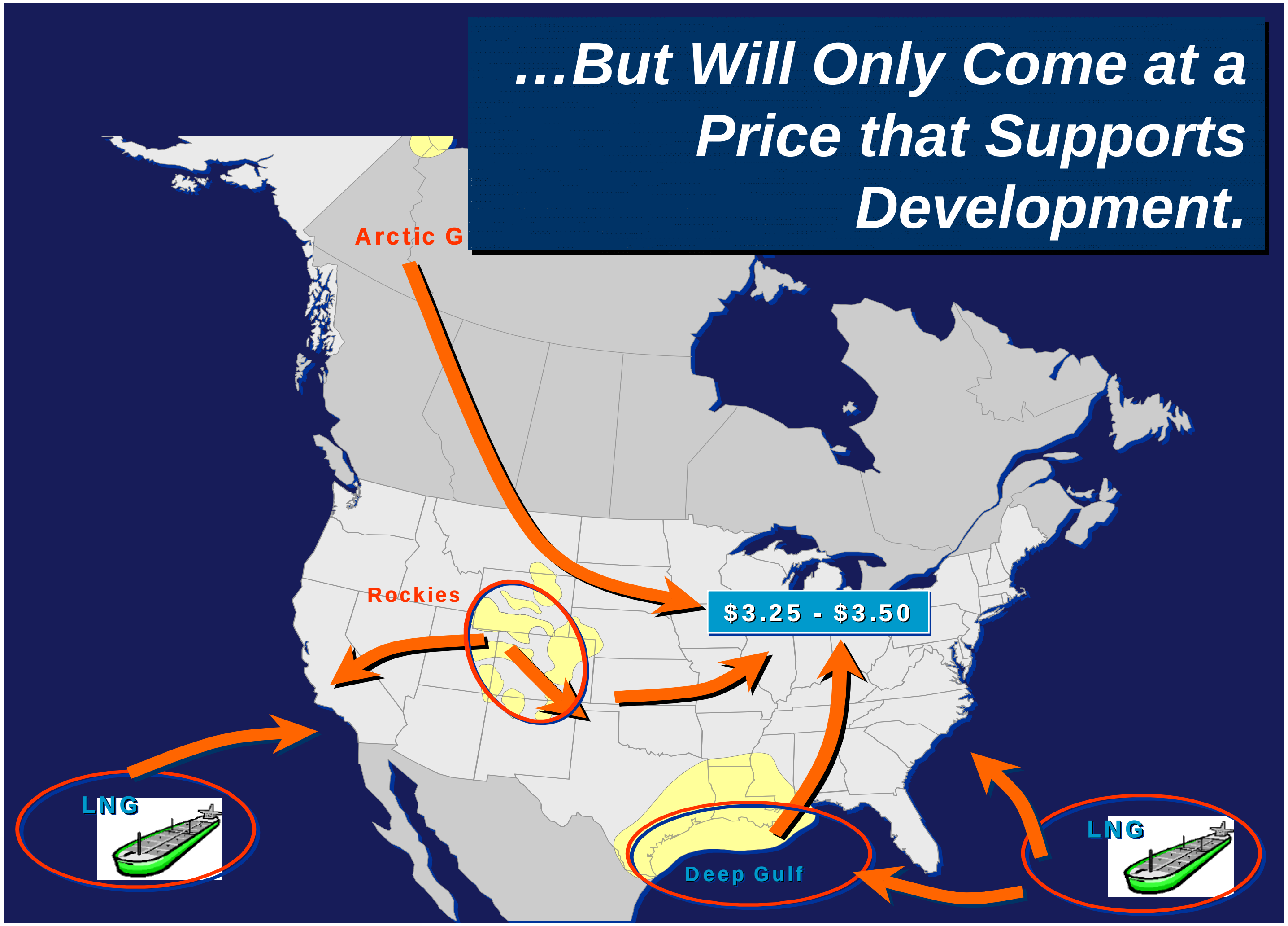
Source: Lippman Consulting, Inc.

# Western Canada Natural Gas Production




Source: FirstEnergy Capital

# New Supply Must Come From New Areas...

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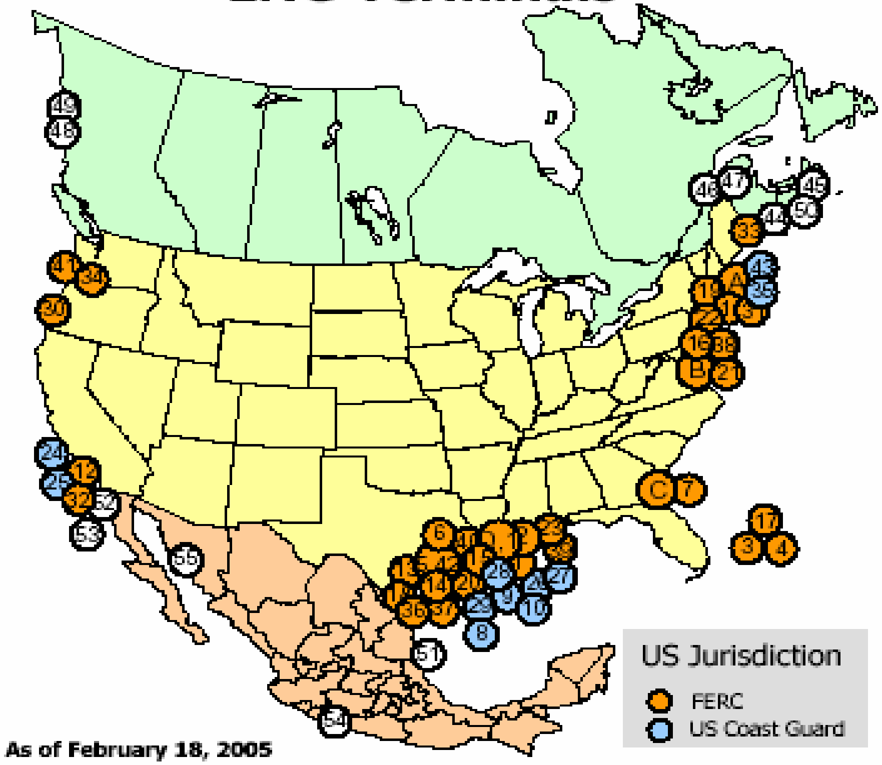
Source: CMS Panhandle Companies

