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Key Messages

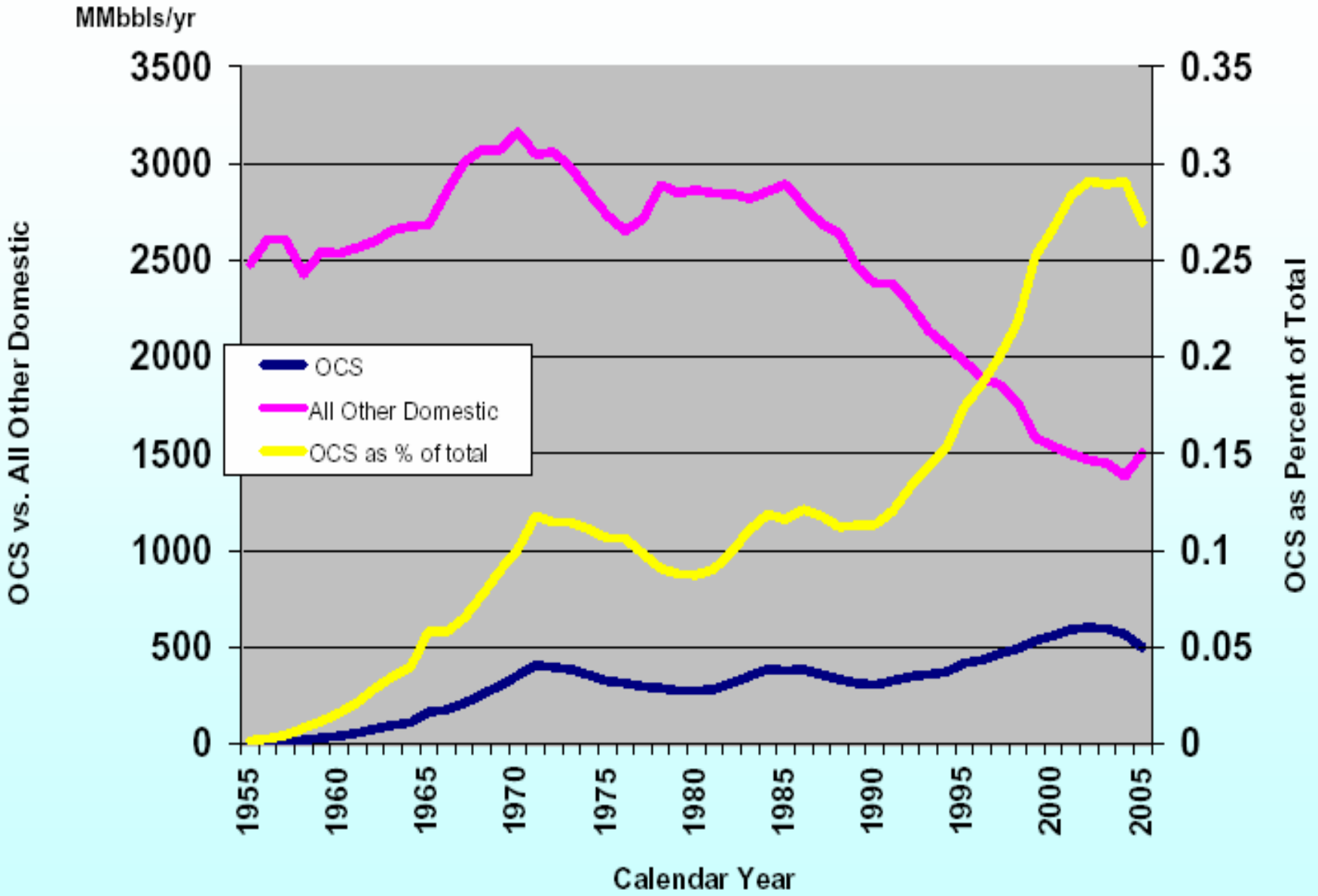
More Oil to be Found and Delivered BUT

- **Smaller Accumulations**
- **More Difficult**
- **EOR May Play an Important Role in Enabling**

