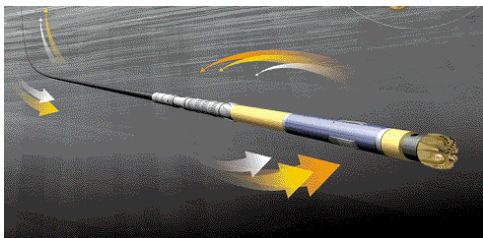
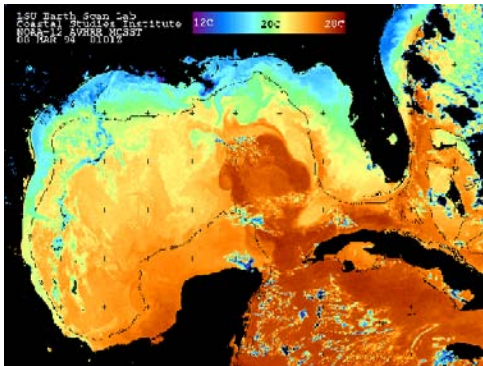


# Developing & Supporting Critical Energy Infrastructure Offshore

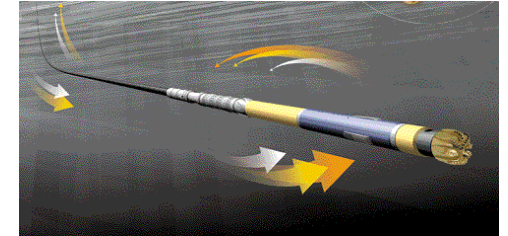
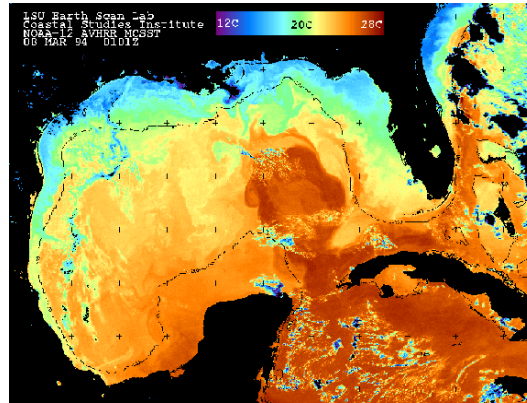
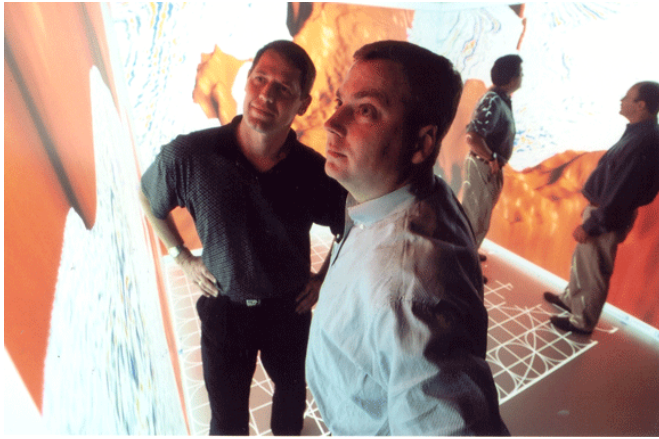