FERC

# Existing, Proposed and Potential North American LNG Terminals




**As of February 18, 2005**

**   US pipeline approved; LNG terminal pending in Bahamas*
*** These projects have been approved by the Mexican and Canadian authorities*

*Office of Energy Projects*

**Constructed**
**A. Everett, MA :** 1.035 Bcfd (Tractebel - DOMAC)
**B. Cove Point, MD :** 1.0 Bcfd (Dominion - Cove Point LNG)
**C. Elba Island, GA :** 0.68 Bcfd (El Paso - Southern LNG)
**D. Lake Charles, LA :** 1.0 Bcfd (Southern Union - Trunkline LNG)

**Approved by FERC**
**1. Lake Charles, LA:** 1.1 Bcfd (Southern Union - Trunkline LNG)
**2. Hackberry, LA :** 1.5 Bcfd, (Sempra Energy)
**3. Bahamas :** 0.84 Bcfd, (AES Ocean Express)*
**4. Bahamas :** 0.83 Bcfd, (Calypso Tractebel)*
**5. Freeport, TX :** 1.5 Bcfd, (Cheniere/Freeport LNG Dev.)
**6. Sabine, LA :** 2.6 Bcfd (Cheniere LNG)
**7. Elba Island, GA:** 0.54 Bcfd (El Paso - Southern LNG)

**Approved by MARAD/Coast Guard**
**8. Port Pelican:** 1.6 Bcfd, (Chevron Texaco)
**9. Gulf of Mexico:** 0.5 Bcfd, (El Paso Energy Bridge GOM, LLC)
**10. Louisiana Offshore :** 1.0 Bcfd (Gulf Landing - Shell)

**Proposed to FERC**
**11. Fall River, MA :** 0.8 Bcfd, (Weaver's Cove Energy/Hess LNG)
**12. Long Beach, CA :** 0.7 Bcfd, (Mitsubishi/ConocoPhillips - Sound Energy Solutions)
**13. Corpus Christi, TX :** 2.6 Bcfd, (Cheniere LNG)
**14. Corpus Christi, TX :** 1.0 Bcfd (Vista Del Sol - ExxonMobil)
**15. Sabine, TX :** 1.0 Bcfd (Golden Pass - ExxonMobil)
**16. Logan Township, NJ :** 1.2 Bcfd (Crown Landing LNG - BP)
**17. Bahamas :** 0.5 Bcfd, (Seafarer - El Paso/FPL )
**18. Corpus Christi, TX:** 1.0 Bcfd (Ingleside Energy - Occidental Energy Ventures)
**19. Providence, RI :** 0.5 Bcfd (Keyspan & BG LNG)
**20. Port Arthur, TX:** 1.5 Bcfd (Sempra)
**21. Cove Point, MD :** 0.8 Bcfd (Dominion)
**22. LI Sound, NY:** 1.0 Bcfd (Broadwater Energy - TransCanada/Shell)
**23. Pascagoula, MS:** 1.0 Bcfd (Gulf LNG Energy LLC)

