

**Erik Milito**  
**American Petroleum Institute**  
**Enhanced Industry Capability**  
**for Offshore Operations**

Governor's Conference on Energy  
October 14, 2010



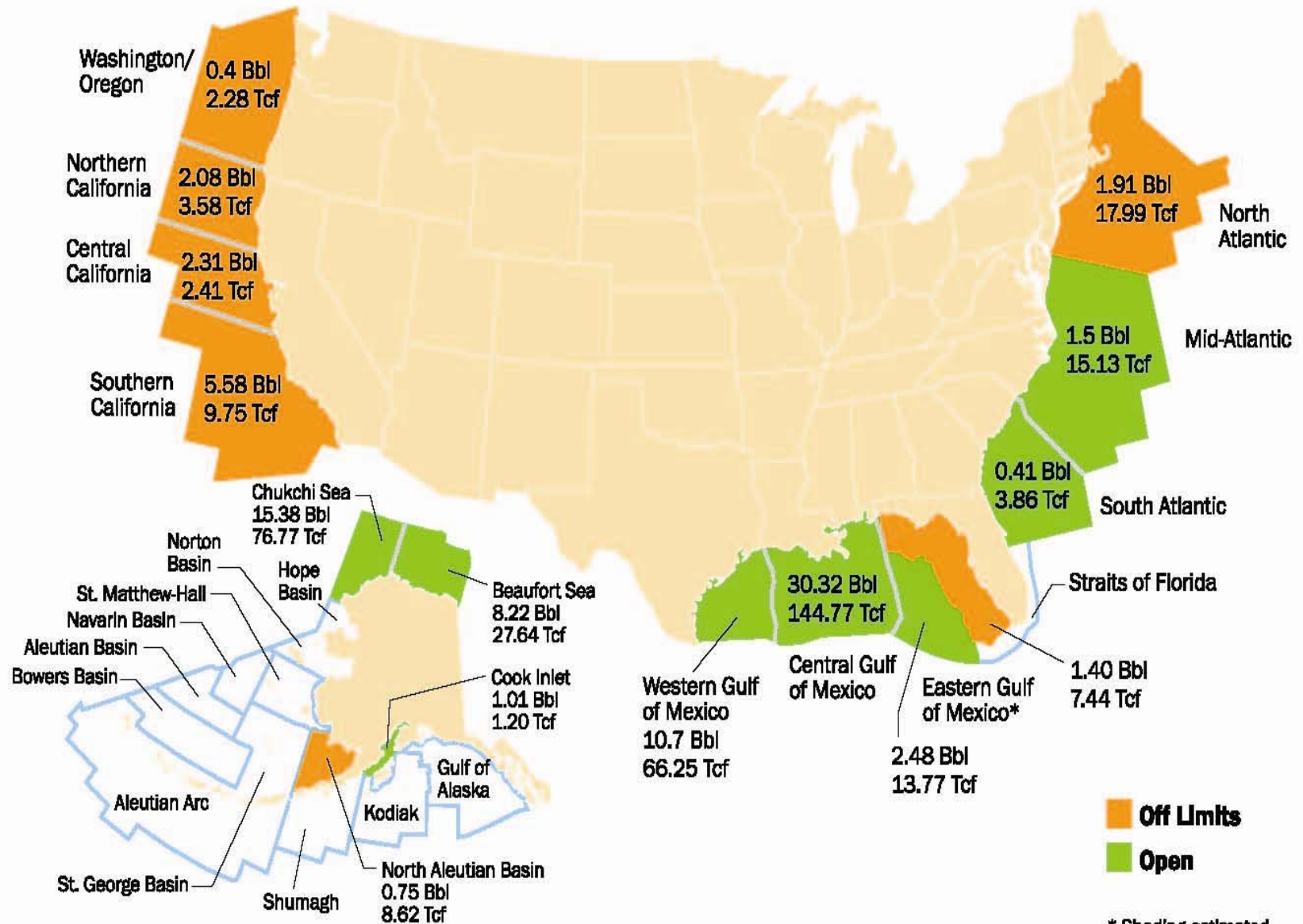
## Key Dates for Offshore Oil and Gas Development – Pre-Gulf Spill:

- December 21, 2006 – GOMESA
- June 14, 2008 – Moratorium Lifted (Bush)
- Sept 30, 2008 – Moratorium Lifted (Congress)
- January 21, 2009 – Expansive Leasing Program (Bush)
- April 2, 2010 – Scaled-Back, But Opens New Areas (Obama)

# So How Do Things Look On April 19, 2010?



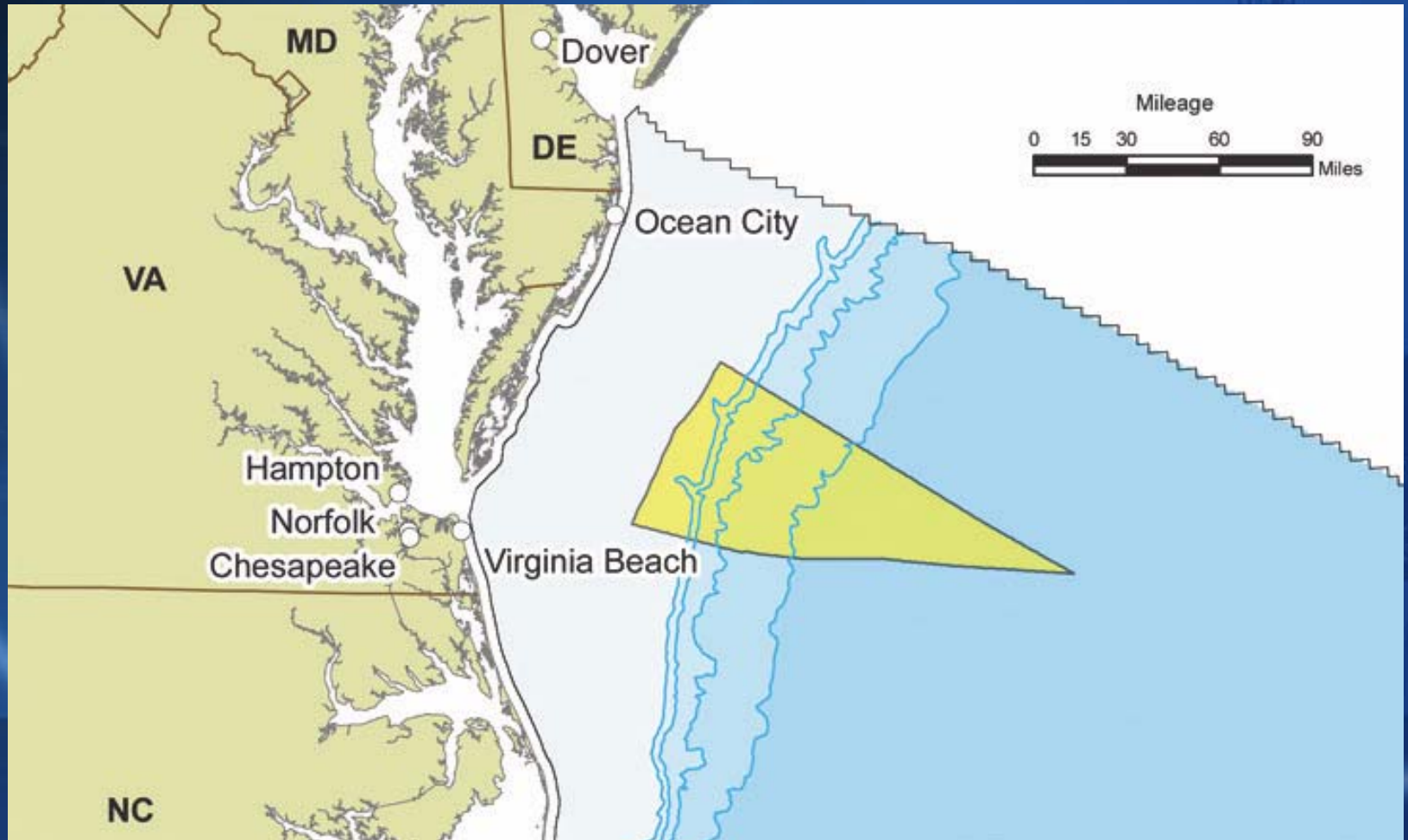
# Offshore Undiscovered Technically Recoverable Federal Oil (Bbl) and Natural Gas (Tcf) Resources