**National Ocean  
Industries  
Association**

Michael Kearns  
Director of Public  
Affairs

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

# NOIA represents the full spectrum of U.S. businesses that produce energy from the offshore





# Demand for Oil and Natural Gas is on the Rise

**Figure 95. Petroleum supply, consumption, and imports, 1970-2025 (million barrels per day)**

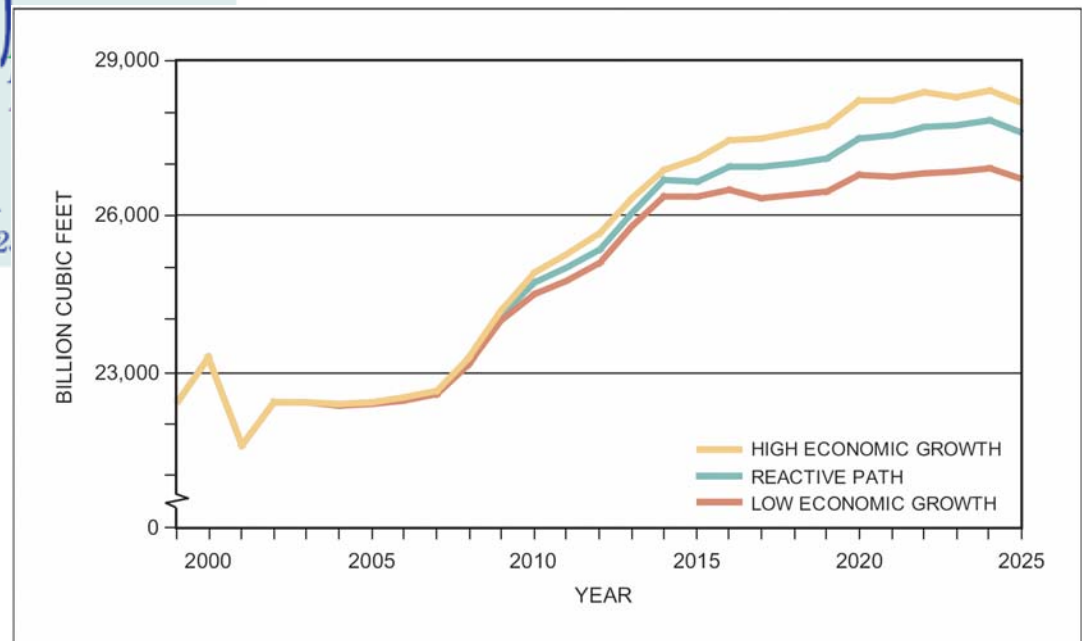
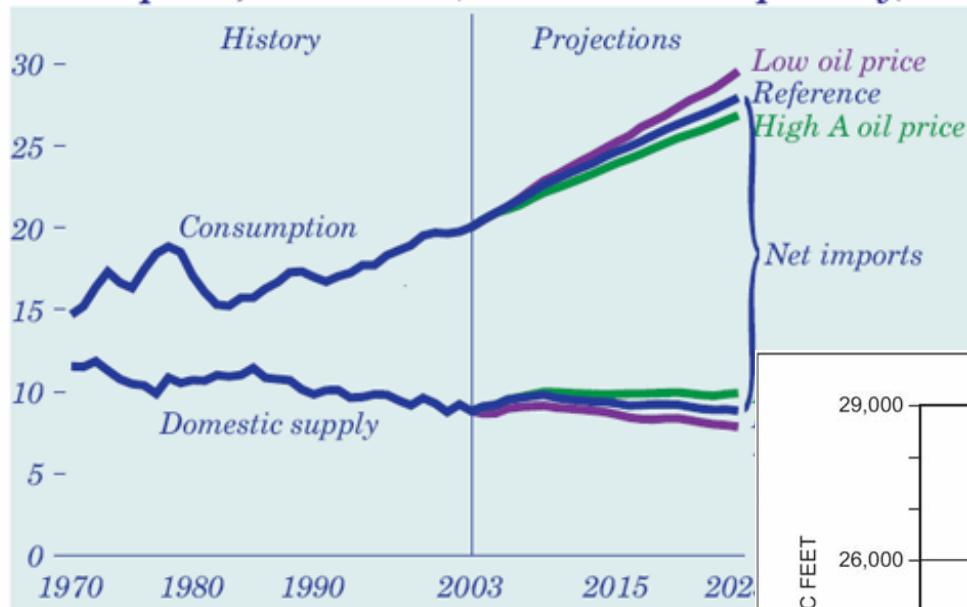
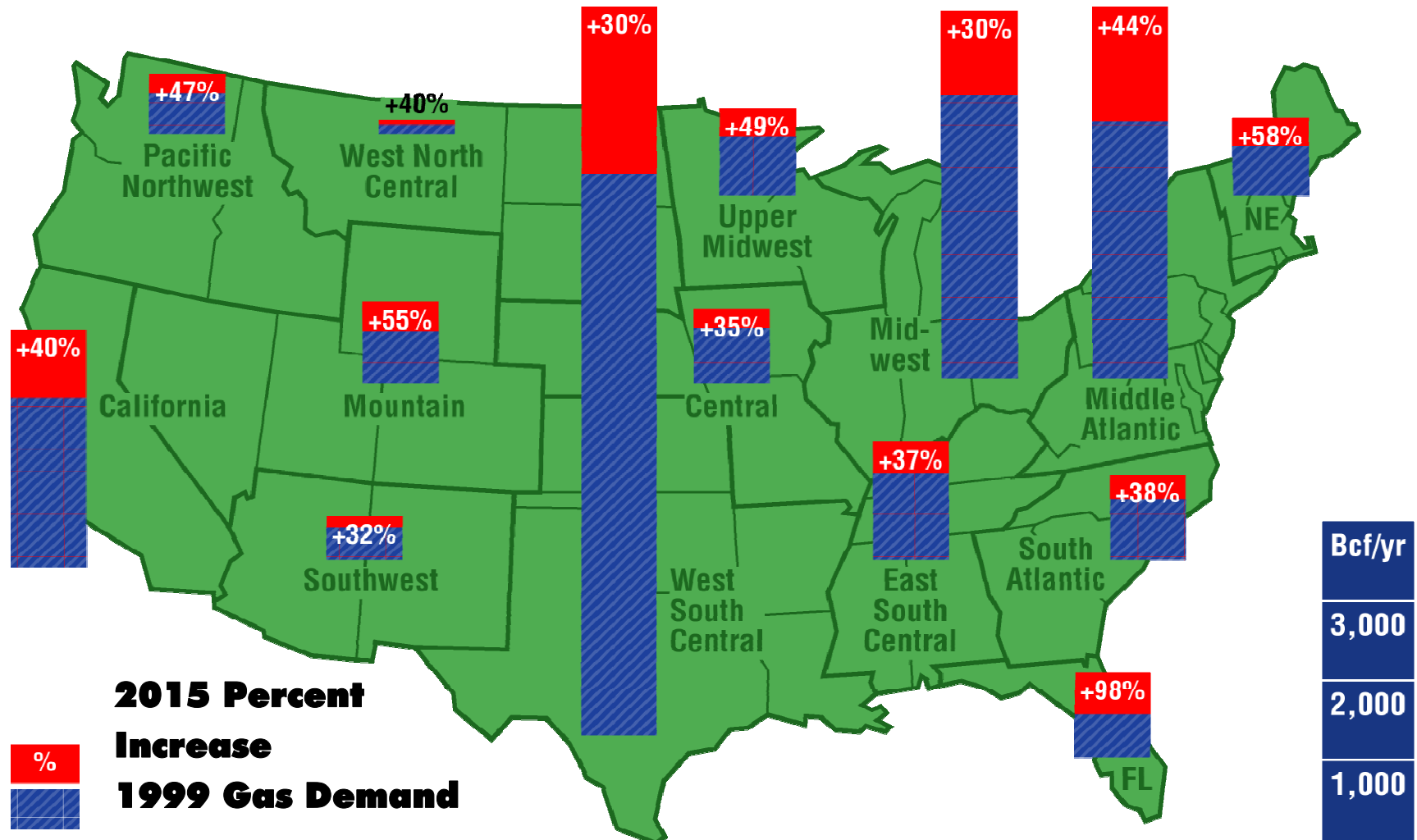


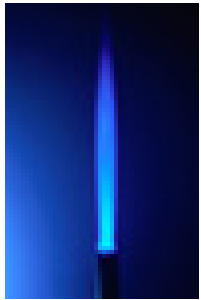
Figure D6-12. Comparison of U.S. Gas Demand in Economic Growth Sensitivities