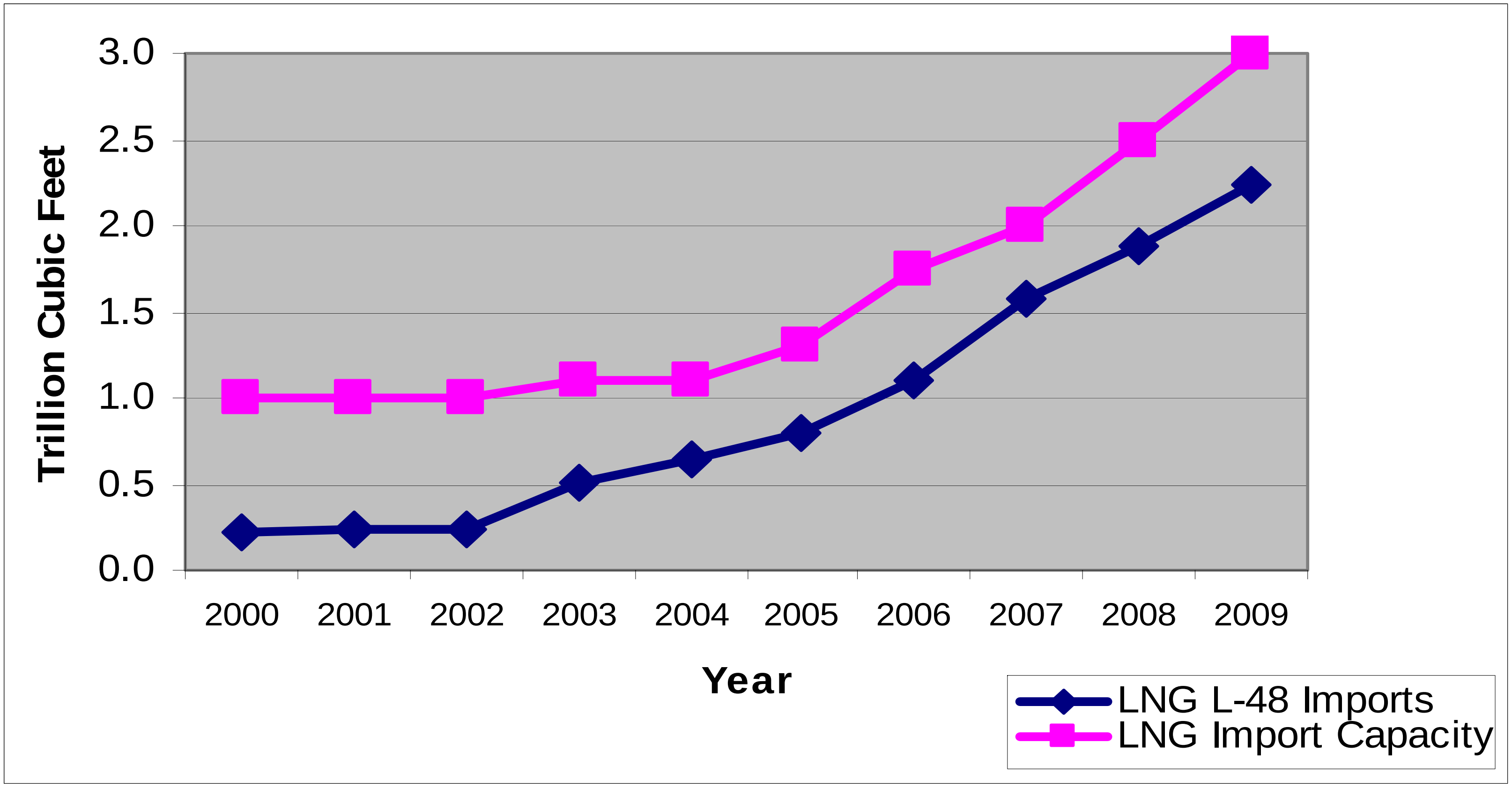
**Proposed to MARAD/Coast Guard**
**24. California Offshore:** 1.5 Bcfd (Cabrillo Port - BHP Billiton)
**25. So. California Offshore :** 0.5 Bcfd, (Crystal Energy)
**26. Louisiana Offshore :** 1.0 Bcfd (Main Pass McMoRan Exp.)
**27. Gulf of Mexico:** 1.0 Bcfd (Compass Port - ConocoPhillips)
**28. Gulf of Mexico:** 2.8 Bcfd (Pearl Crossing - ExxonMobil)
**29. Gulf of Mexico:** 1.5 Bcfd (Beacon Port Clean Energy Terminal - ConocoPhillips)

**Potential Sites Identified by Project Sponsors**
**30. Coos Bay, OR:** 0.13 Bcfd, (Energy Projects Development)
**31. Somerset, MA:** 0.65 Bcfd (Somerset LNG)
**32. California - Offshore:** 0.75 Bcfd, (Chevron Texaco)
**33. Pleasant Point, ME :** 0.5 Bcf/d (Quoddy Bay, LLC)
**34. St. Helens, OR:** 0.7 Bcfd (Port Westward LNG LLC)
**35. Offshore Boston, MA:** 0.8 Bcfd (Northeast Gateway - Excelerate Energy)
**36. Galveston, TX:** 1.2 Bcfd (Pelican Island - BP)
**37. Port Lavaca, TX:** 1.0 Bcfd (Calhoun LNG - Gulf Coast LNG Partners)
**38. Philadelphia, PA:** 0.6 Bcfd (Freedom Energy Center - PGW)
**39. Pascagoula, MS:** 1.3 Bcfd (ChevronTexaco)
**40. Cameron, LA:** 3.3 Bcfd (Creole Trail LNG - Cheniere LNG)
**41. Astoria, OR:** 1.0 Bcfd (Skipanon LNG - Calpine)
**42. Freeport, TX:** 1.5 Bcfd, (Cheniere/Freeport LNG Dev. - Expansion)
**43. Offshore Boston, MA:** 0.4 Bcfd (Neptune LNG - Tractebel)

**Canadian Approved and Potential Terminals**
**44. St. John, NB :** 1.0 Bcfd, (Canaport - Irving Oil)
**45. Point Tupper, NS** 1.0 Bcf/d (Bear Head LNG - Anadarko)
**46. Quebec City, QC :** 0.5 Bcfd (Project Rabaska - Enbridge/Gaz Met/Gaz de France)
**47. Rivière-du- Loup, QC:** 0.5 Bcfd (Cacouna Energy - TransCanada/PetroCanada)
**48. Kitimat, BC:** 0.61 Bcfd (Galveston LNG)
**49. Prince Rupert, BC:** 0.30 Bcfd (WestPac Terminals)
**50. Goldboro, NS** 1.0 Bcfd (Keltic Petrochemicals)

**Mexican Approved and Potential Terminals**
**51. Altamira, Tamulipas :** 0.7 Bcfd, (Shell/Total/Mitsui)**
**52. Baja California, MX :** 1.0 Bcfd, (Sempra & Shell)**
**53. Baja California - Offshore :** 1.4 Bcfd, (Chevron Texaco)
**54. Lázaro Cárdenas, MX :** 0.5 Bcfd (Tractebel/Repsol)
**55. Puerto Libertad, MX:** 1.3 Bcfd (Sonora Pacific LNG)

