



# RUSSIAN OIL AND GAS RESERVES

Ray Leonard

YUKOS

June 10, 2002



# Factors to consider

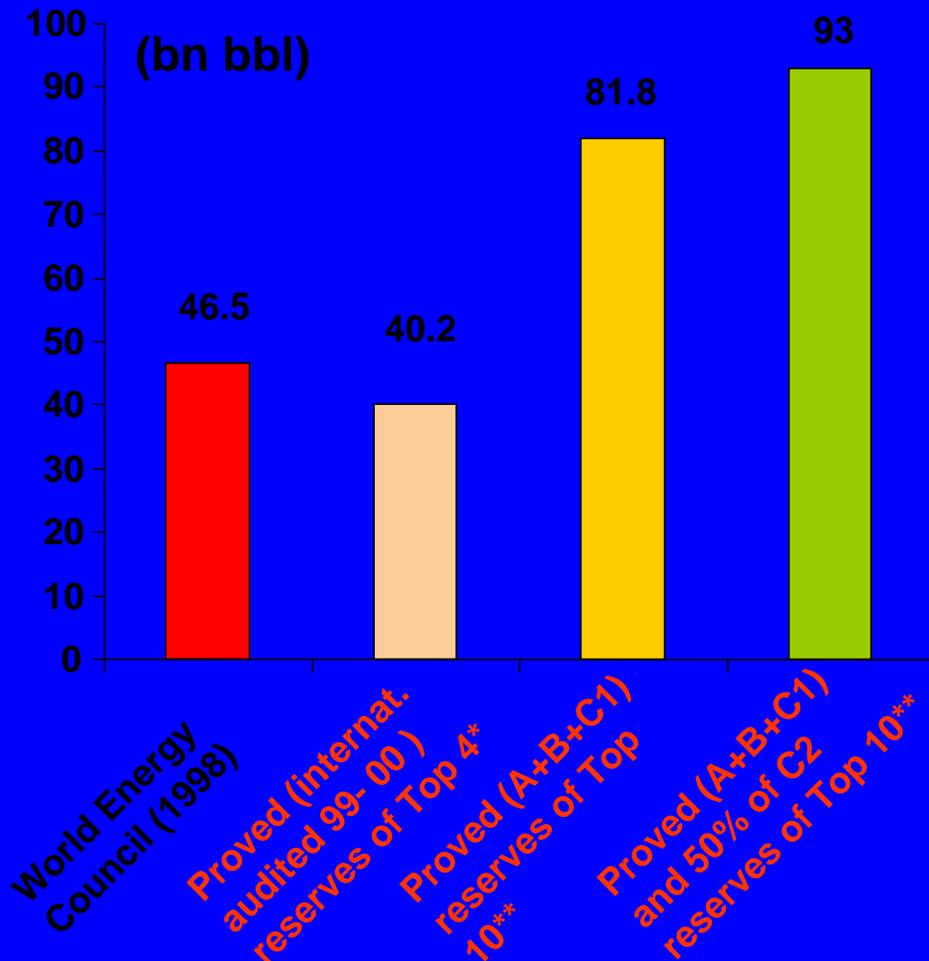
- Existing Reserves
- Production Capability
- Export Capability
- Future Discoveries



# New outlook for oil reserves in Russia and Middle East: reality or political numbers game?

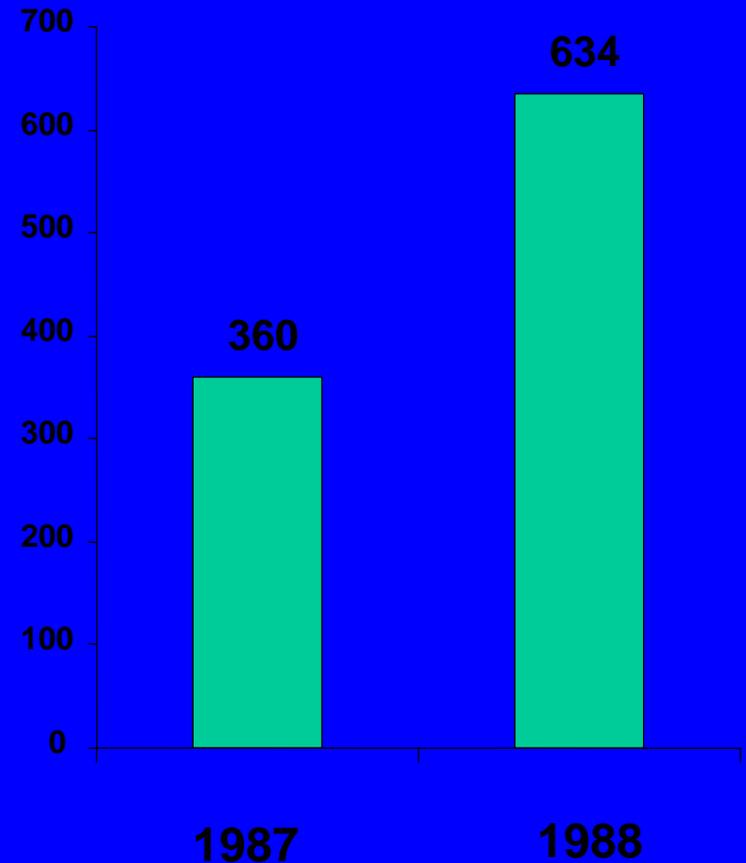
## Russia & Russian companies' oil reserves