Contents and Comments are the Author & not necessarily Shell

Crude Oil & Condensate Production

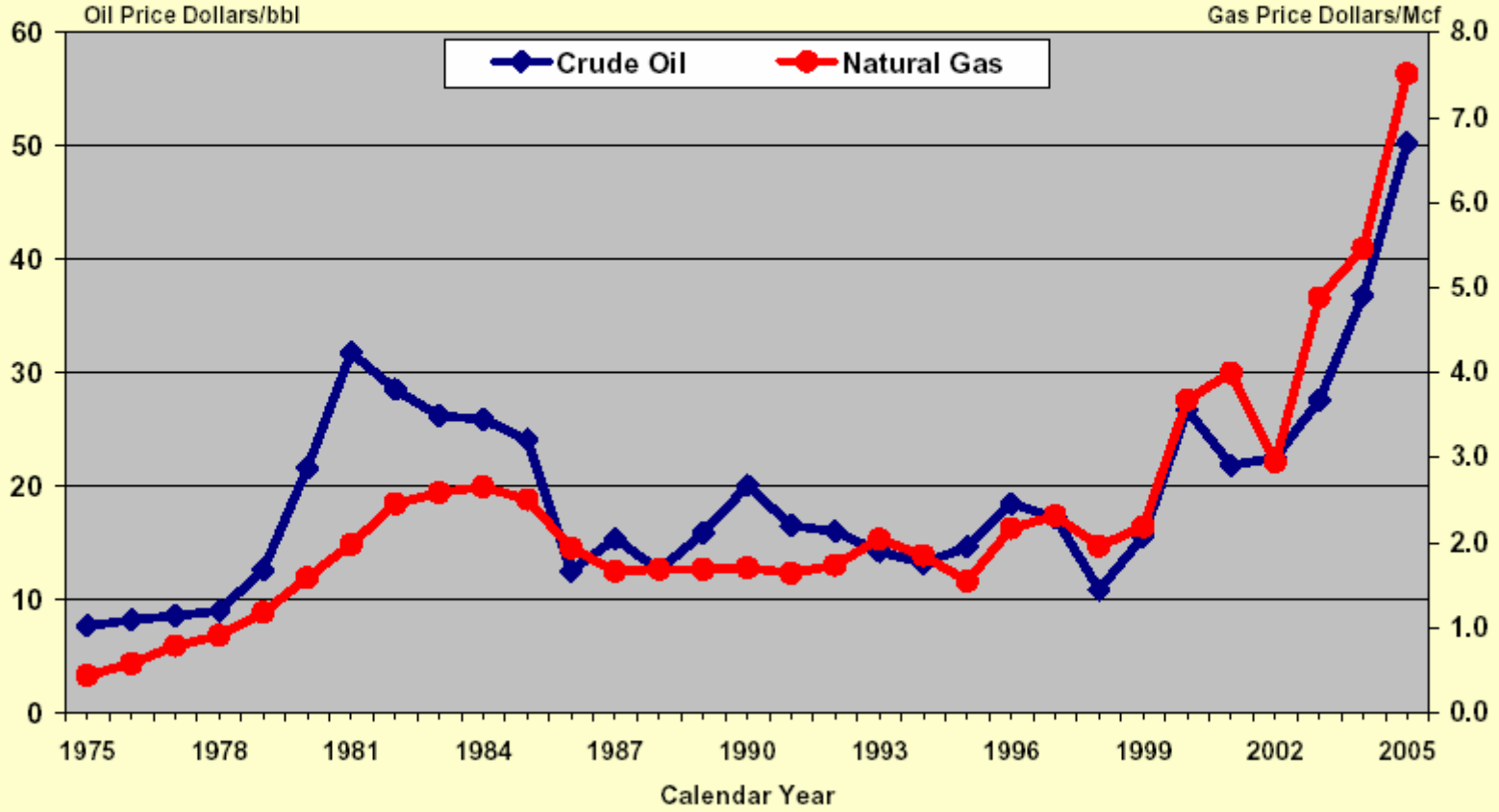
OCS vs. All Other Domestic*



Totals and percents may not equal the sum of the components due to independent rounding. All Other Domestic* onsists of State Waters production and ON-Shore Production. For the year 2005 data Totals are preliminary estimates based on marketed production. SOURCE: TIMS/MRM and DOE Monthly Energy Review (Archives 1954-1994) (updated 5/2006)