# LNG Imports and Import Capacity 2000-2009

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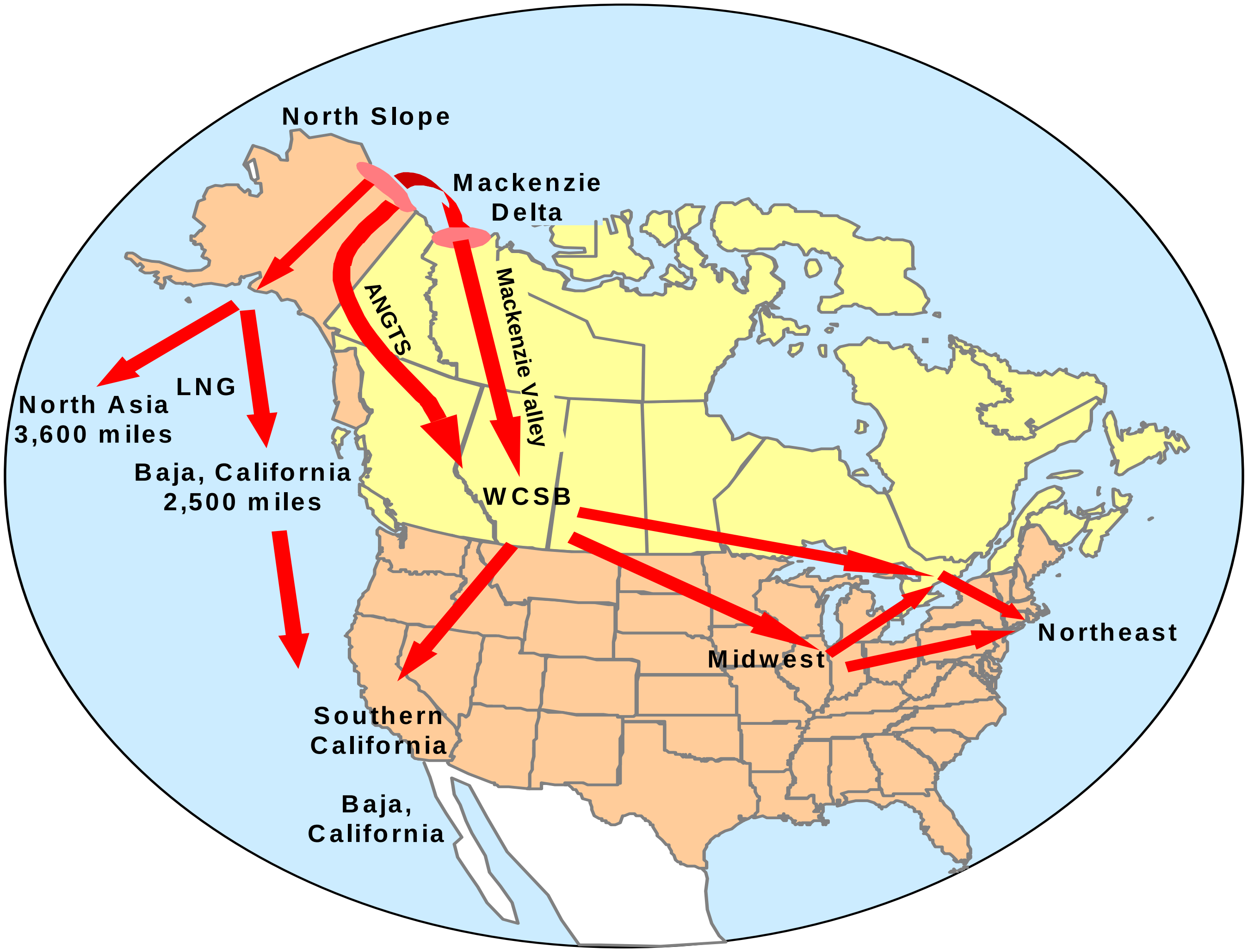
# Northern Gas Market Options