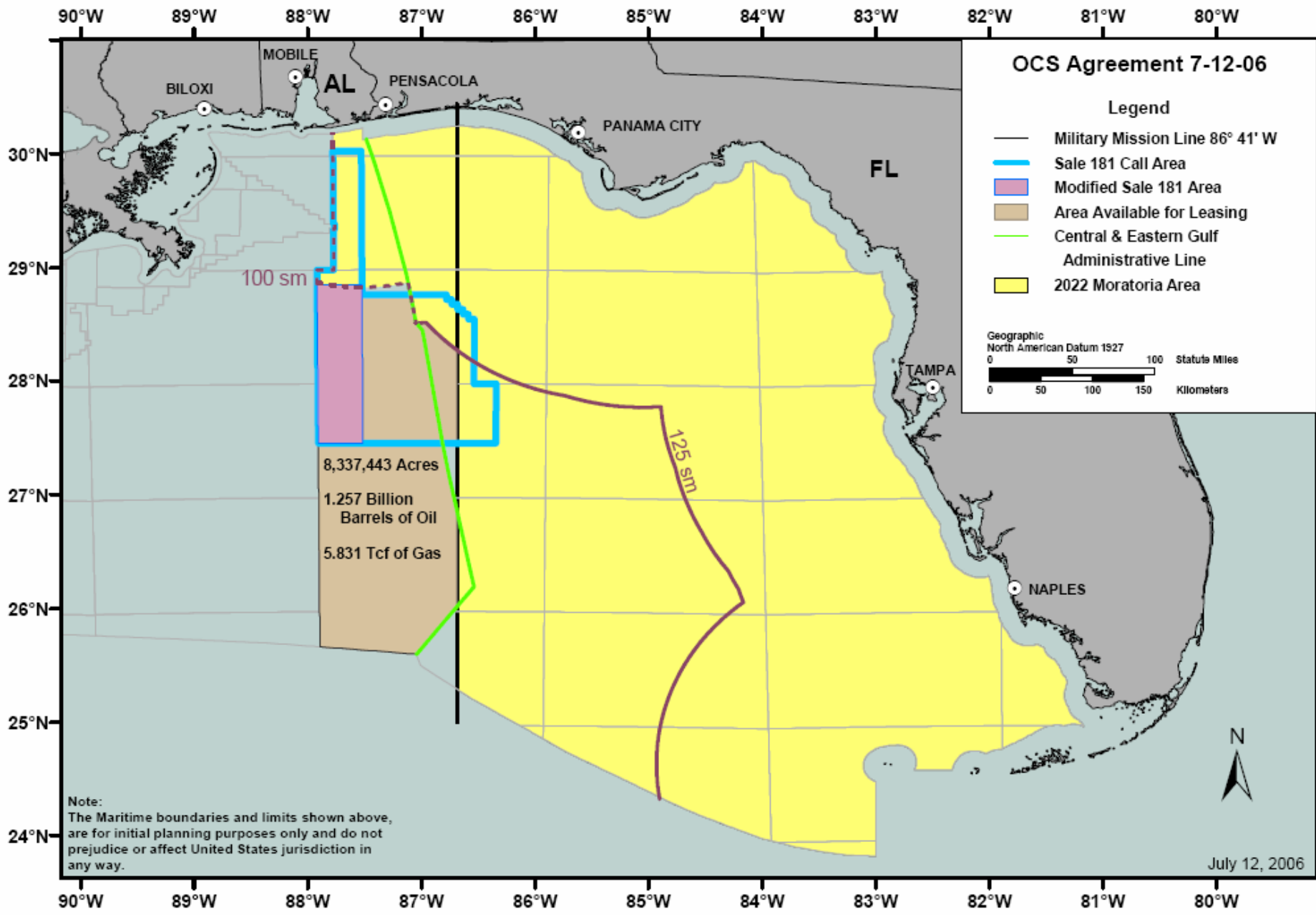


Source: Minerals Management Service and Department of the Interior.

\* Shading estimated.

# Virginia Lease Sale 220





### OCS Agreement 7-12-06

#### Legend

- Military Mission Line 86° 41' W
- Sale 181 Call Area
- Modified Sale 181 Area
- Area Available for Leasing
- Central & Eastern Gulf Administrative Line
- 2022 Moratoria Area