(bn bbl)



## 1988 Middle East (OPEC) oil reserves leap

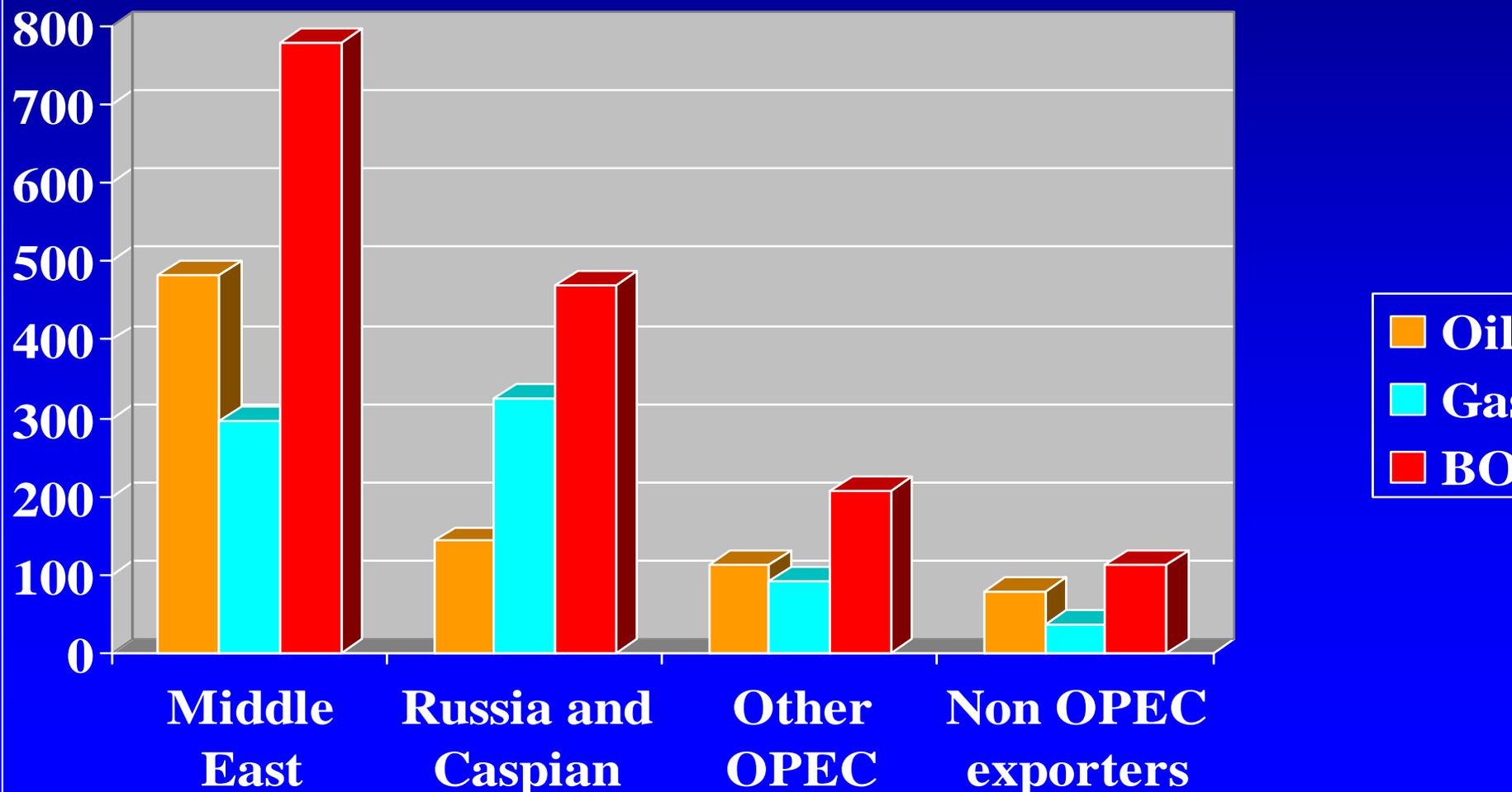
(bn bbl)