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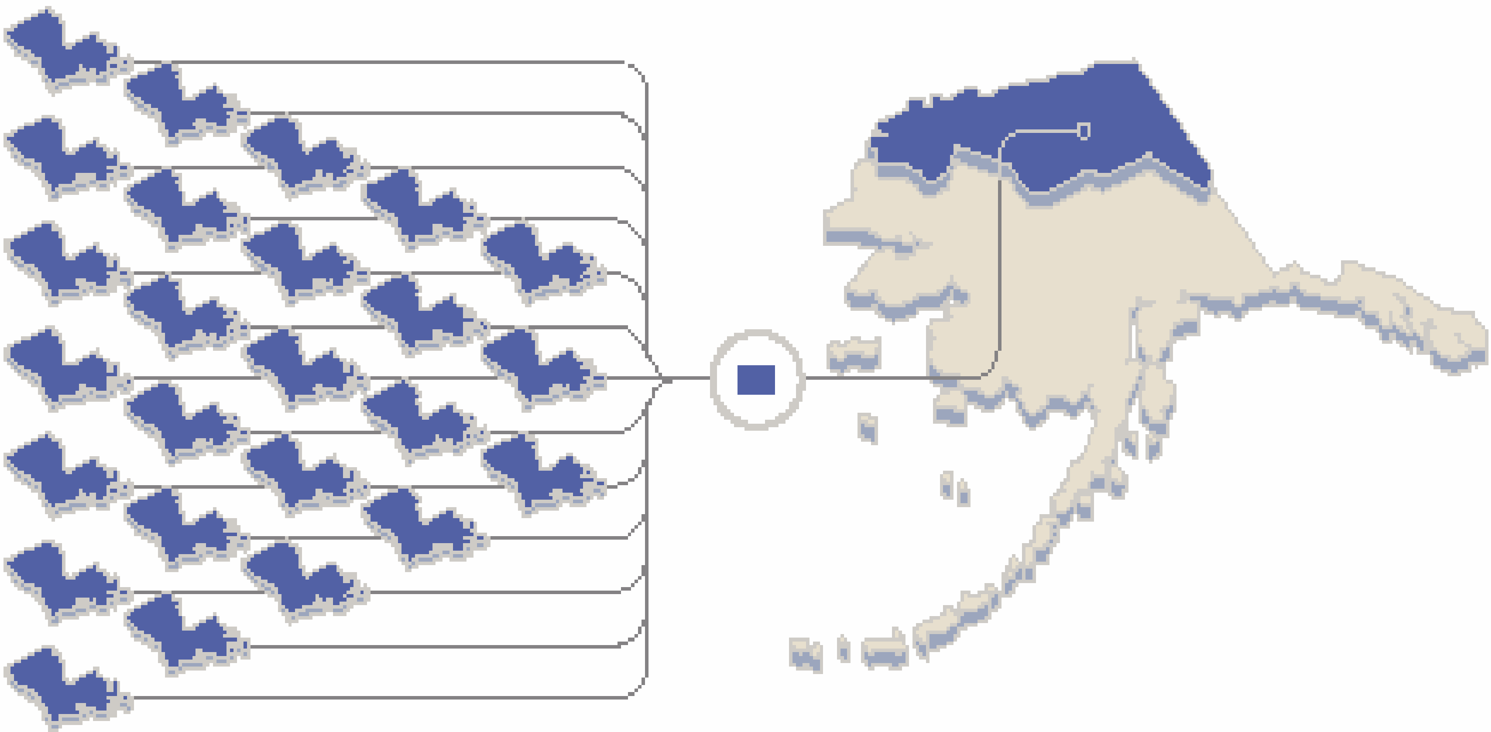
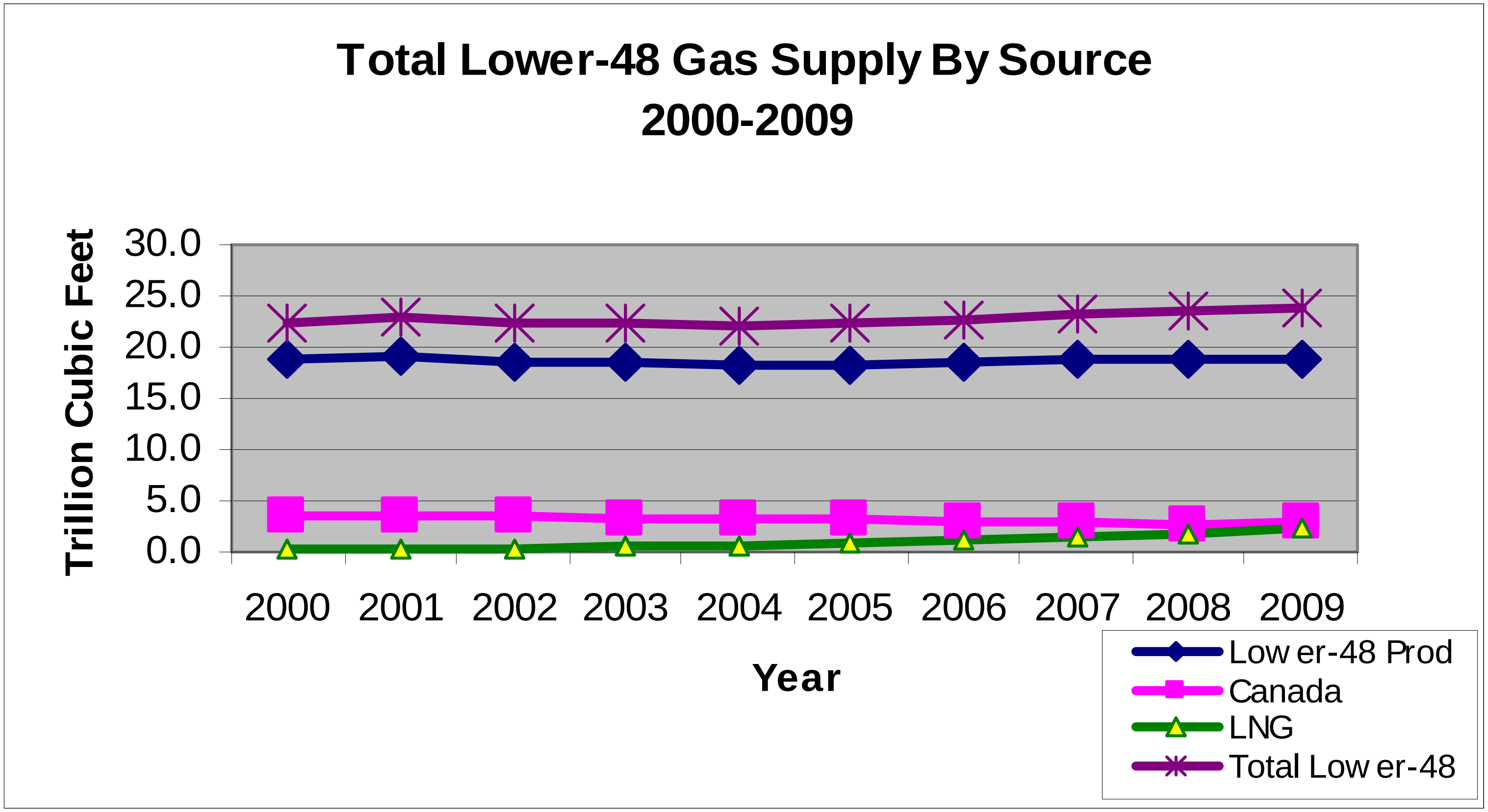
# Alaska



25 years of production from onshore Louisiana is equivalent to proved gas reserves on the North Slope of Alaska alone.