Geographic  
North American Datum 1927

0 50 100 Statute Miles

0 50 100 150 Kilometers

8,337,443 Acres  
1.257 Billion  
Barrels of Oil  
5.831 Tcf of Gas

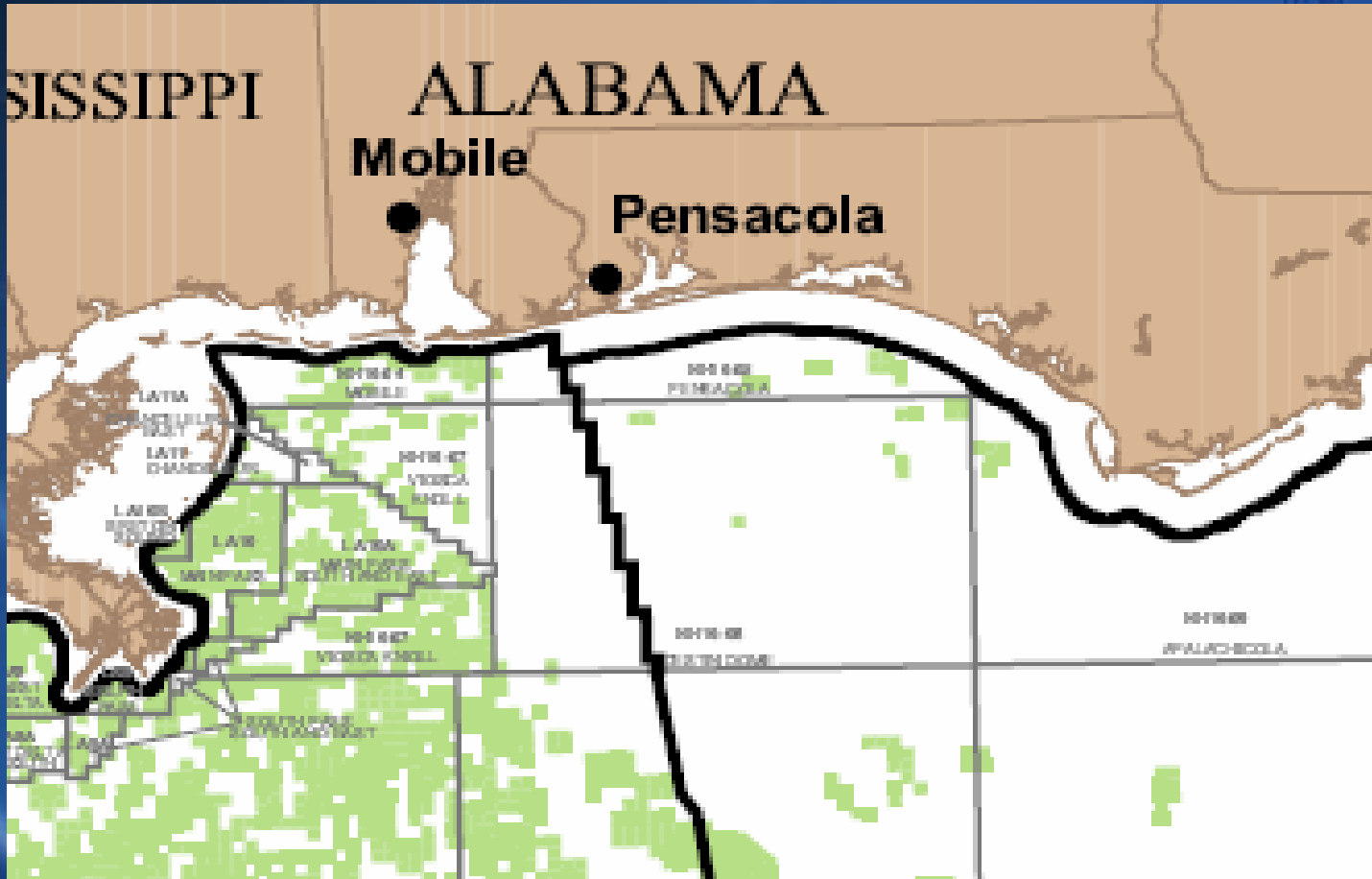
125 sm

100 sm

Note:  
The Maritime boundaries and limits shown above,  
are for initial planning purposes only and do not  
prejudice or affect United States jurisdiction in  
any way.

July 12, 2006

# Destin Dome/Pensacola Areas

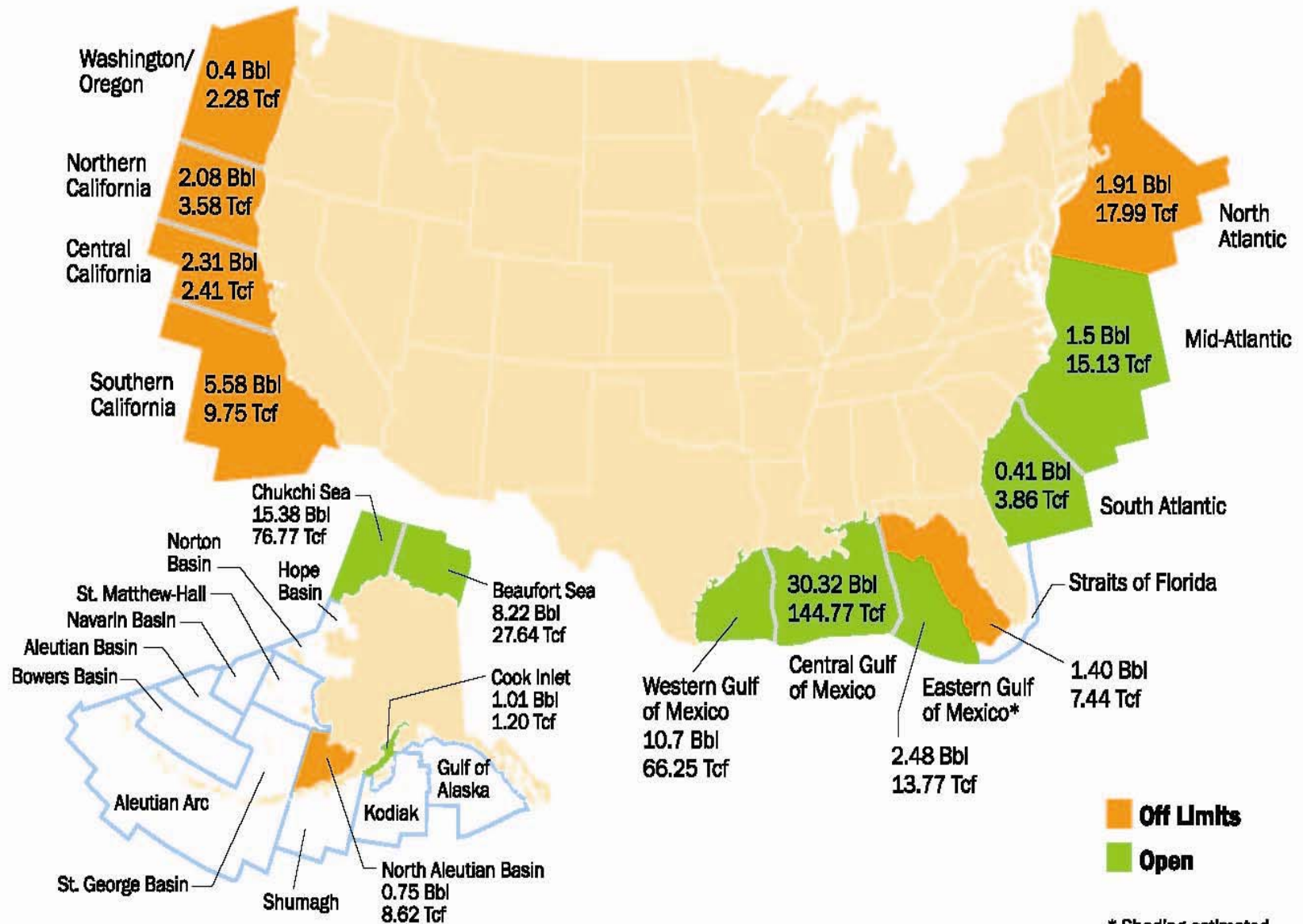




**April 20, 2010**



# Offshore Undiscovered Technically Recoverable Federal Oil (Bbl) and Natural Gas (Tcf) Resources



\* Shading estimated.

Source: Minerals Management Service and Department of the Interior.



**Restoring Confidence in Deepwater Drilling Operations**

# Safety – Always the Priority

## API Standards

- API publishes ~500 technical standards BOEM references 78 API standards in regulations
  - Updated in FR as of April 28, 2010
    - 46 Measurement Practices
    - 14 Design Codes
    - 10 Operational Recommended Practices
    - 6 Equipment Specifications
    - 2 Inspection Codes

# Standards Development Process

- API is accredited by the American National Standards Institute (ANSI)
  - *Open* to all interested parties
  - *Balance* of interests among participants
  - Approval by *consensus* (not unanimity)
- Transparent process (any stakeholder can comment on any document)
  - *Due process* ensures that all comments must be considered and documented

# Spec 16A – Drill-through Equipment (BOPs)

- Testing in Spec 16A, *Specification for Drill-through Equipment* includes:
  - Pressure ratings
  - Dimensions
  - Design Verification Testing, 5.5
  - Operational Testing for BOPs, 5.7
  - Testing for Non-metallic sealing materials, 5.8

# ***Spec 16D, Specification for Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment***

- Spec 16D covers control systems for BOPs – Hydraulic, Electro-Hydraulic, Emergency Disconnect Systems, Acoustic, and Remote Operated Vehicles
- Actuation times consistent with BOEM regulations

# Remotely Operated Vehicles

- RP 17H on Remotely Operated Vehicles (ROVs)
- RP 17M on Remotely Operated Tool Intervention Systems (ROTs)



- RP 53, *Recommended Practice for Blowout Prevention Equipment Systems for Drilling Operations*
  - Configuration, installation and testing of BOP equipment systems
  - Cited in BOEM regulations
  - Update underway - Initial focus on pressure barriers, control systems, testing, etc.