Source: Energy Information Administration; *Annual Energy Outlook*

# Example: Natural Gas Demand will Increase in All Regions





Natural Gas

Ammonia

Methanol

Carbon Black

Natural Gas Liquids → Ethylene

Fertilizer → Corn

Acrylic fibers → Blankets, Clothing

Nylon fibers → Outdoor gear,  
parachutes, rope,  
Pantyhose

Urea resins → Plywood

Acetic acid → Paints and adhesives, lipstick

Methyl Methacrylate → Acrylic glazing for  
road signs

Rubber Additive → Automotive tires

Polyethylene → Grocery bags, toys

Polyethylene terephthalate → Plastic bottles

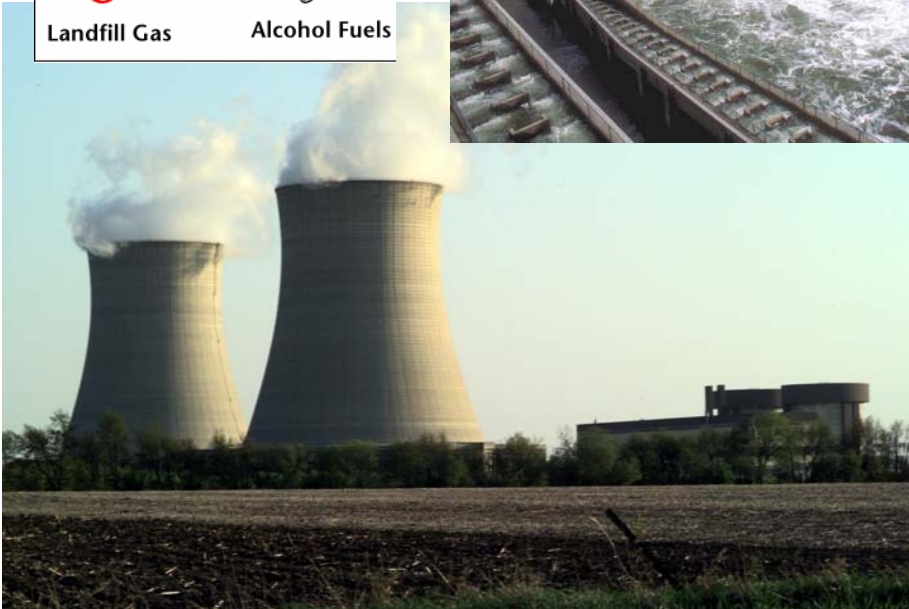
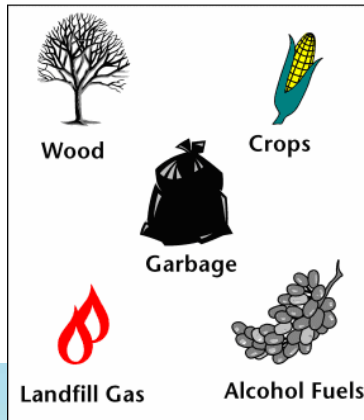
Polyester → Fleece blankets

Styrene → Insulated cups,  
food packaging

Polyvinyl chloride → Vinyl siding,  
plastics pipe

# Renewable sources alone cannot meet rising demand

Types of Biomass



# The Offshore Industry and the Economy

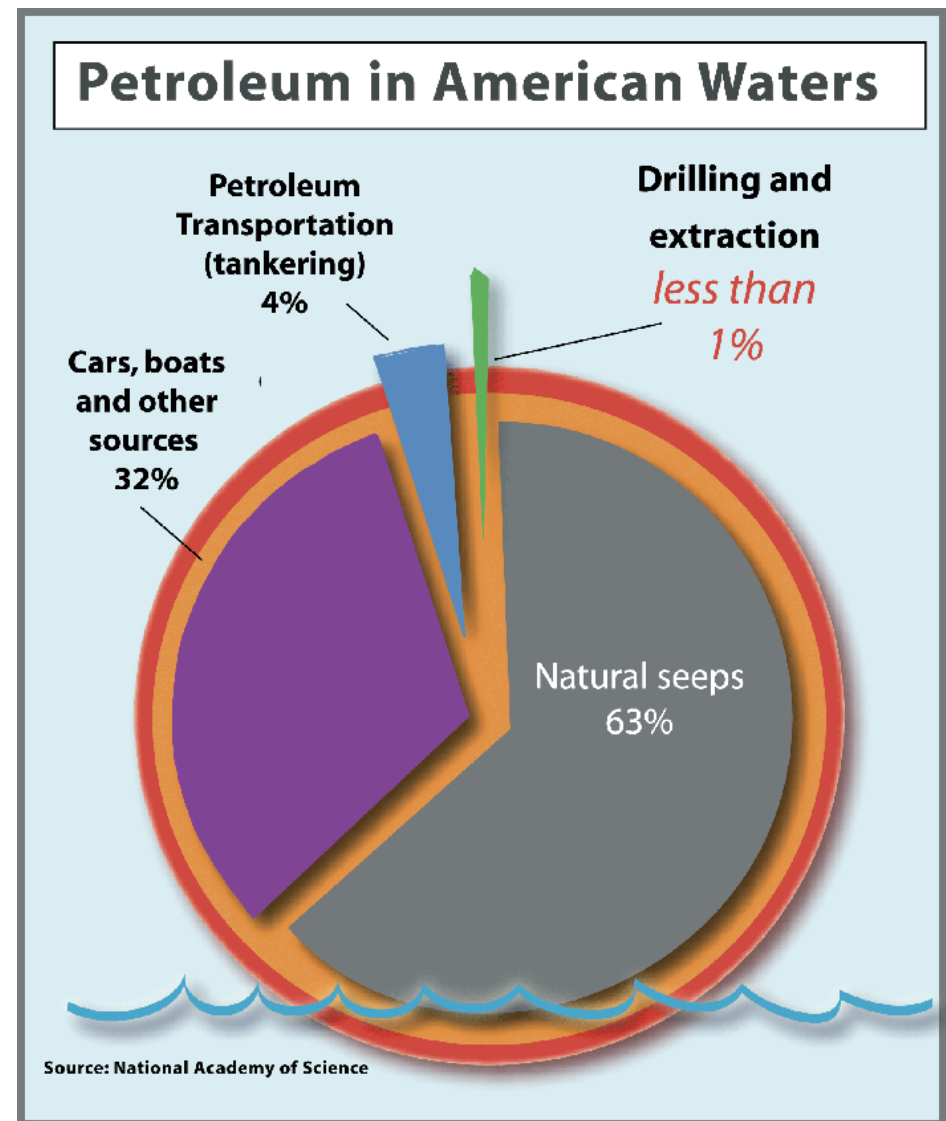


## **A Direct Source of Jobs and Economic Development:**

- In the Gulf of Mexico, oil and gas activities on the OCS directly employ 85,000 people.
- Indirectly, OCS activity accounts for an additional 85,000 support jobs, many from small business vendors.
- These are good jobs: wages in the oil & natural gas industry are 30% higher than average income.
- These are safe jobs: Government statistics show that the injury and illness rate for offshore workers is about 70 percent lower than all of private industry.