# Total Lower-48 Gas Supply By Source 2000-2009




Sources: Lippman Consulting, Inc., AGA, EEA, CAPP

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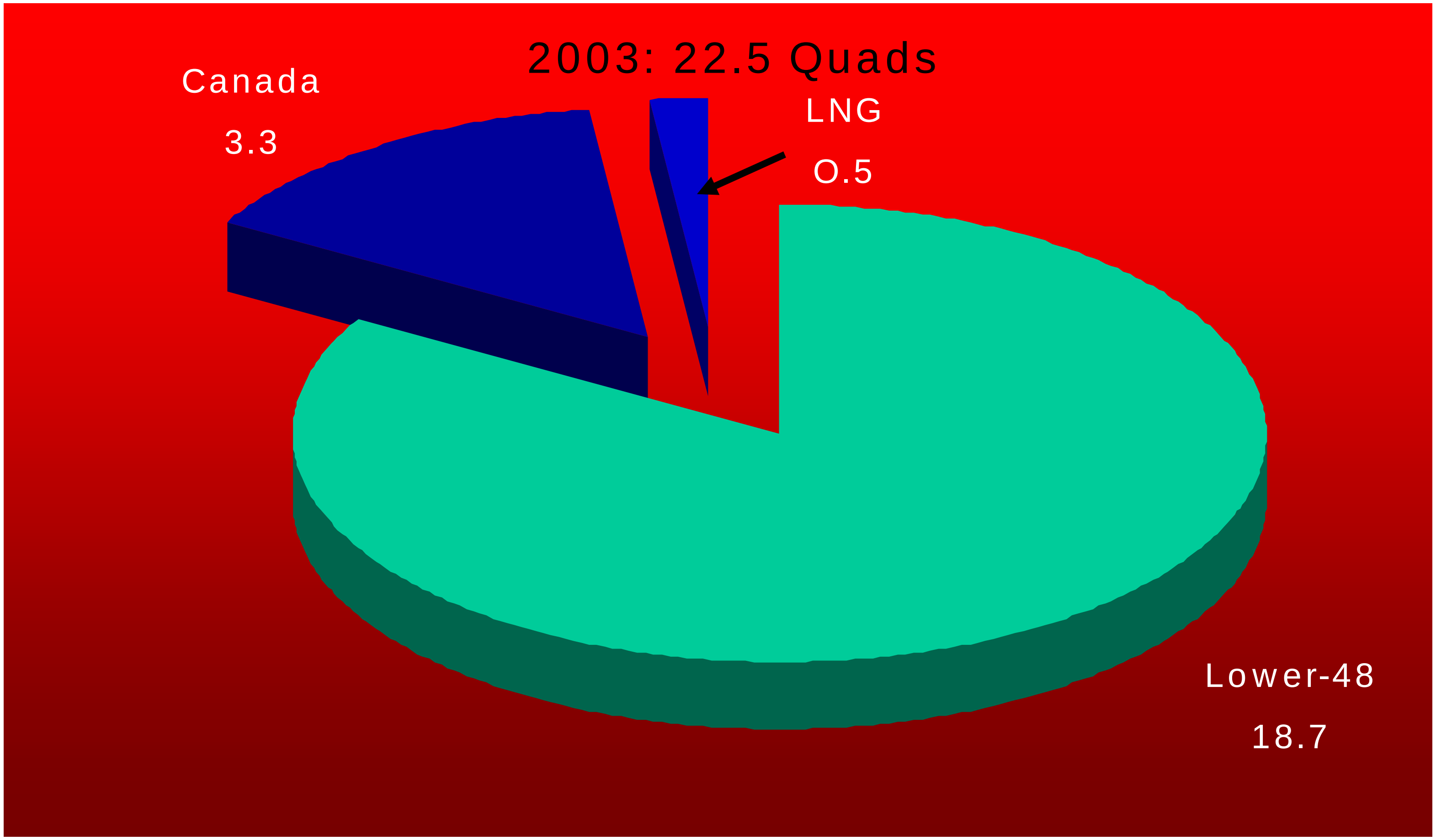
# What Can We Do?

- Promote energy efficiency and conservation
- Encourage the development of storage
- Encourage balance between economic and environmental values
- Diversify sources of power generation
- Encourage Alaskan supply
- Encourage LNG supply