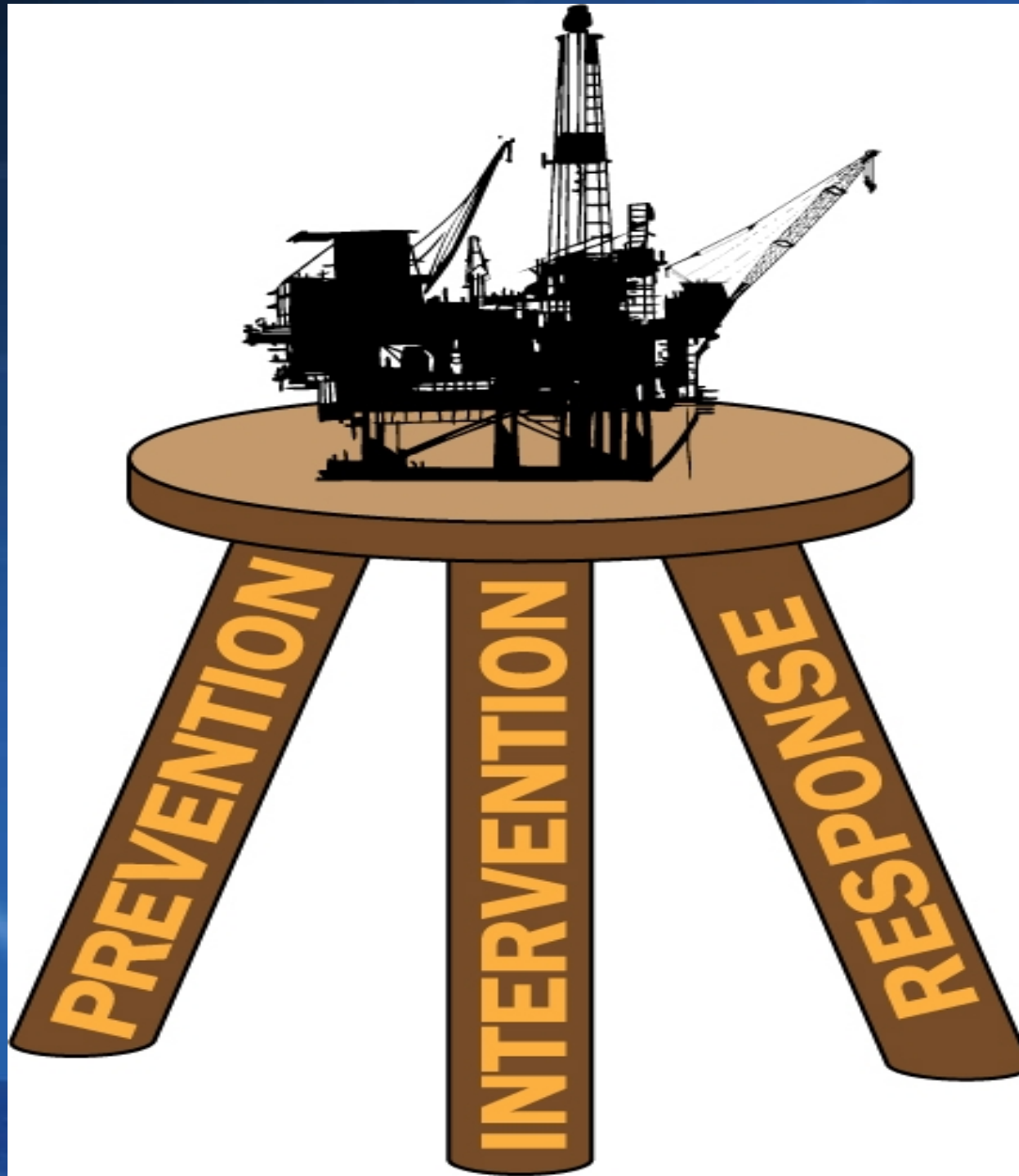
- RP 59, *Recommended Practice for Well Control Operations*
  - Basic well control principles
  - Detailed procedures for handling well control events
  - Basis for industry training programs

- RP 65, *Cementing Shallow Water Flow Zones in Deepwater Wells* - cited in BOEM regulations
- RP 65-2, *Isolating Potential Flow Zones During Well Construction* - published in May 2010 – now adopted into BOEM regulations
- RP 90, *Annular Casing Pressure Management for Offshore Wells* – adopted in BOEM regulations

# Focused Industry Post-Spill Effort

## Joint Industry Task Forces

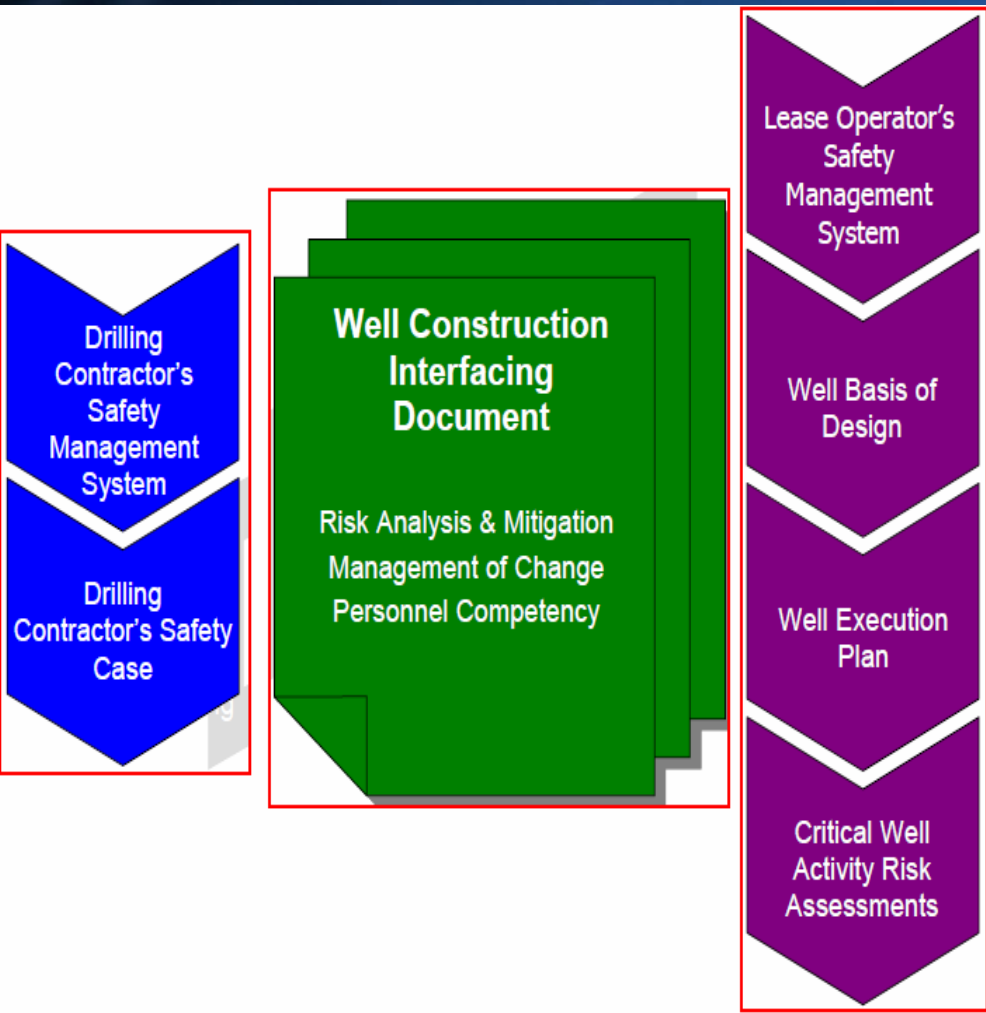
- Offshore Operating Procedures
- Offshore Equipment
- Subsea Well Control and Containment
- Oil Spill Response