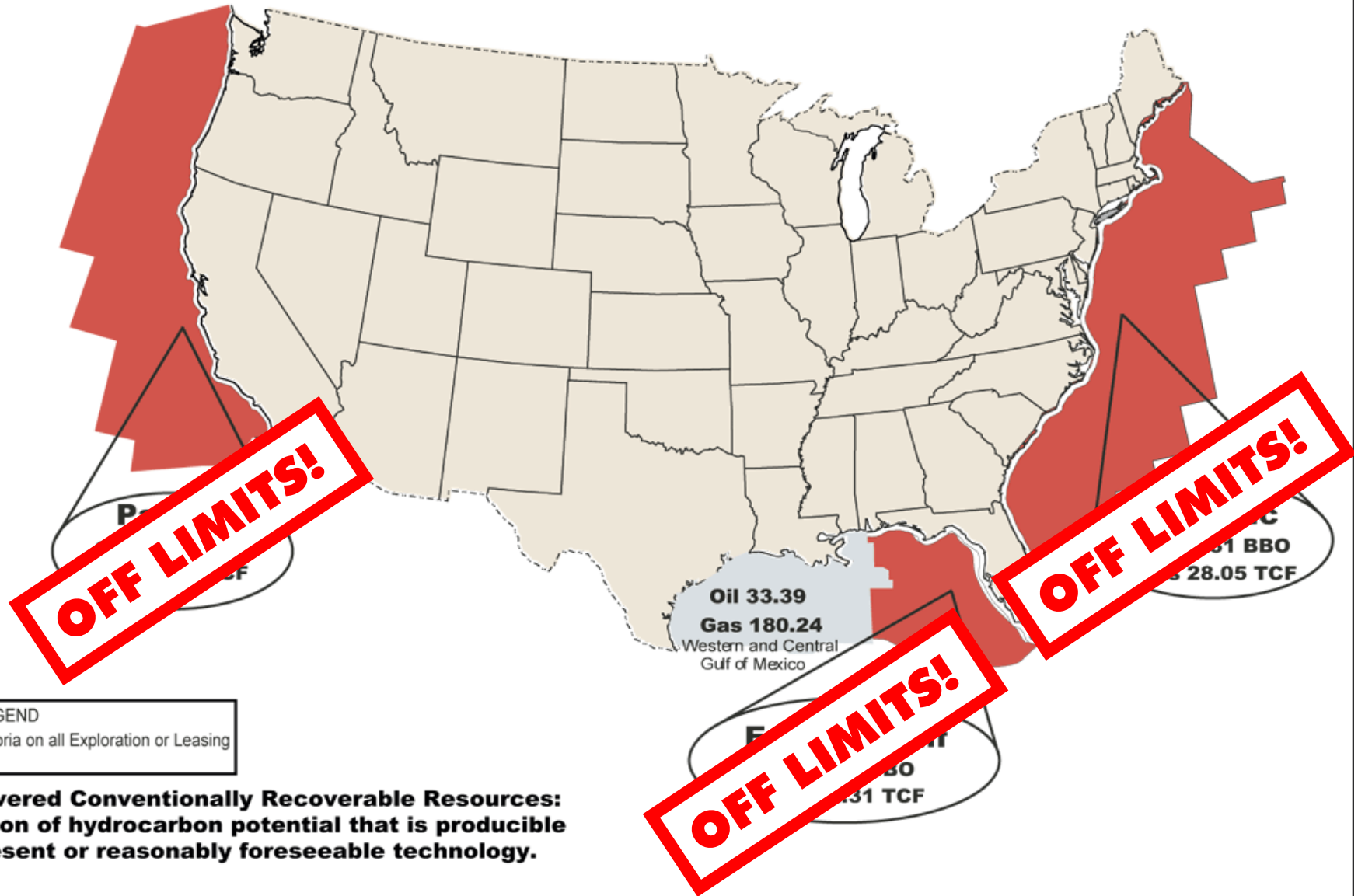
# Safety and Offshore Energy

- Enviably Record of Environmental Performance
- Continuous improvements in safety and environmentally sensitive operations
- MMS conducts 12,000 inspections annually