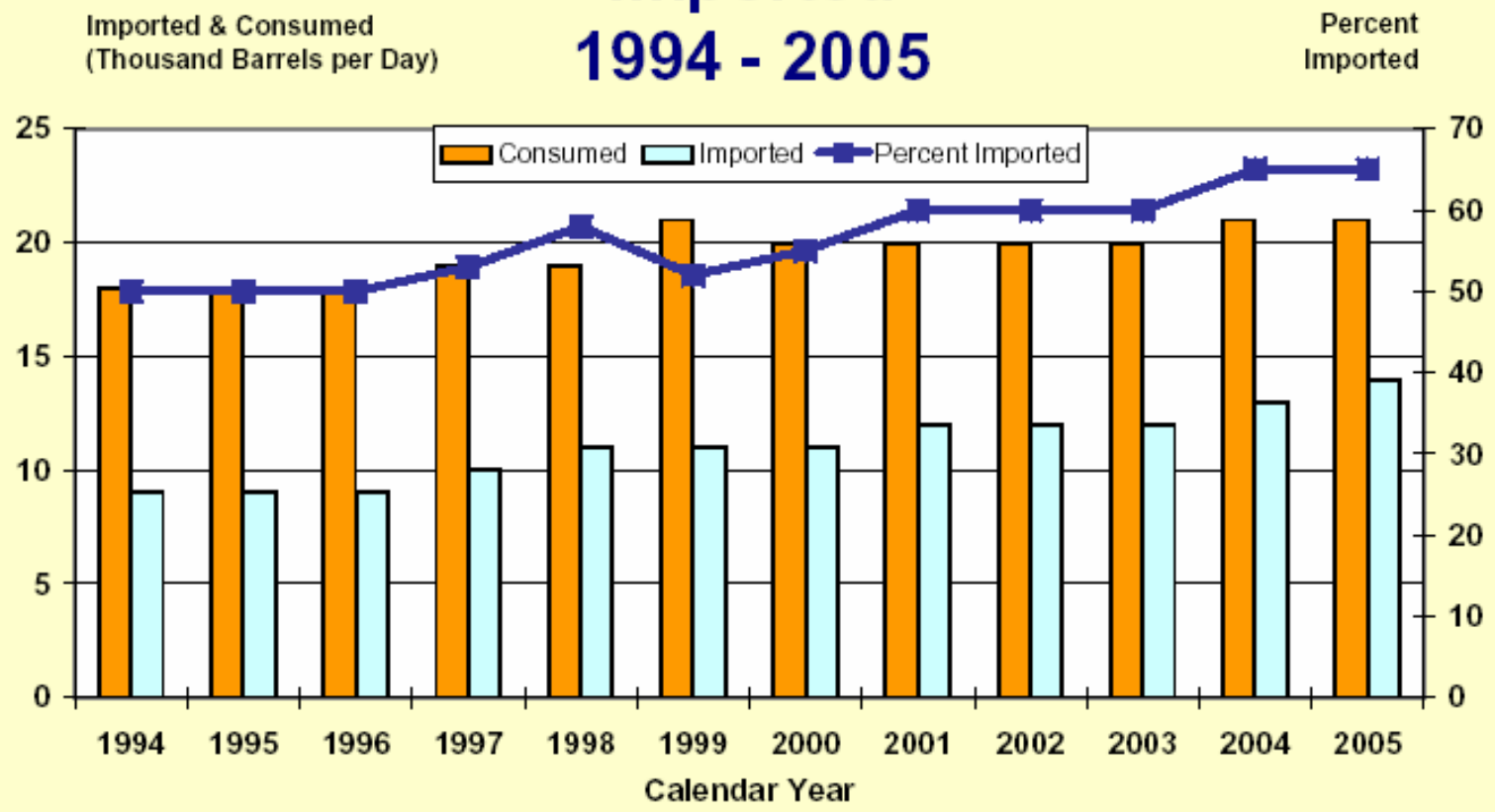
Prices of Crude Oil & Natural Gas: 1975 - 2005

[Annual averages for gas based on domestic first purchase price at wellhead:
annual averages for oil based on monthly prices weighted by volume.]



SOURCE: DOE/EIA, Monthly Energy Review, April 2006.

U. S. Petroleum: Consumed & Imported 1994 - 2005



SOURCE: DOE/EIA Monthly Energy Review, April 2006.

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Issues to Future Supplies

- **Size of Onshore/Shelf Oil & Gas Discoveries Getting Smaller and have been**
- **Size of Deepwater Discoveries Starting to Get Smaller**
- **Some Unexplored Area's Such as the Artic & Antarctic**
- **Some Inaccessible areas West Coast, East Coast, & Florida untapped**

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Issues to Future Supplies

- **Production Sharing Contract Constantly becoming More One Sided (mandated NOC operators)**
- **Repeated and Costly Acts Of Nature (Mars, Thunder Horse)**

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Oil Opportunities

- **Ultra Deep Reservoirs GOM and perhaps elsewhere (who knows under salt?) Jack**
- **Reopen Closed Area's with No See Technology (Subsea to the Beach or S2B)**
- **Harsh Environment Technologies**
- **Unconventional Opportunities Tar Sands & Oil Shale**
- **Enhanced Oil Recovery (up Recovery 35% to ?)**

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Challenges

- **GOM Ultra Deep Reservoirs (Jack): Very High Cost Wells ($100 MM), Poor Fluid Quality, Poor Rock Quality, Ultra Deepwater**
- **Over Coming Biases to Open & Reopen Area's**
- **New Structures and Methodology to Conquer 6 + Months Frozen in Ice Reduce Cost**
- **Low Quality and Very High Cost with Tar Sands Mining and Oil Shale Extraction**