# Prevention

- Equipment and Operating Procedures May 17 Report to Interior
- Interior Issues Safety Report on May 27
- Interior Issues Safety NTL on June 8
- Interior Expected to Publishes New Regulations on October 15

# Operating Procedures Task Force Well Construction Interfacing Document (WCID)



Well construction interface / Basis of design

- Location & environment
- Geologic and geophysical
- Well design
- Well barriers (with much detail)
- Casing design
- Well execution plan (with detail)
- Critical well Risk Assessments
- Operator's MOC

Drilling contractor safety case and lease operator SMS interface

- Management structure / RR's / Acct
- Drilling Contractor MOC
- Personnel management
- Well control procedures
- Risk management processes
- Emergency response
- Monitoring, auditing and review

## RP 96, *Deepwater Well Design Considerations*

- Study the loads and design practices used in subsea wells, including long strings and liner/tieback wellbore configurations
- Understand the relative merits of each configuration to provide a framework to select the completion configuration that provides the highest overall system reliability



- RP 96 Scope
  - Barrier philosophy
  - Load case considerations
  - Risk mitigation
  - References to other related industry standards
- RP 96 Goal
  - Systematic drilling and completion well planning
  - Provide confidence that all items accounted for
  - Avoid unintended consequences

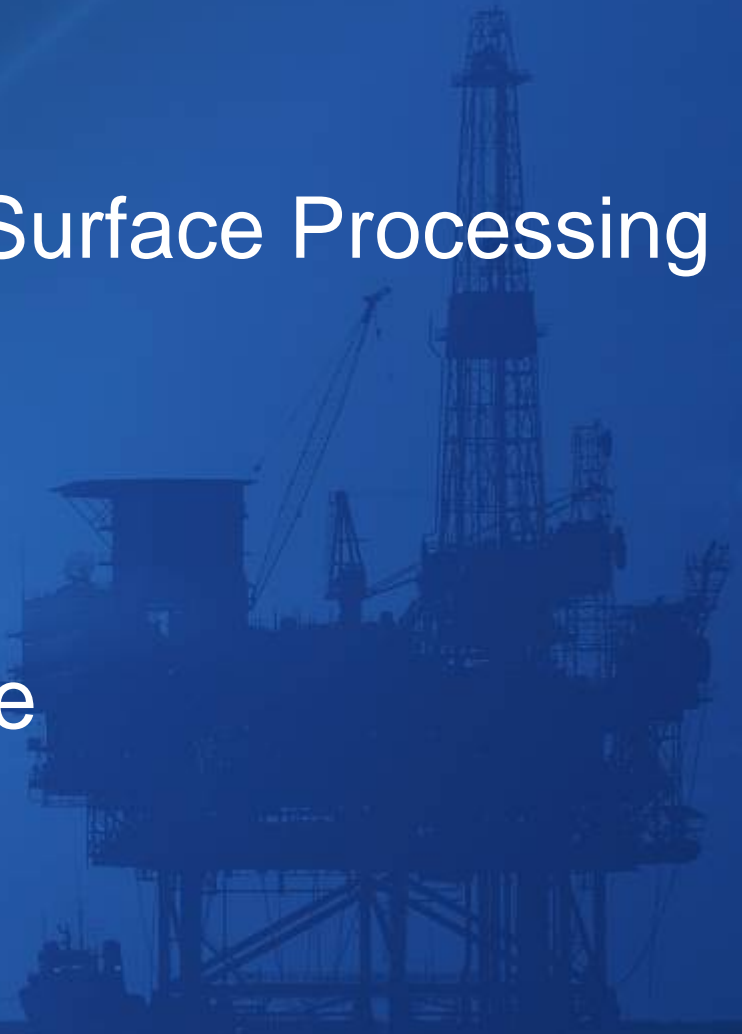
# Intervention

## Subsea Well Control and Containment Task Force

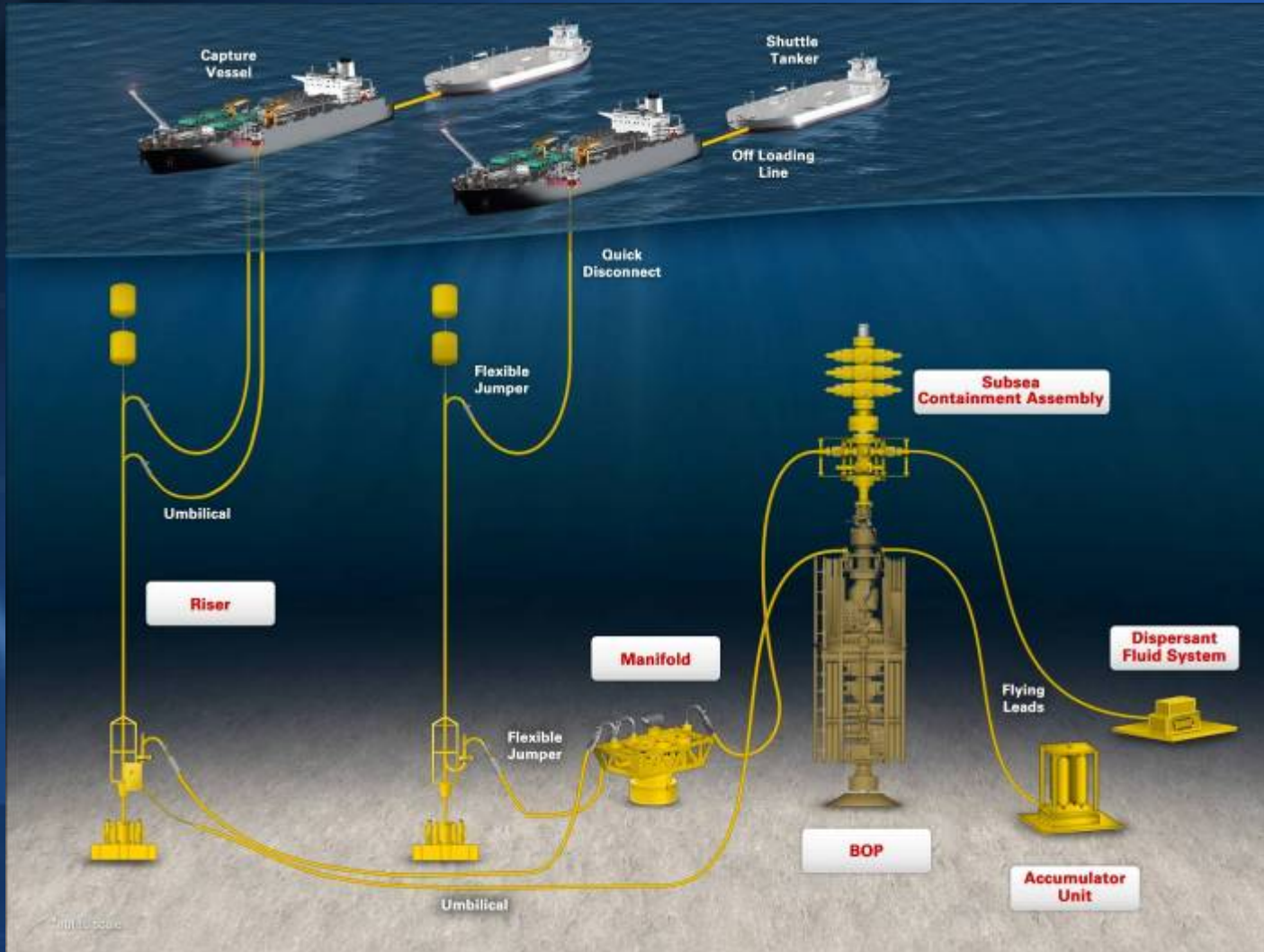
- Well Containment at the Seafloor
  - Hard Connect
  - Top Kill
  - Existing Equipment Modification