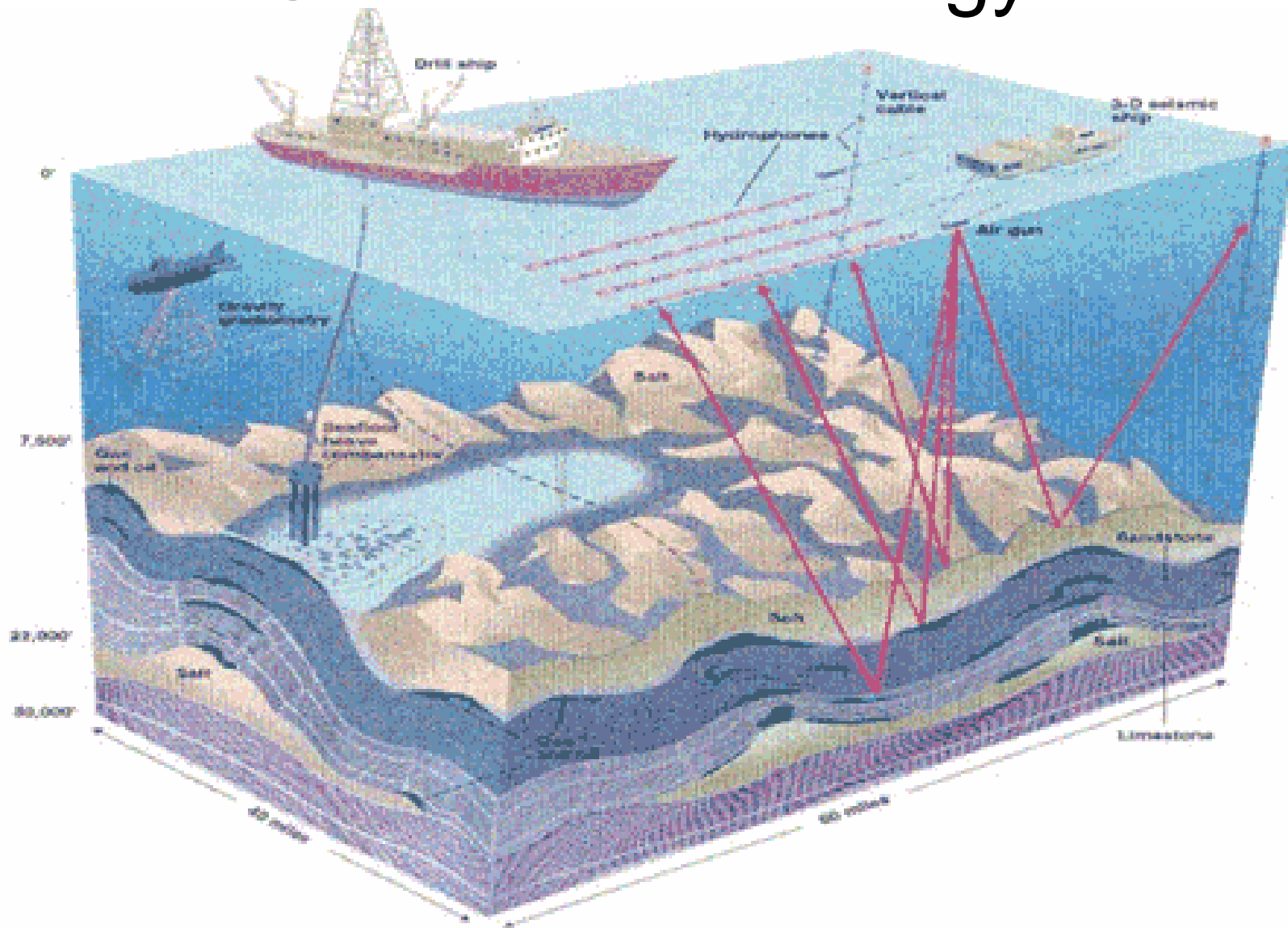




# Less than 19% of OCS is Open to Development

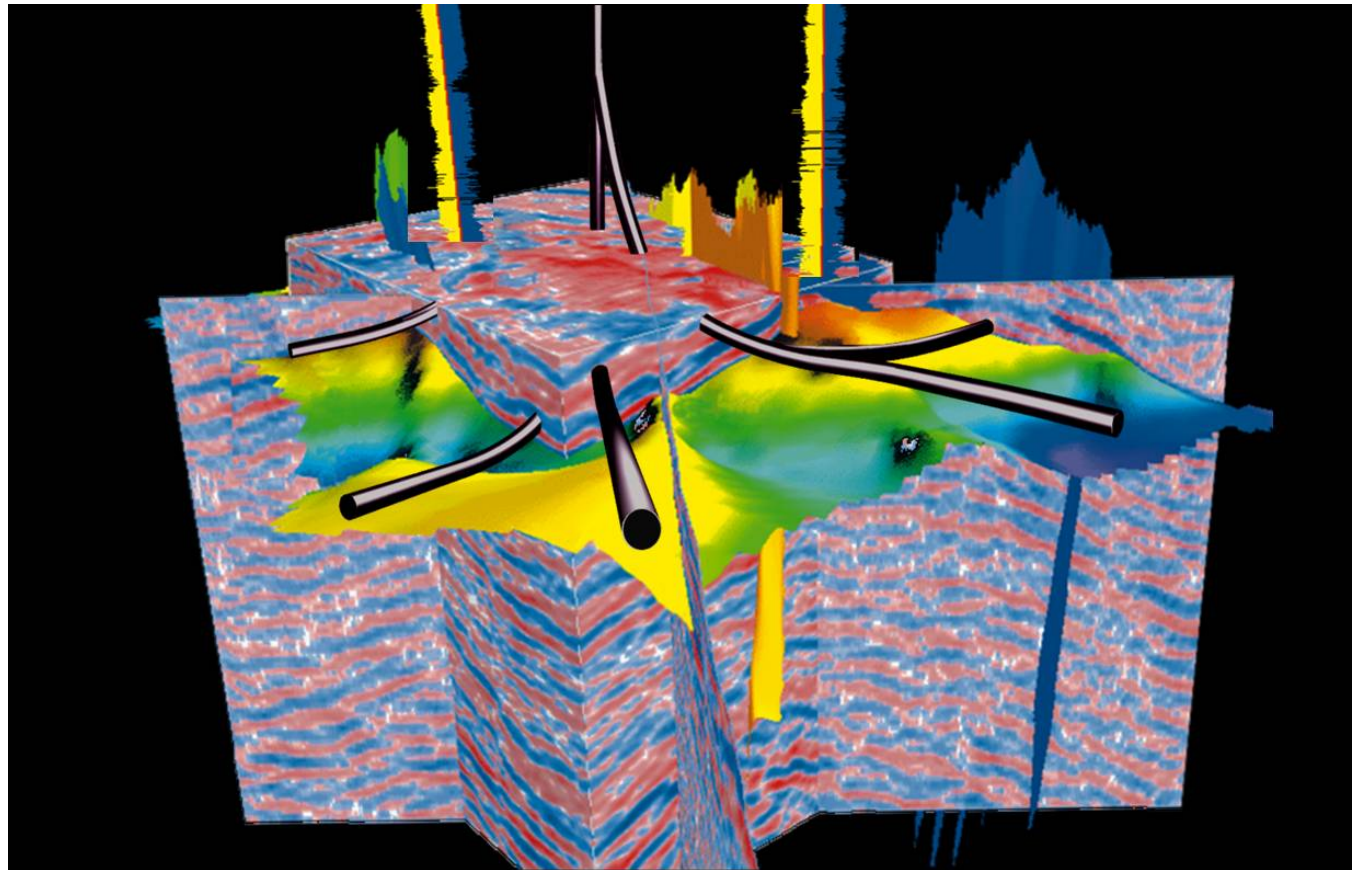


# An Overview of Exploration: Seismic Technology



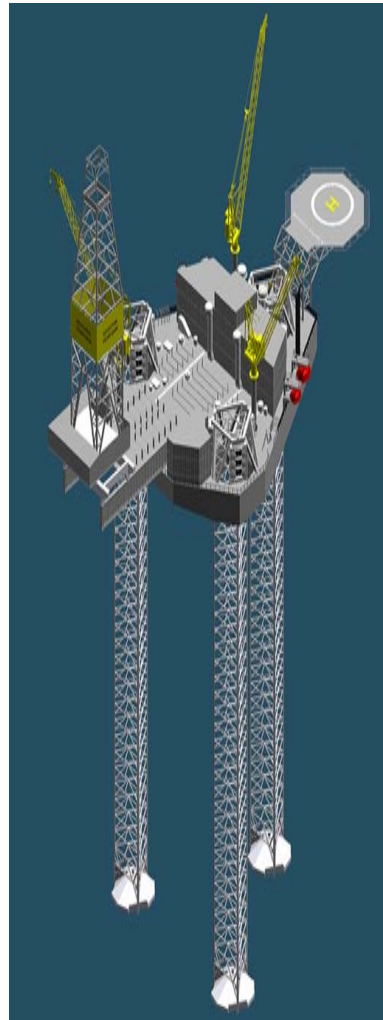
# An Overview of Exploration: Geologic & Geophysical Analysis

- Advances in computing power lead to 3-D and 4-D analysis and more targeted drilling