# SOURCES OF CURRENT U.S. NATURAL GAS SUPPLY

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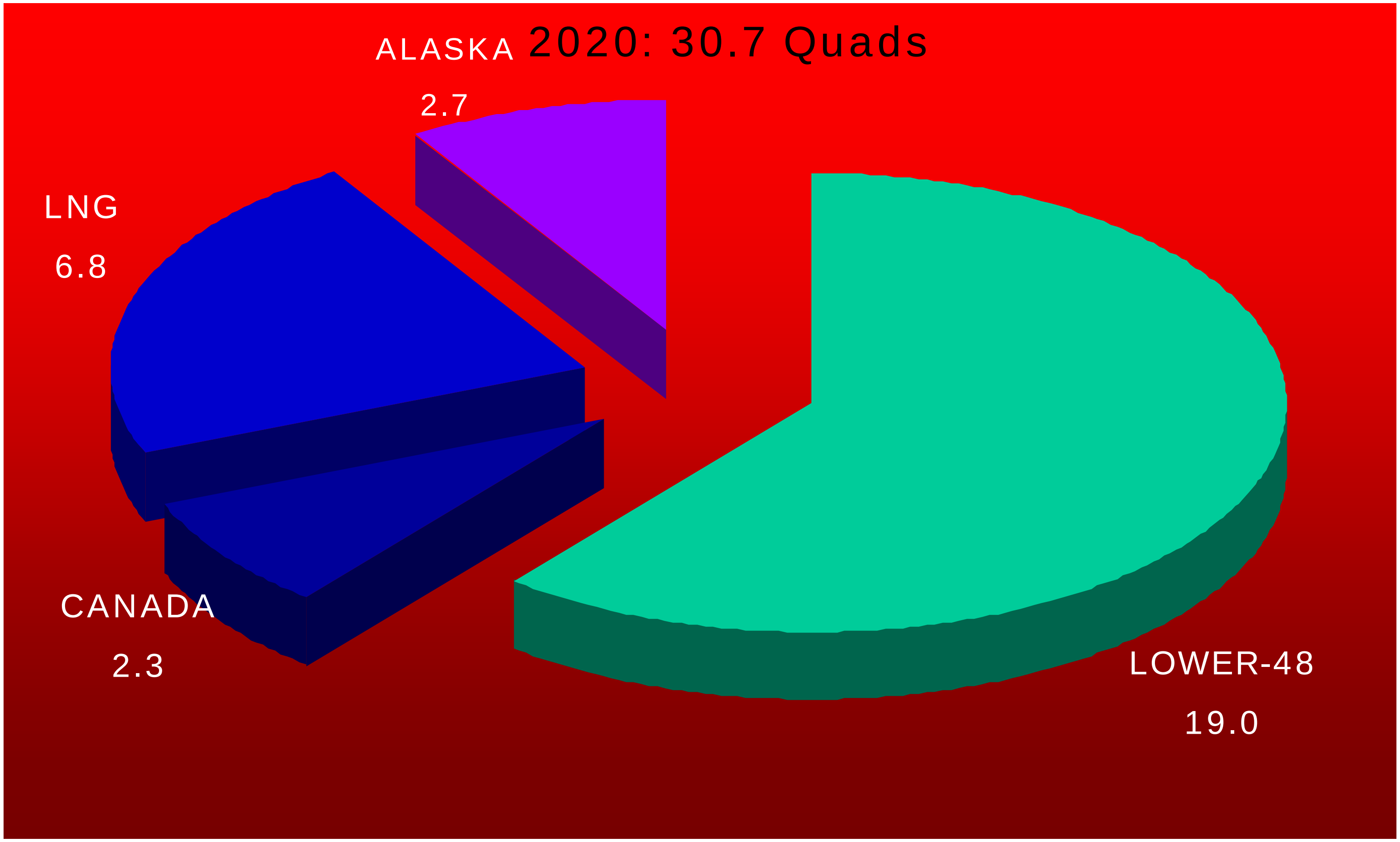
# SOURCES OF PROJECTED U.S. NATURAL GAS SUPPLY



Regarding U.S. Gas Supply and the role of LNG and/or Alaska......

# There is no Plan B!

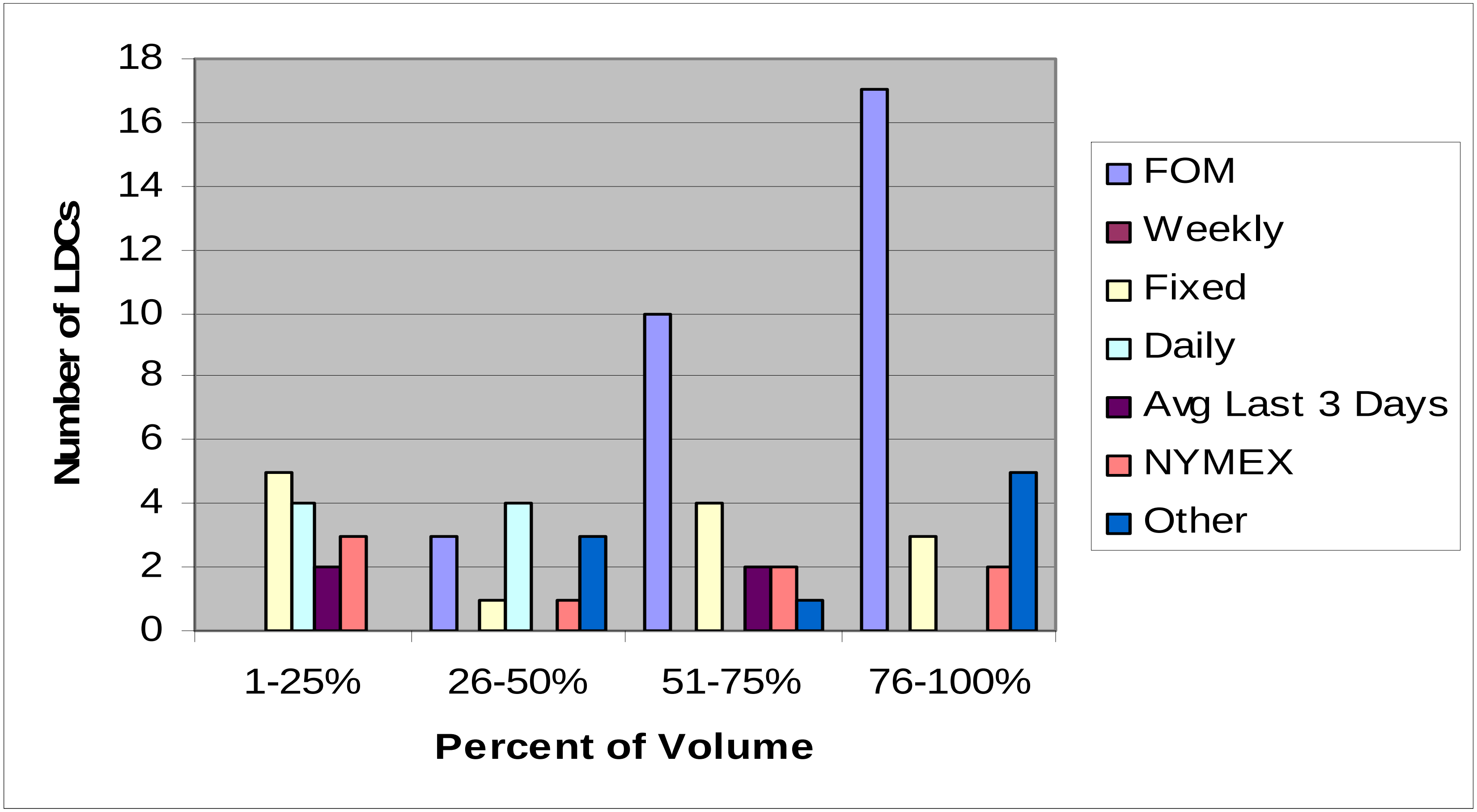
Marie Fagan (CERA)