- Intervention and Containment within the Subsea Well
  - Relief Well Considerations
  - Dynamic Kill
  - Direct Mechanical Intervention
    - Subsea Stripping & Snubbing; Coil Tubing; Packers/Mechanical Barriers; Reactant Pills

- Subsea Collection and Surface Processing and Storage
  - Capture System
    - Sealed to Wellbore
    - No Seal to Wellbore
    - Dispersed Flow



# Containment Company



Must provide flexible & adaptable systems to contain the well subsea & provide subsea production capability via subsea equipment, risers, & containment vessels that will safely capture, store and offload the oil

# Response

## Oil Spill Response Task Force

Addressing:

- Oil spill response plans
- Oil sensing and tracking
- Dispersant use and application
- *In situ* burning
- Mechanical recovery capabilities
- Shoreline protection and cleanup
- Alternative response technologies

# Enhanced Industry Capabilities

- Prevention
- Intervention/Mitigation
- Response

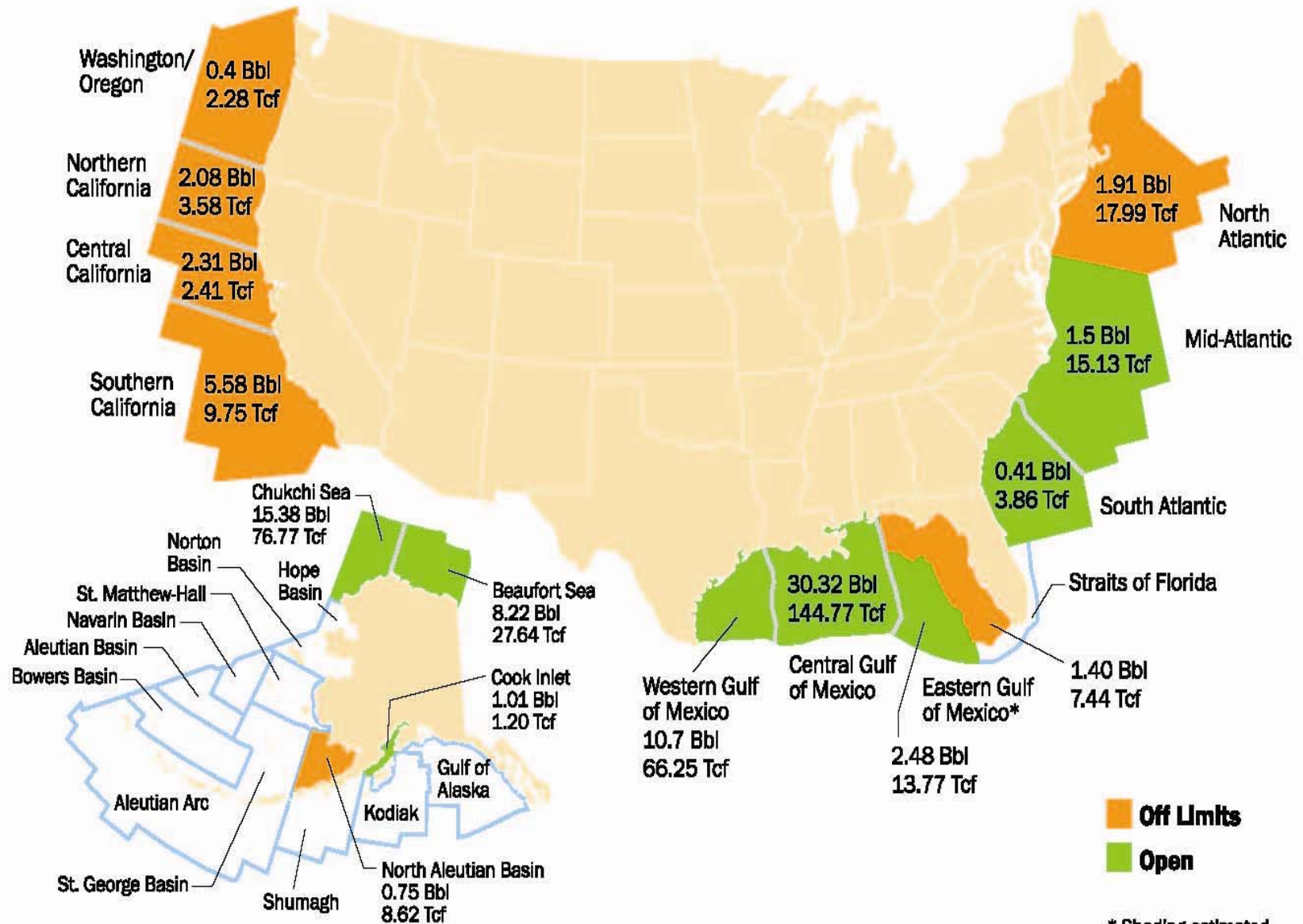


# Key Dates – Post Gulf Incident

- June 4, 2010 – Moratorium
- June 8, 2010 – Safety NTL
- June 12, 2010 – Revised Moratorium
- June 18, 2010 – Environmental NTL
- July 12, 2010 – Macondo Well is Capped
- September 20, 2010 – Cementing of Well Complete
- October 12, 2010 – Moratorium Lifted
- October 15, 2010 – New Safety Rules Issued