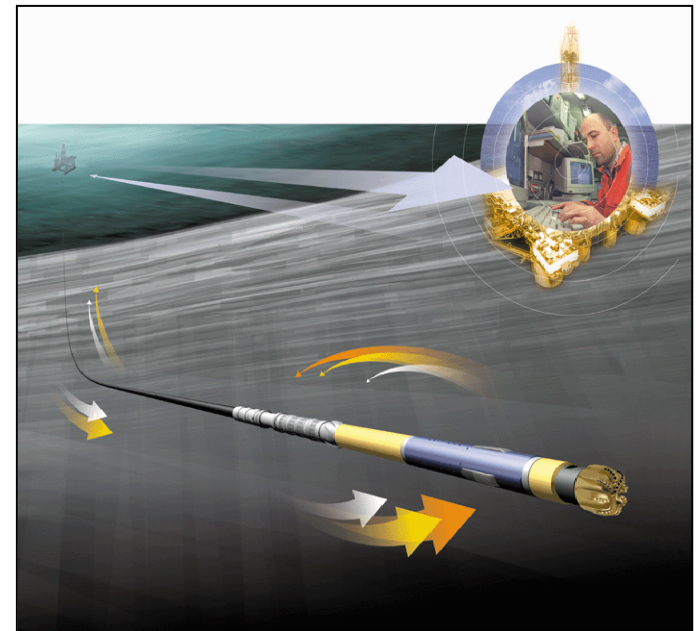


# An Overview of Exploration: Drilling Wells

Drill Ships Reach Record Depths: In 2004, Transocean's *Discoverer Deep Seas* drilled a well nearly 200 miles from Galveston, Texas in 10,011' tvd