\* LUK, YUKOS, SurgutNG, TNK

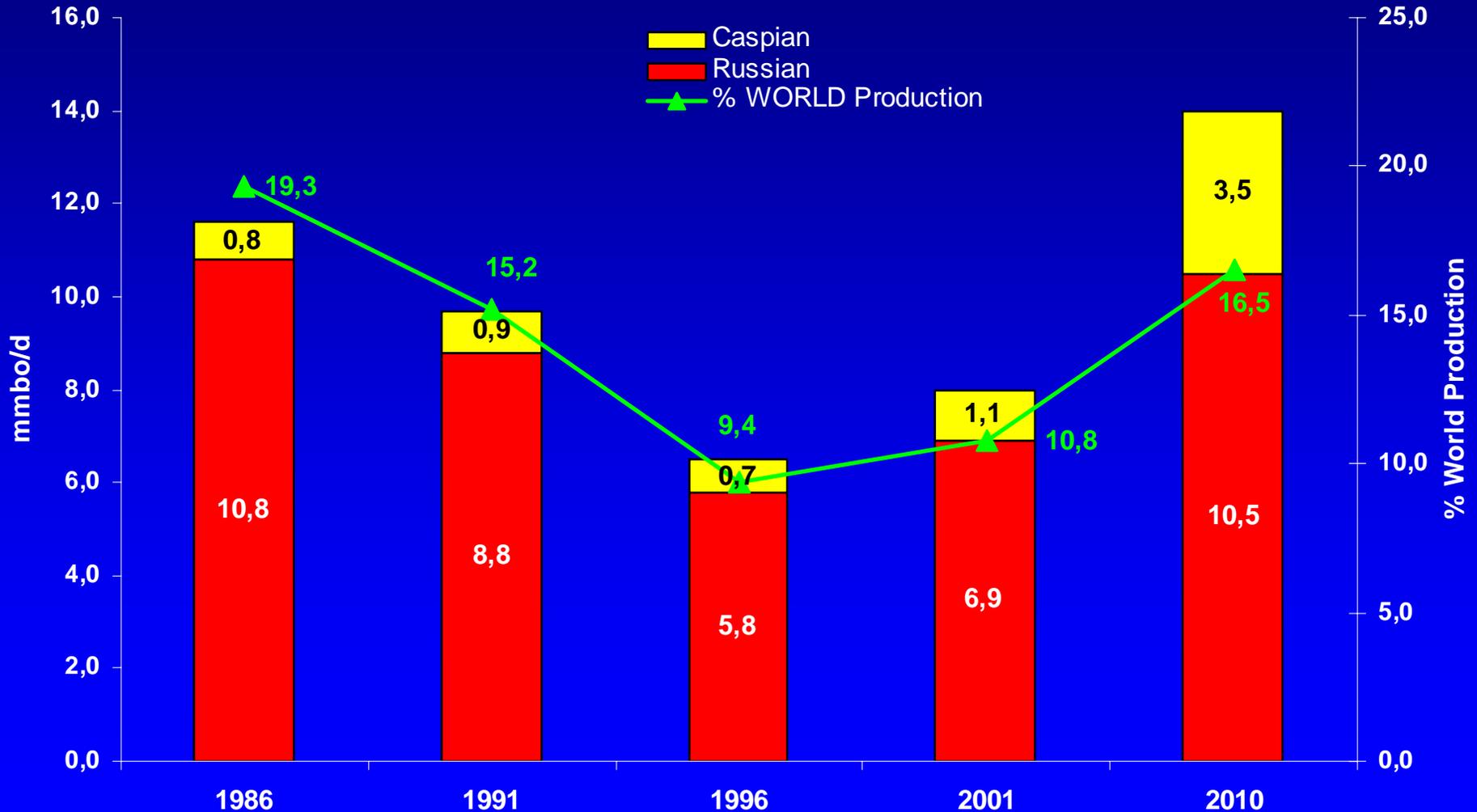
\*\* 4 with Onako + Sidanco, Rosneft, Tatneft, Sibneft, Surgutneft, Rosneft