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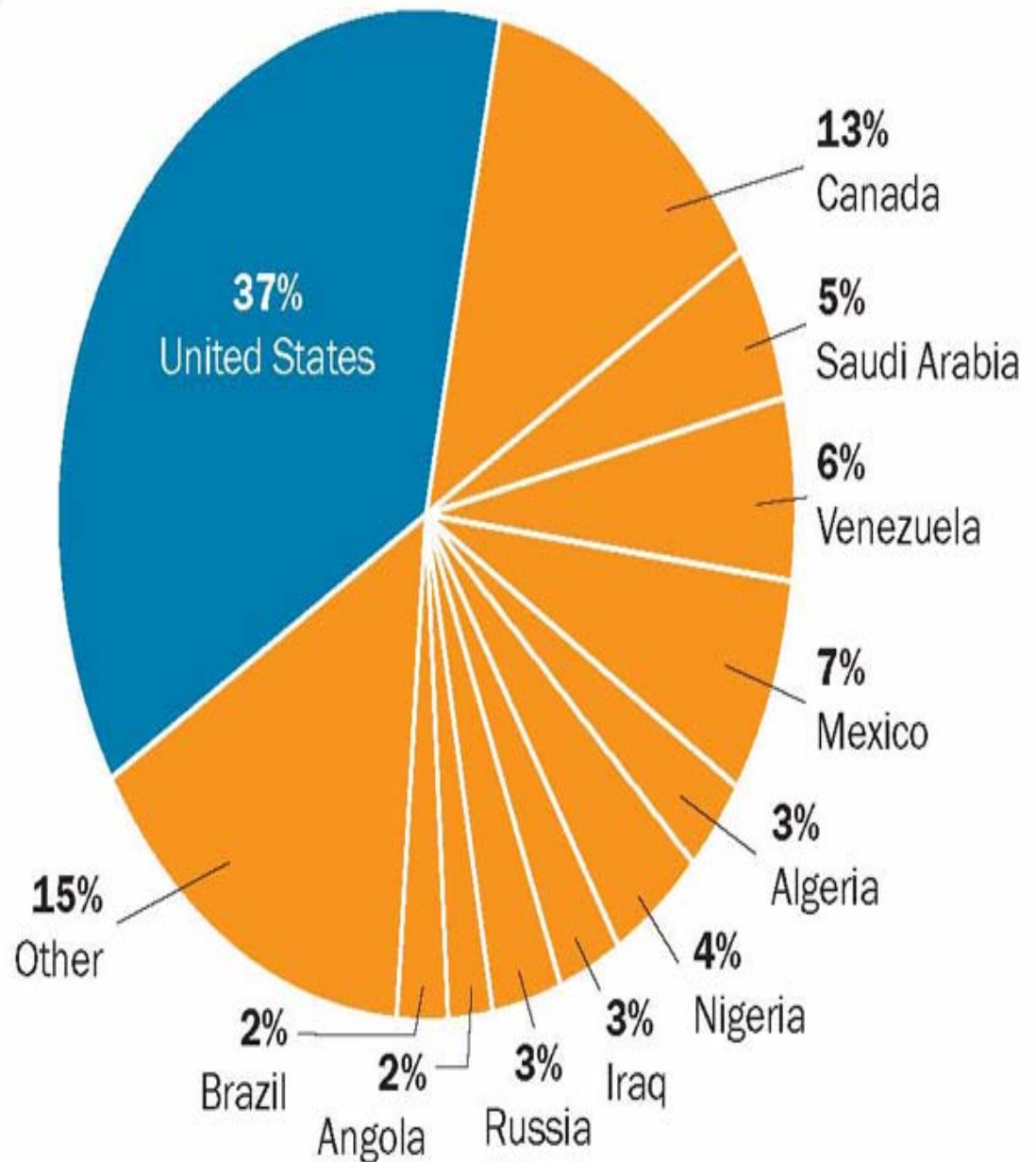


\* Shading estimated.

Source: Minerals Management Service and Department of the Interior.

# U.S. Supplies of Crude and Products

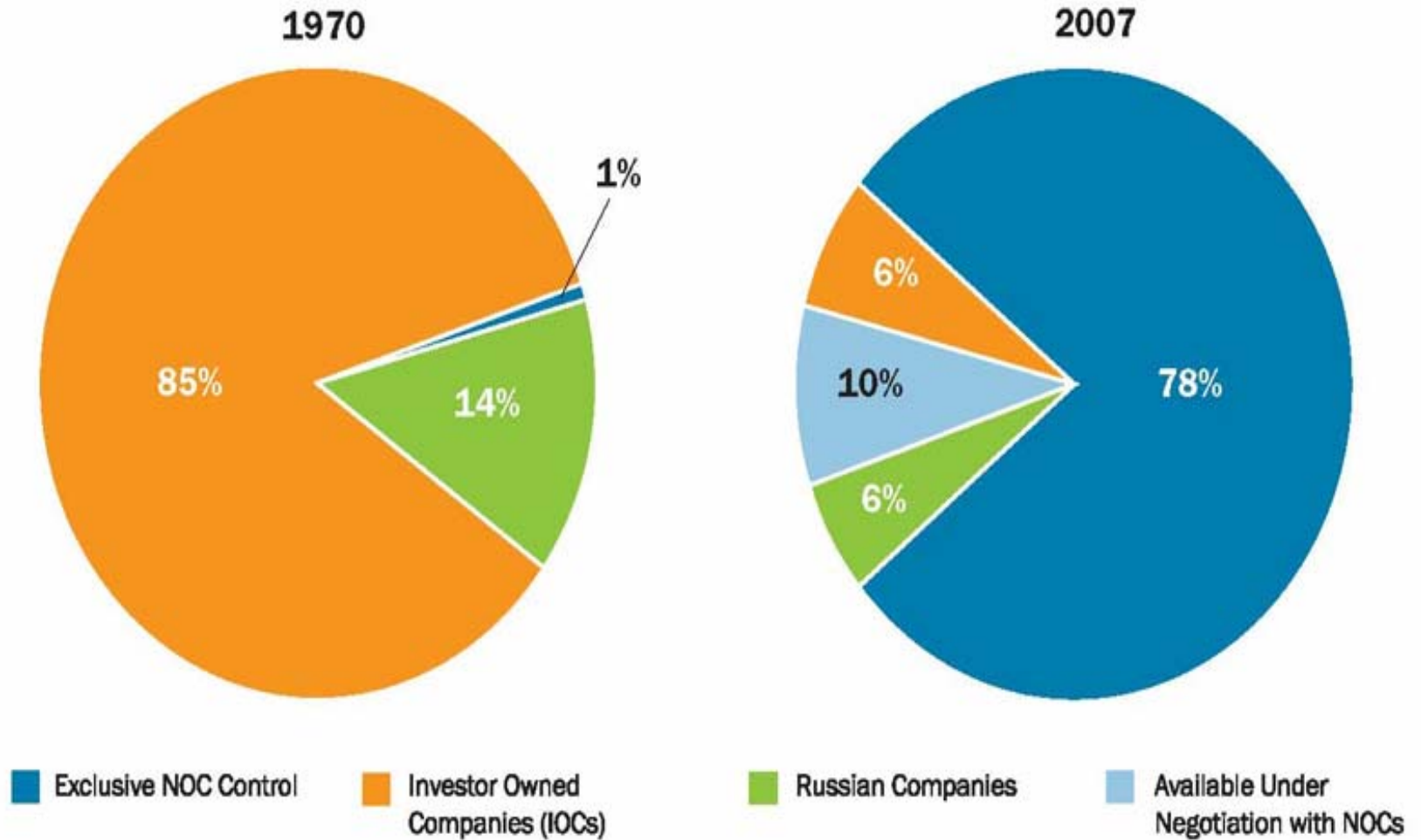
(January - December 2009)



Source: EIA, *Petroleum Supply Monthly*, February 2010.