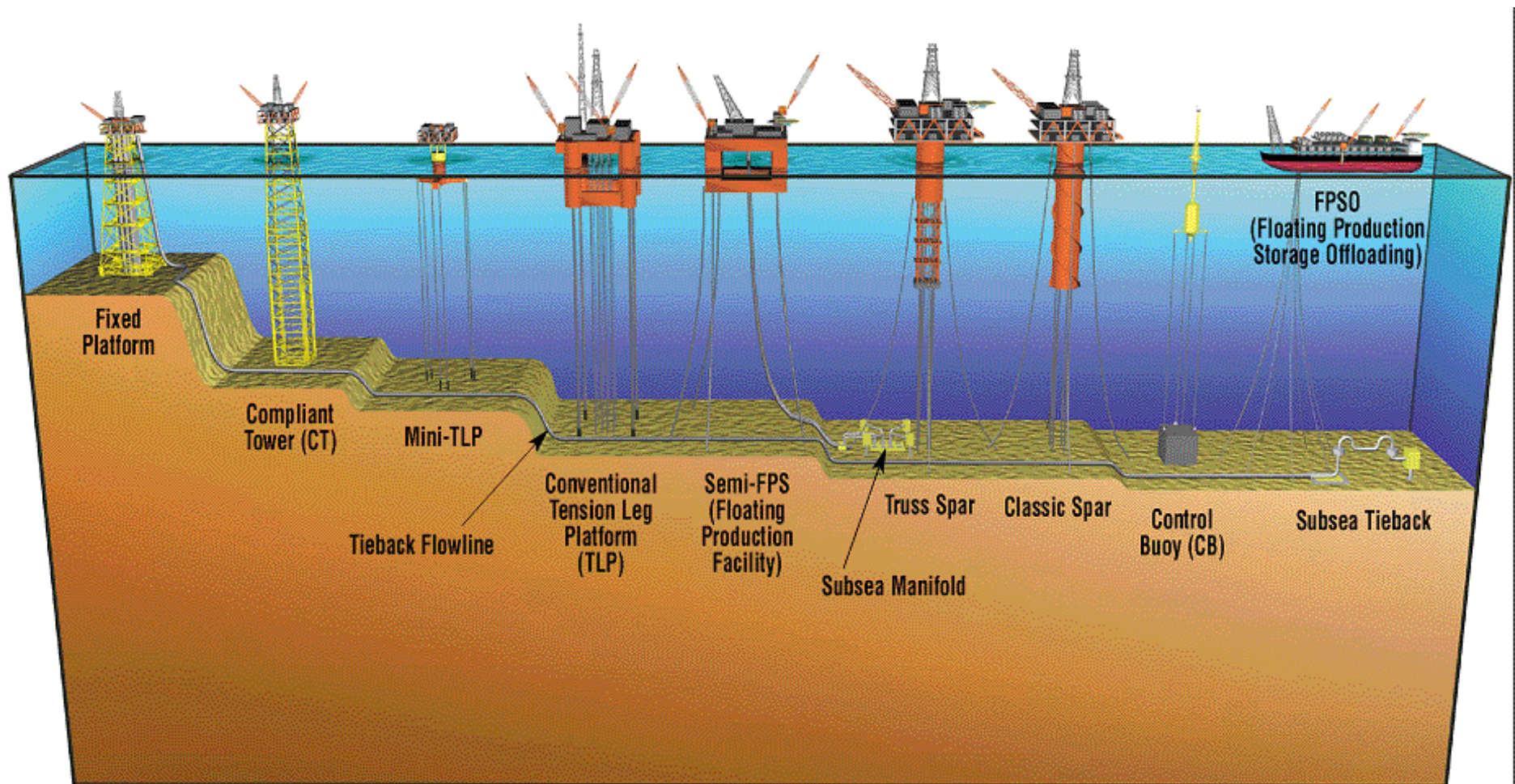


Directional drilling:  
Real-time data improves drilling accuracy/speed



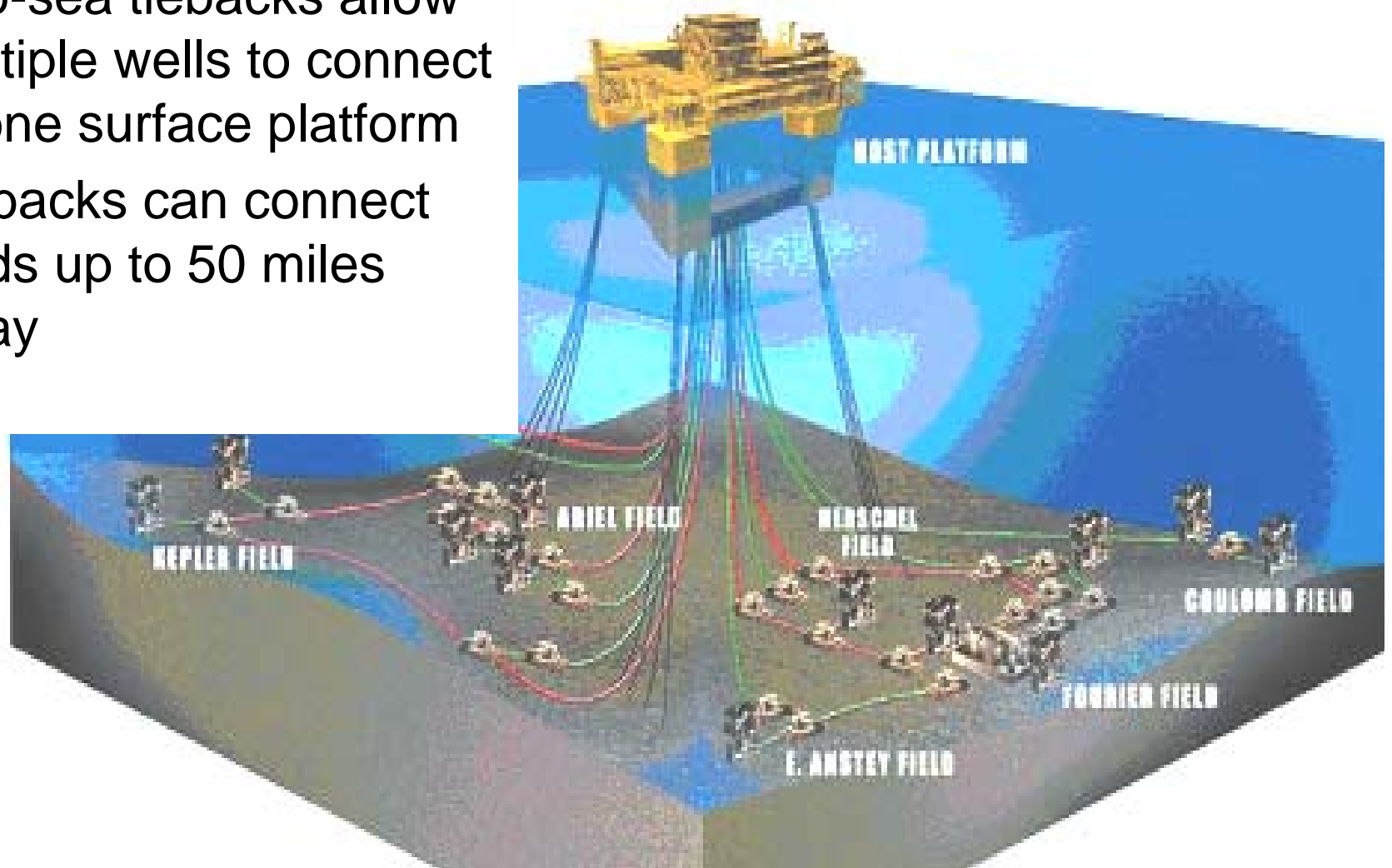


# An Overview of Production: Different Types of Platforms

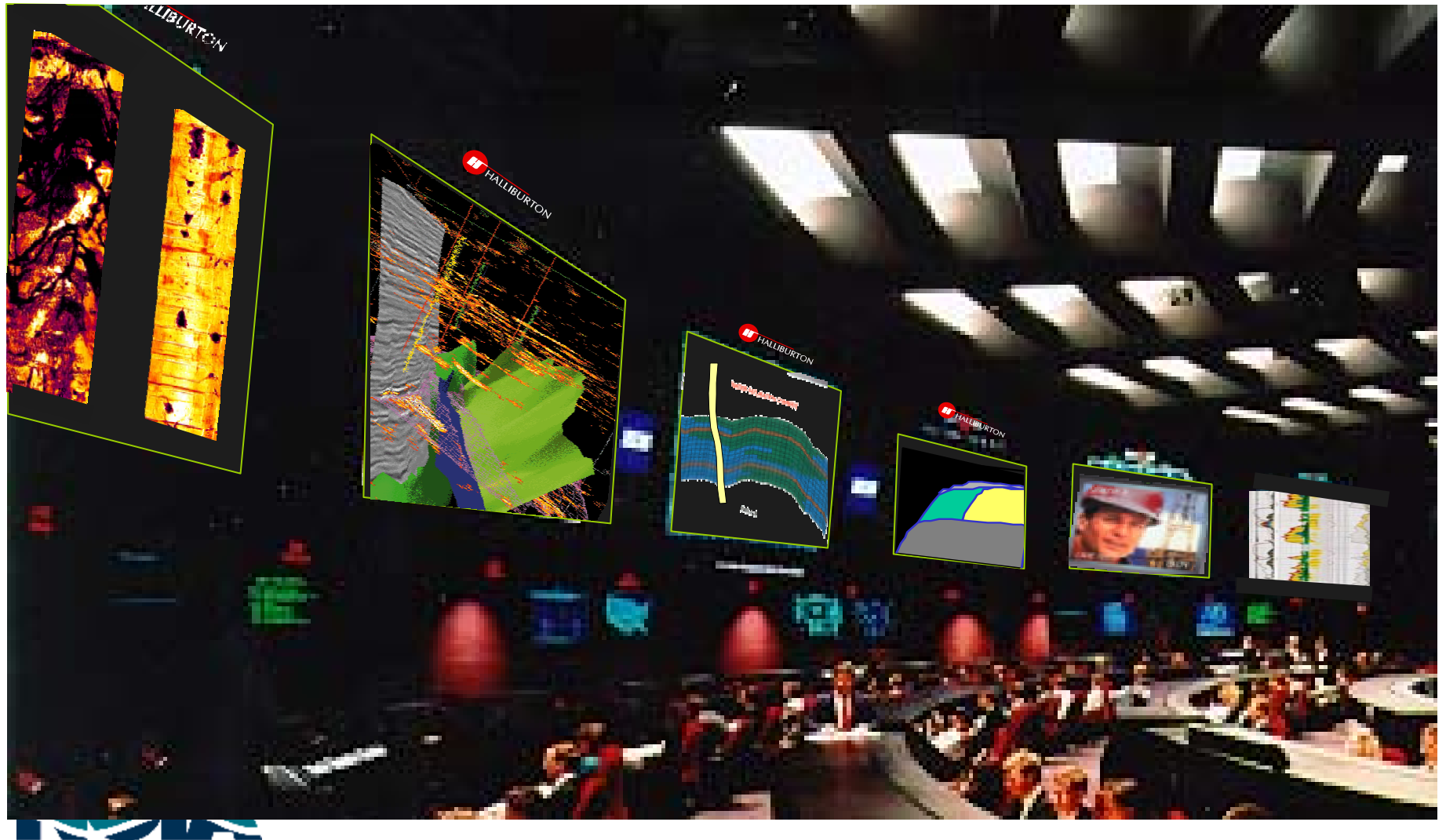


# An Overview of Production: Sub-sea Tie-back Wells

- Sub-sea tiebacks allow multiple wells to connect to one surface platform
- Tiebacks can connect fields up to 50 miles away