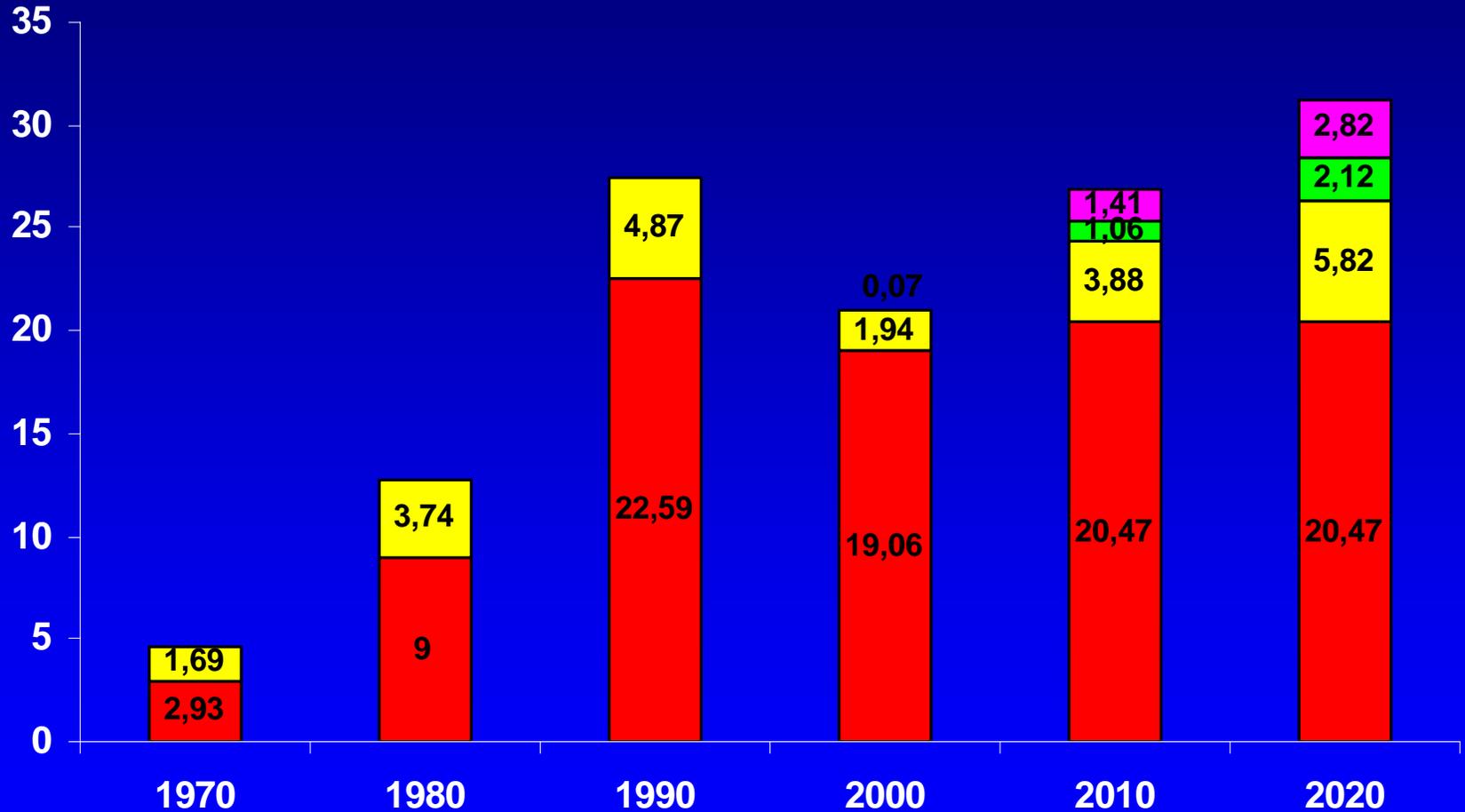
# Oil Equivalent Reserves





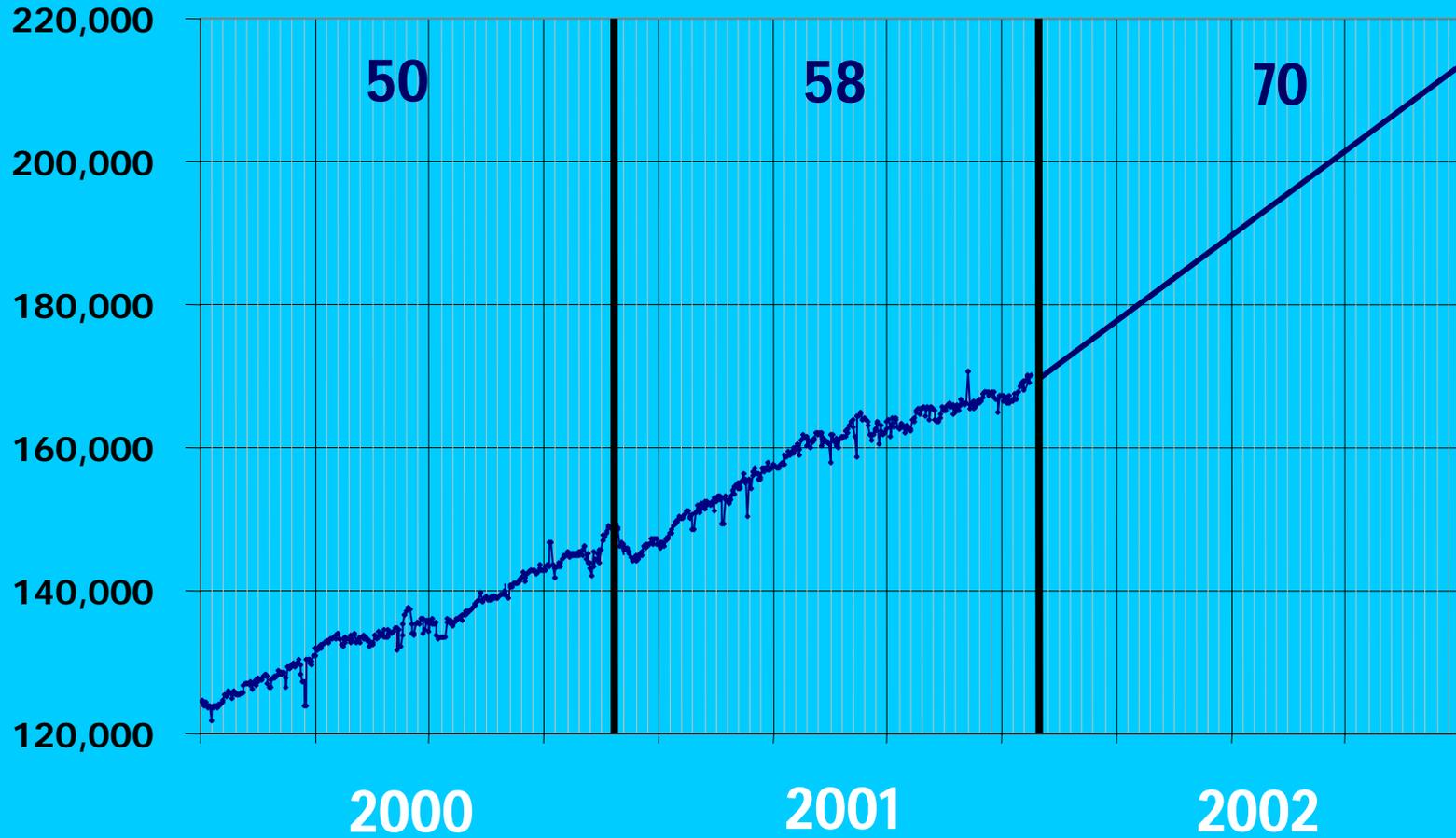