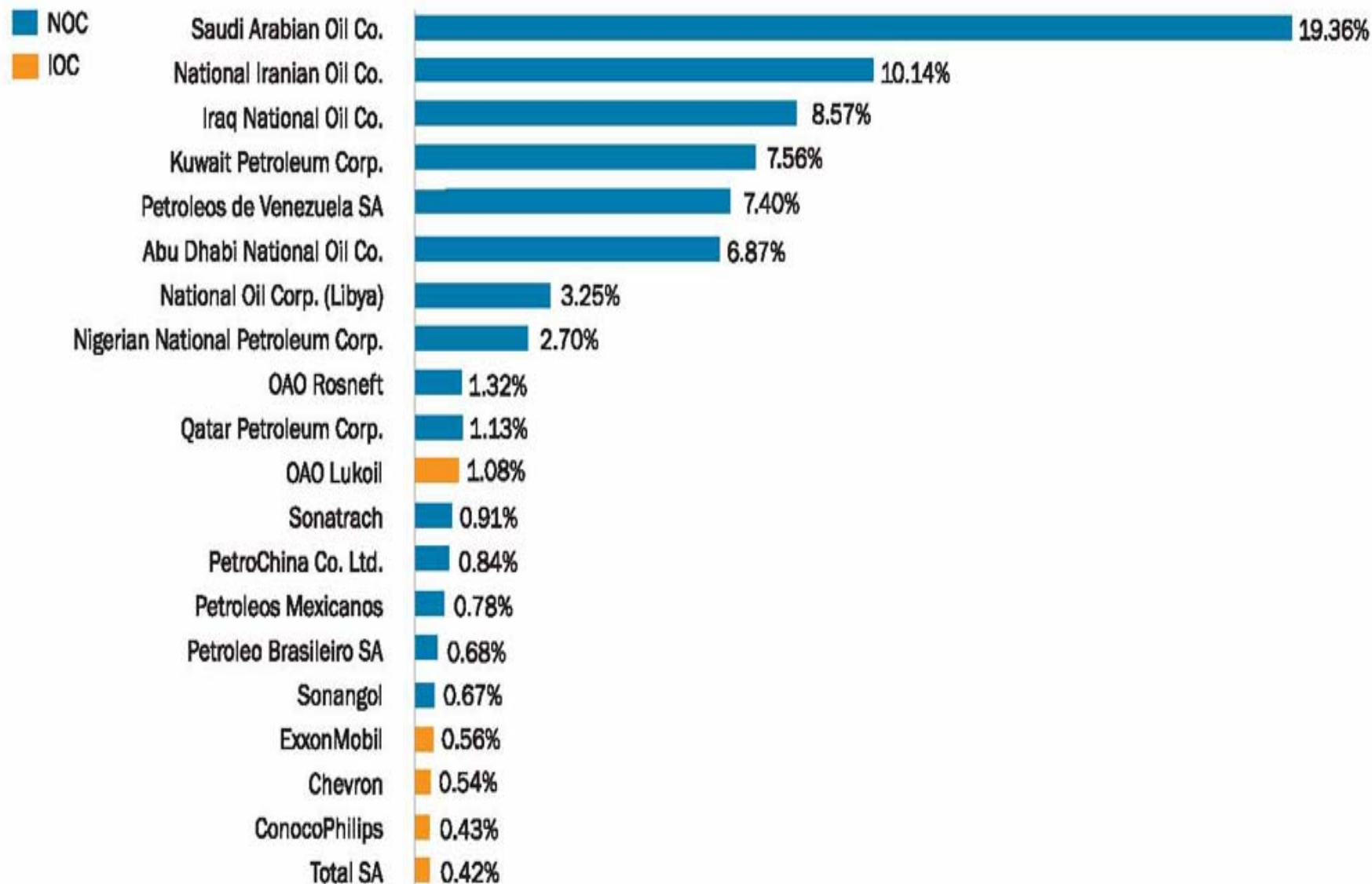
# The Myth of "Big Oil" (As a Percent of Proven Reserves)

## National Oil Companies (NOCs) Increasingly Control the World's Oil Reserves



Source: PFC Energy

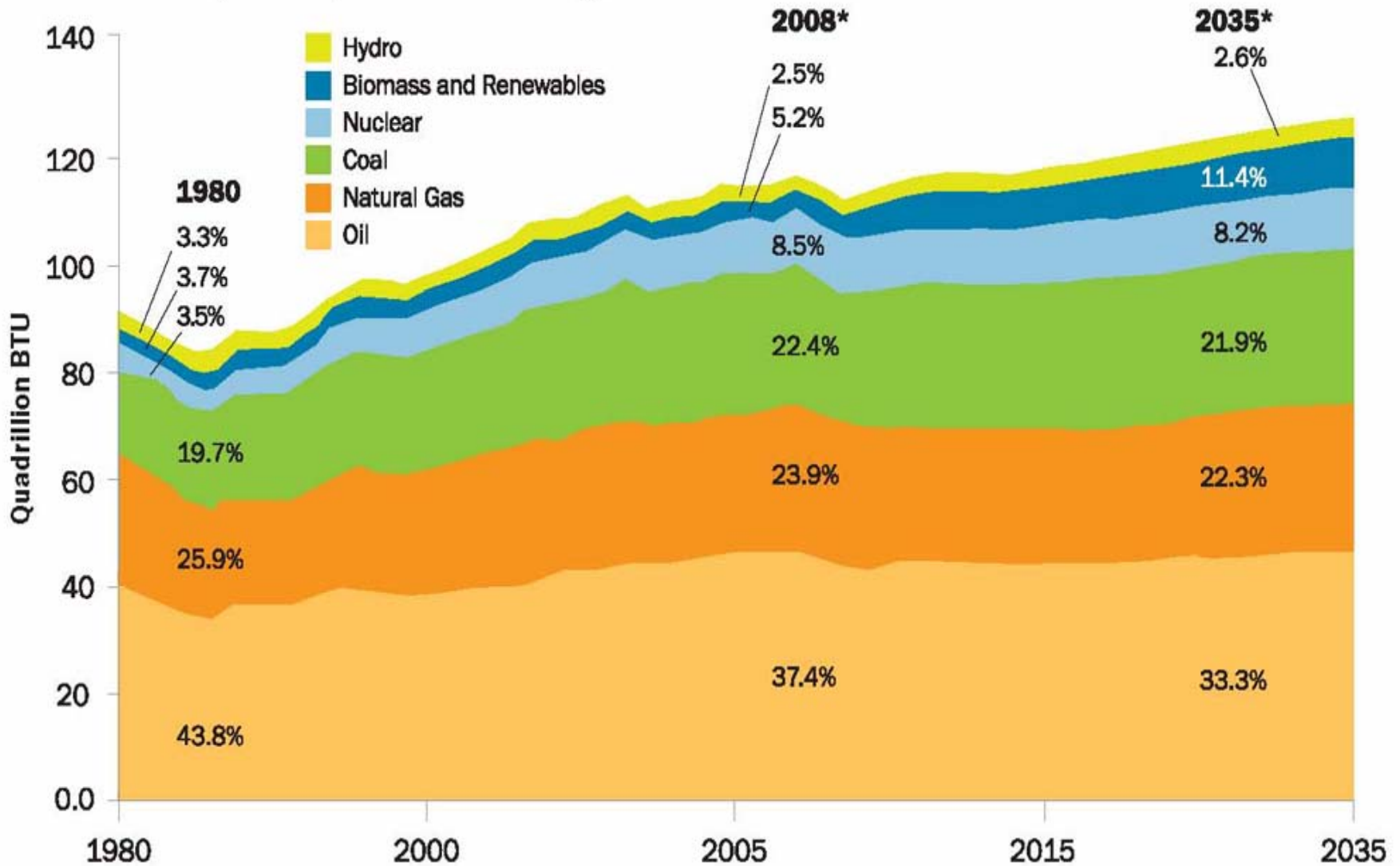
## 2008 Largest Oil and Gas Companies (percent of worldwide reserves)



Source: World Reserves of 1.3 trillion barrels as of January 1, 2009 according to *Oil & Gas Journal*, December 1, 2009. Leading companies: *Oil & Gas Journal*, September 21, 2009.

## Future U.S. Energy Demand

The U.S. will require 14 percent more energy in 2035 than in 2008.



\*Excludes non-biogenic municipal waste and net electricity imports. Source: EIA, AEO 2010 Tables A1 and A17.

# Policy Choices for Energy Security

- Increase Energy Production by Promoting All Sources – Domestic Oil and Gas
- Encourage Energy Efficiency
- Encourage Investment in Advanced Technologies and Long-Term Initiatives
- Allow Market Forces to Work
- Refrain from New Taxes
- Support Active Participation in Global Markets

# “Energizing America: Facts for Addressing Energy Policy”

[http://www.api.org/aboutoilgas/upload/Energizing\\_America\\_Facts.pdf](http://www.api.org/aboutoilgas/upload/Energizing_America_Facts.pdf)

# Questions?