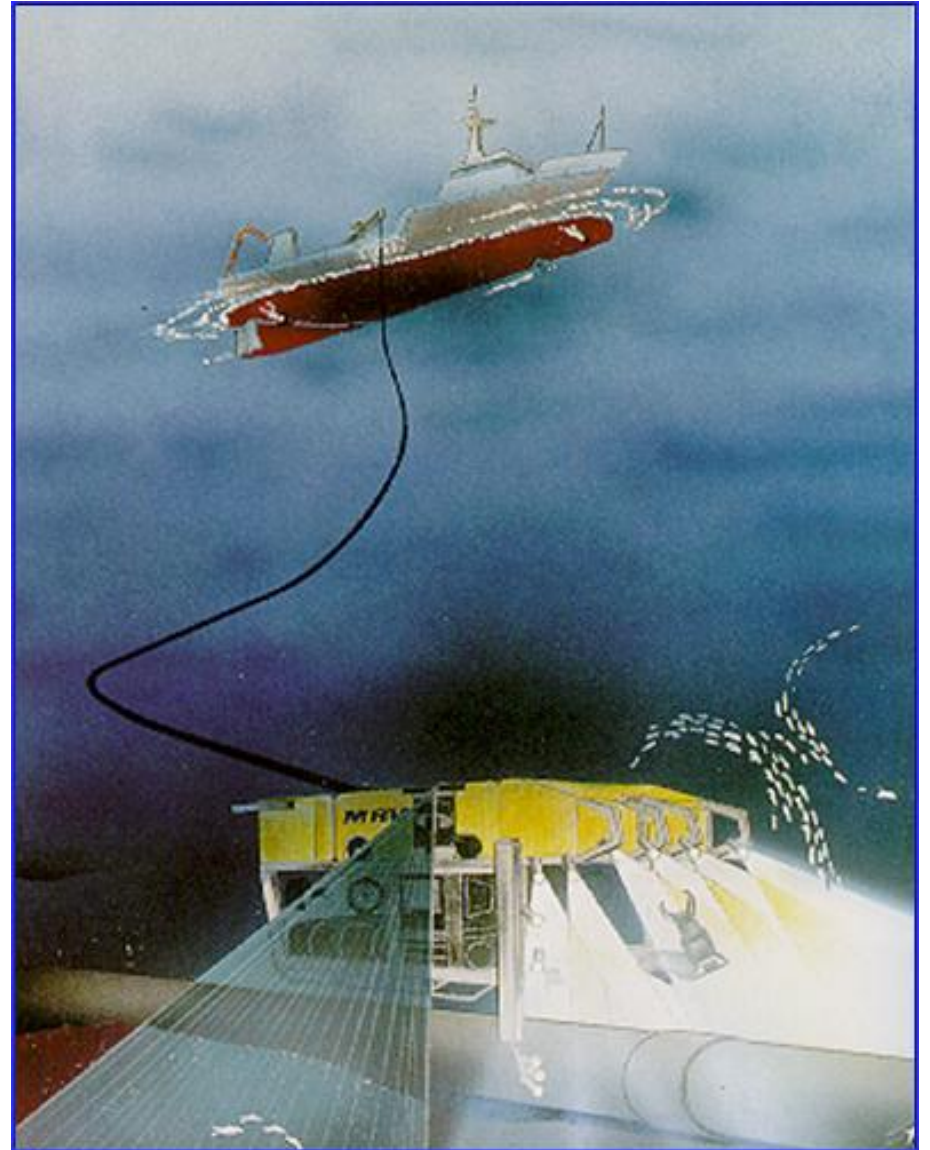
# Overview of Production: Smart Well Management





# Overview of Production: Pipelines

ROV's (Remotely Operated Vehicle)  
and AUV's (Autonomous  
Underwater Vehicle) **are vital**  
to construction and  
safety inspections





# Overview of Post-Production: Decommissioning/Removal of Structures

## Required Steps:

- Companies must meet financial criteria and bonding requirement
- Condition surveys & engineering as-built data collation
- Purging/cleaning production fluids
- Planning/engineering of removal & transportation
- Mobilization of derrick barge & transportation vessels
- Cutting/severing of platform components
- Lifting, back loading & sea fastening of components
- Transportation, off loading & scrapping, reefing / storage of components
- Post-removal surveys & seabed debris removal



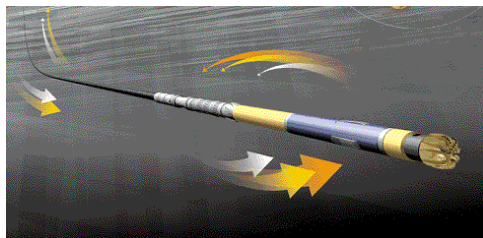
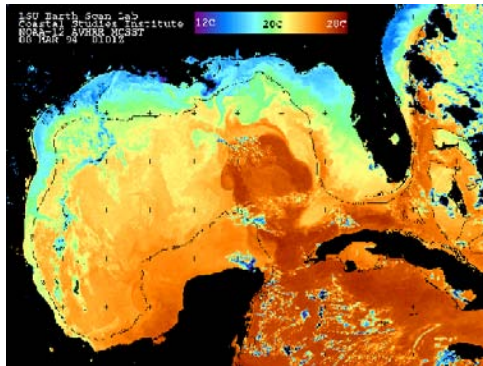
# OCS Activity is governed by a thorough, multi-phase, public regulatory process:

1. Preparation of the MMS 5-Year Plan
2. Specific Lease Sale Process
3. Exploration Plan Preparation
4. Development and Production Planning

Pre-Lease	Develop 5-Year Program										
	Solicit Comments	45-day Comment Period	Draft Proposed Program Published	60-day Comment Period	Proposed Program	90-day Comment Period	Proposed Final Program	60-day Waiting Period	5-Year Program Announced		
					Draft EIS Published		Final EIS				
	Planning for Specific Sale										
	Call for Information Published	45-day Comment Period	Define Sale Area	Draft EIS	45-day Comment Period	Final EIS Published	30-day Pre-decision Period	Notice of Sale	30-day Comment Period	Sale	Leases Issued
						CD to States	90-day Review*				
						Proposed Notice Distributed	60-day Comment Period				
Post-Lease	Exploration Plan Approval										
	Exploration Plan Submitted	Environmental Assessment	Exploration Plan Approved	90-day CZM Review Approved	APD Approved	Exploration Drilling Starts	First Exploration Well Completed	Delineation Drilling			
		CZM Review Starts			Permits Granted						
	Development and Production Plan Approval										
	Development and Production Plan	CZM Consistency Review Starts	Draft EIS Published	90-day Comment Period	Final EIS Published	CZM Consistency Obtained	Production Well Application	First Oil/Gas Production			
					Development & Production Plan Approved						



# Developing & Supporting Critical Energy Infrastructure Offshore



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