# RUSSIAN AND CASPIAN PRODUCTION COMPARED TO WORLD PRODUCTION



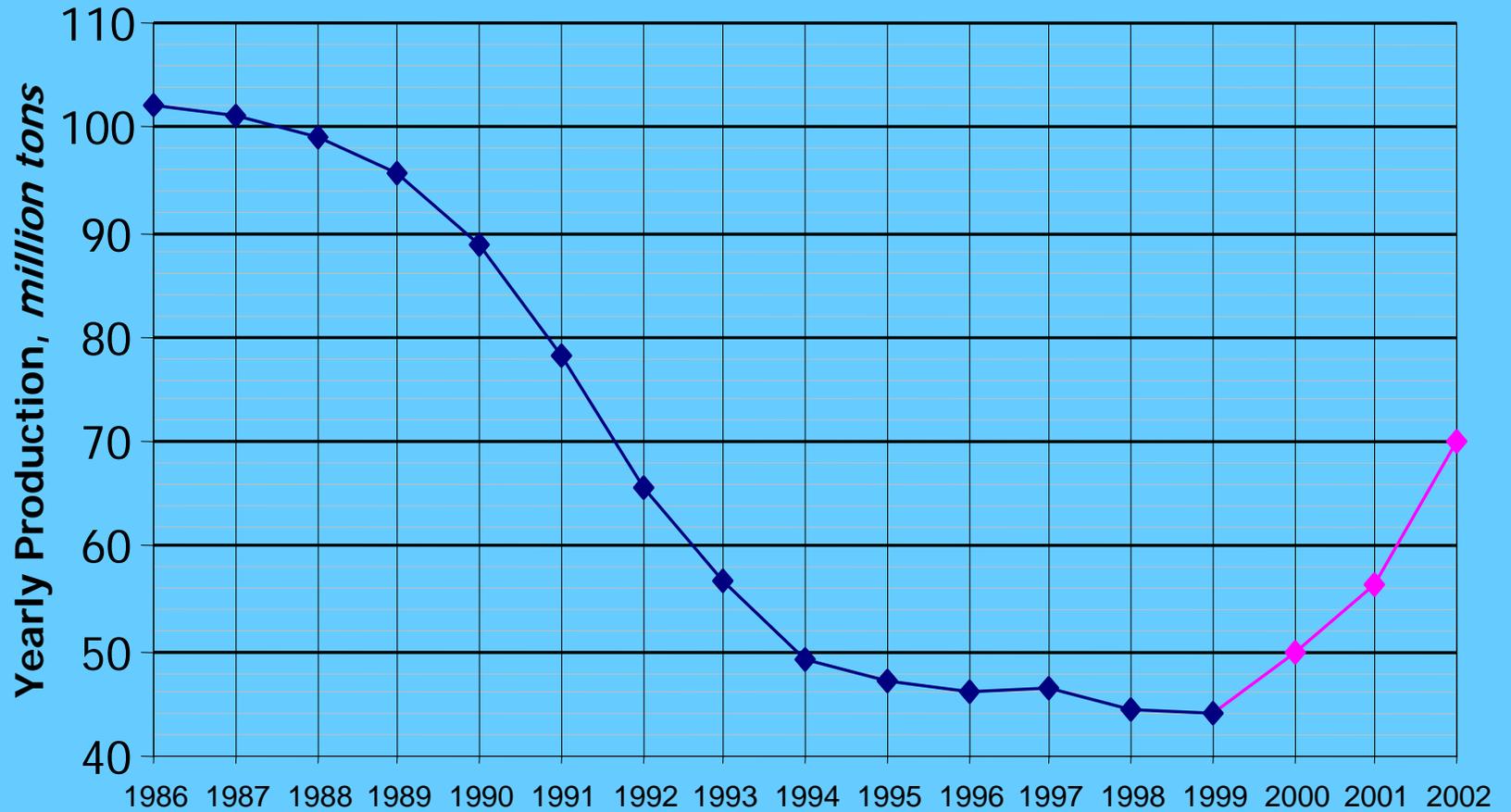