American Gas Association

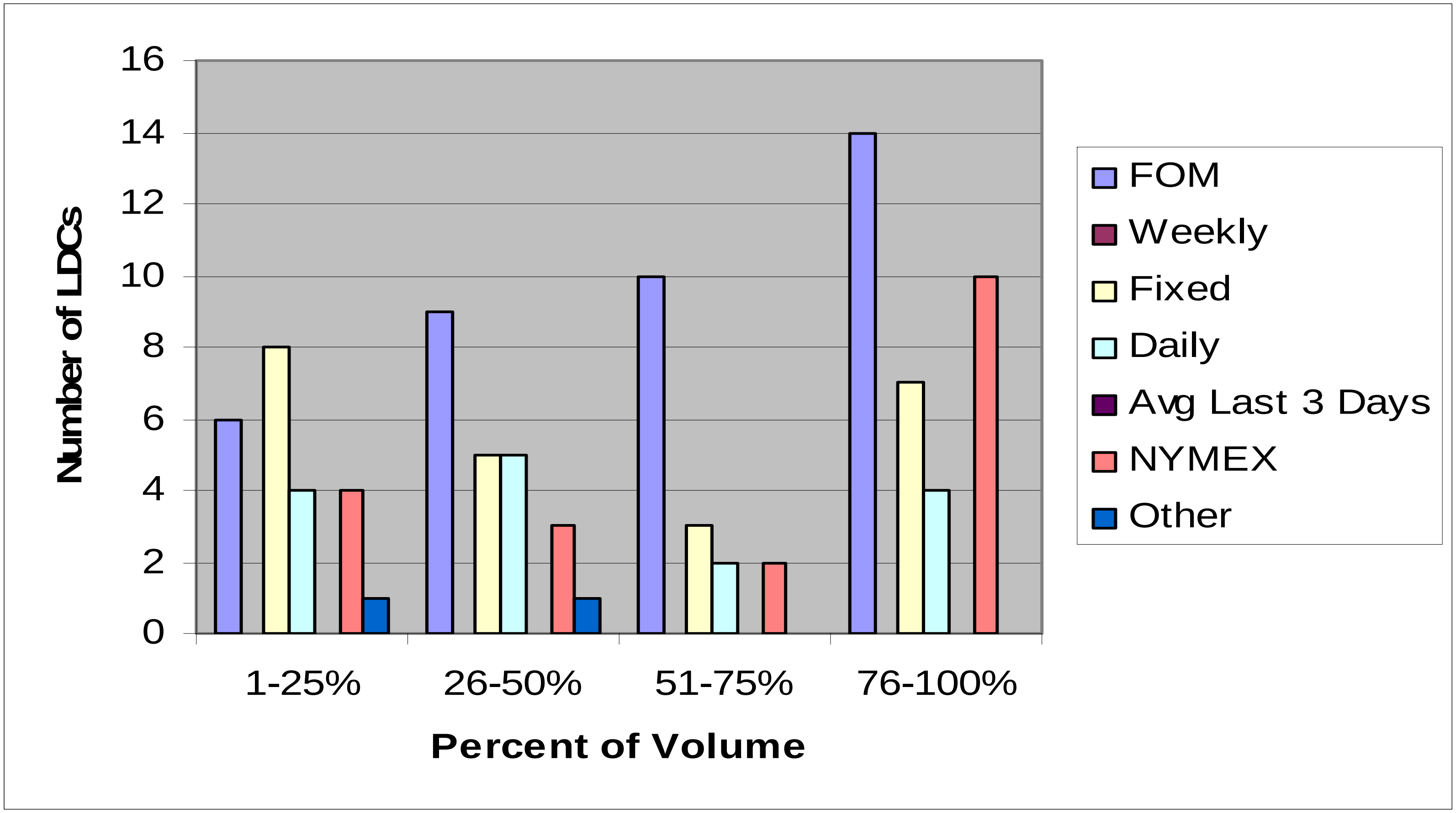
# North American Gas Market

- North American supply/demand balance is and will remain tight.
- Gas consumption grows.
- “New frontier” gas supplies are necessary and take time.
- Gas prices remain relatively high.
- High levels of gas price volatility continue.
- LNG imports become an important player in natural gas pricing.

# LDC Long-term Pricing Mechanisms 2004-05 Winter (49 LDCs)



# LDC Mid-term Pricing Mechanisms
# 2004-05 Winter (52 LDCs)

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# Thank You!

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