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Challenges

- **EOR;**
  - **Negative Industry Bias**
  - **CO2 EOR is not CO2 Sequestration**
  - **Intergrated Projects Such a Shell Coal Gasification Process Delivering Multiple Products Including EOR CO2 and Perhaps EOR Steam**
  - **Developing New EOR Techniques**

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Shell Efforts to Meet Oil Supply Challenges

- **Significant Lease in GOM**
- **Deepwater Surface Systems Research Effort**

- **Harsh Environment Saklin Development**
- **Chukchi & Beaufort Sea Leases & Seismic**
- **Artic Research Program**

- **155 K bbl/d Tar Sand Production Growing 300 K bbl/d**
- **Major Shale Oil Lease in U.S. and Canada**
- **Shale Oil Extraction Research program**

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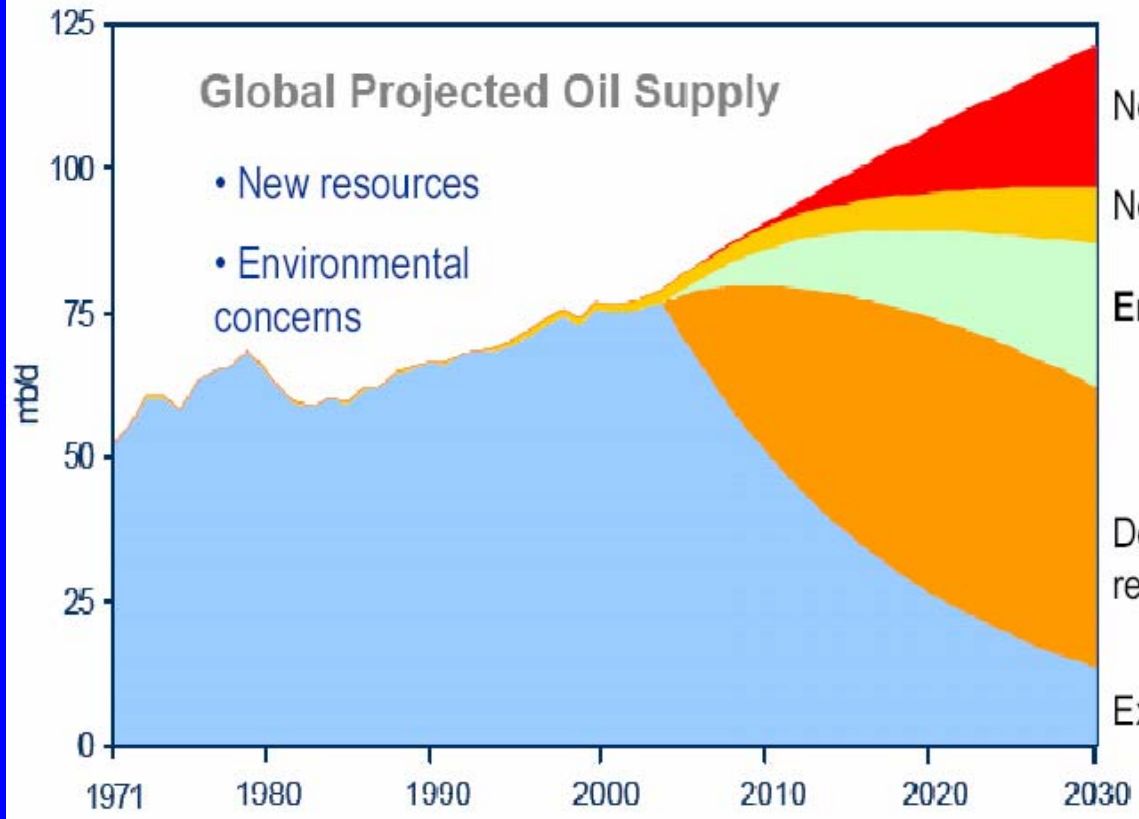
Shell Efforts to Meet Oil Supply Challenges

- **Draugen Intergrated CO2 EOR Project**
- **Qarn Alarm Steam Injection Pilot**
- **Marmul Polymer/Surfactant Pilots/Full Scale Plan**
- **Several Shell Coal Gasification Projects Worldwide**
- **Commercial Scale SCGP Unit Operating 1993**
- **Active Subsurface and Surface EOR Research Program**

The Future Role of EOR

Energy security is driving the world to produce the difficult barrels…



Source: IEA 2004

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- **Thanks and any Questions**