■ RUSSIA CURRENT PRODUCTION AREAS 
 ■ CENTRAL ASIA 
 ■ EAST SIBERIA 
 ■ RUSSIAN OFFSHORE

# YUKOS PRODUCTION

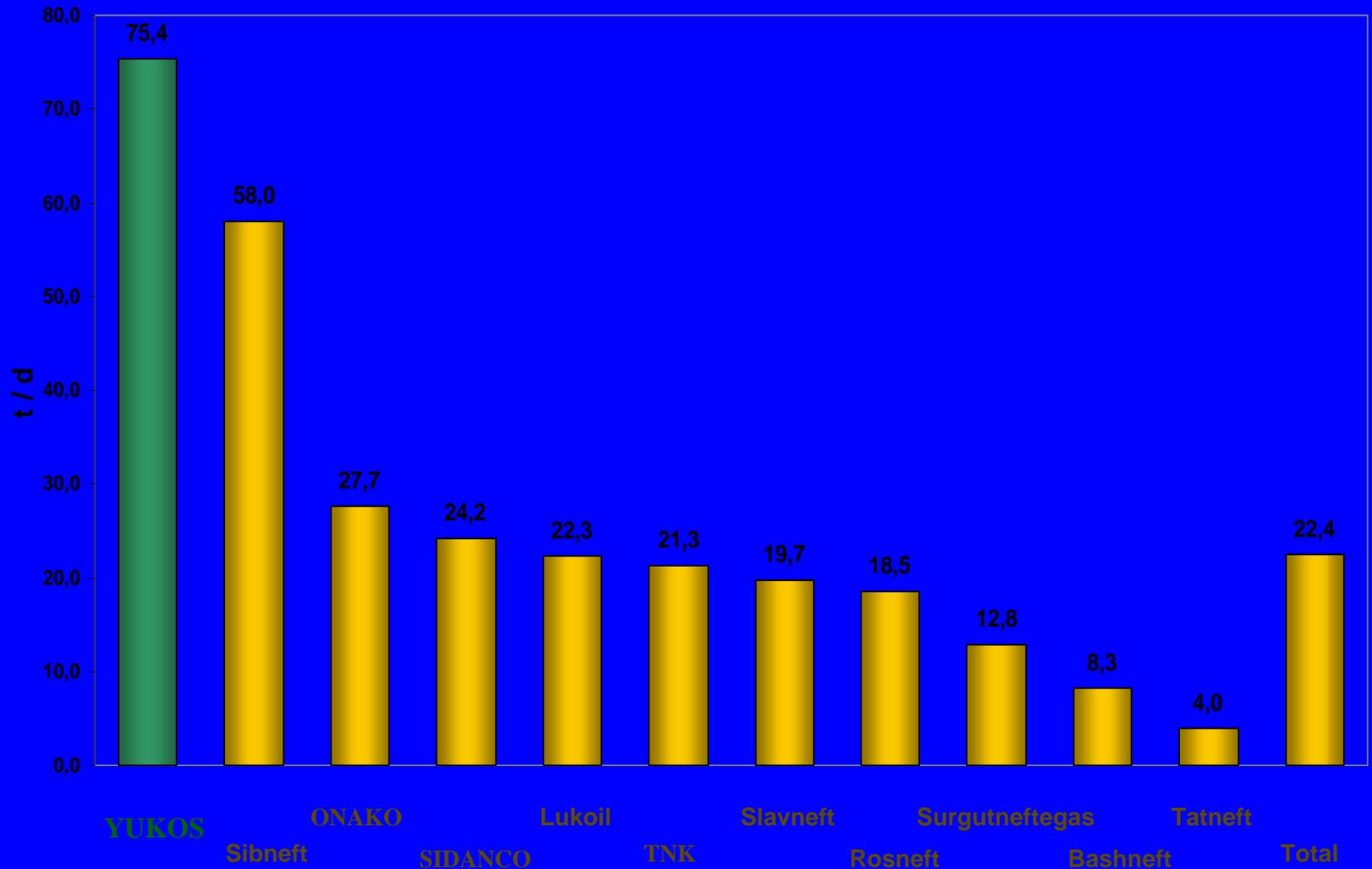


# YUKOS PRODUCTION

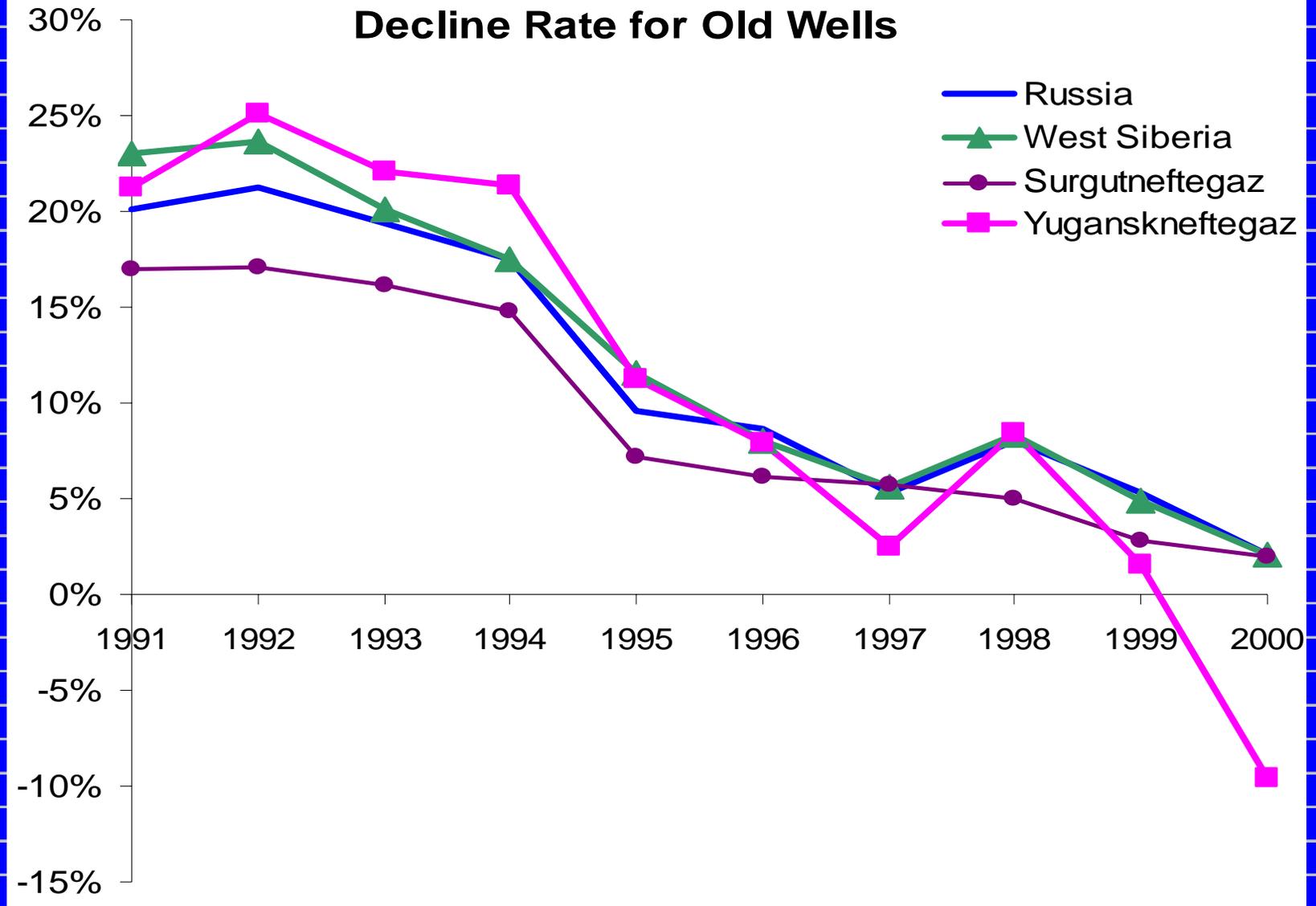




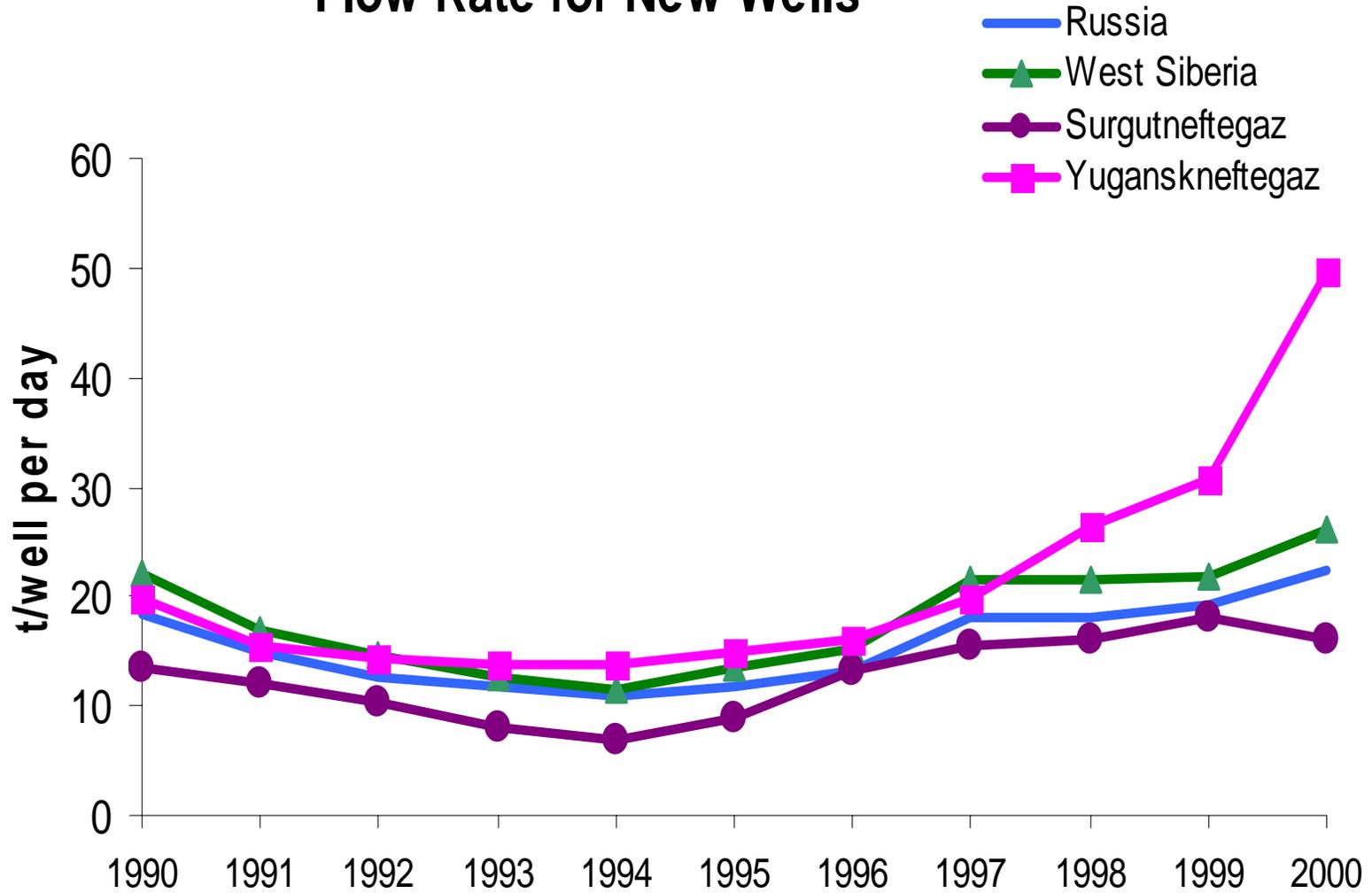
# Average daily rate per new well by Russian oil companies in 2001



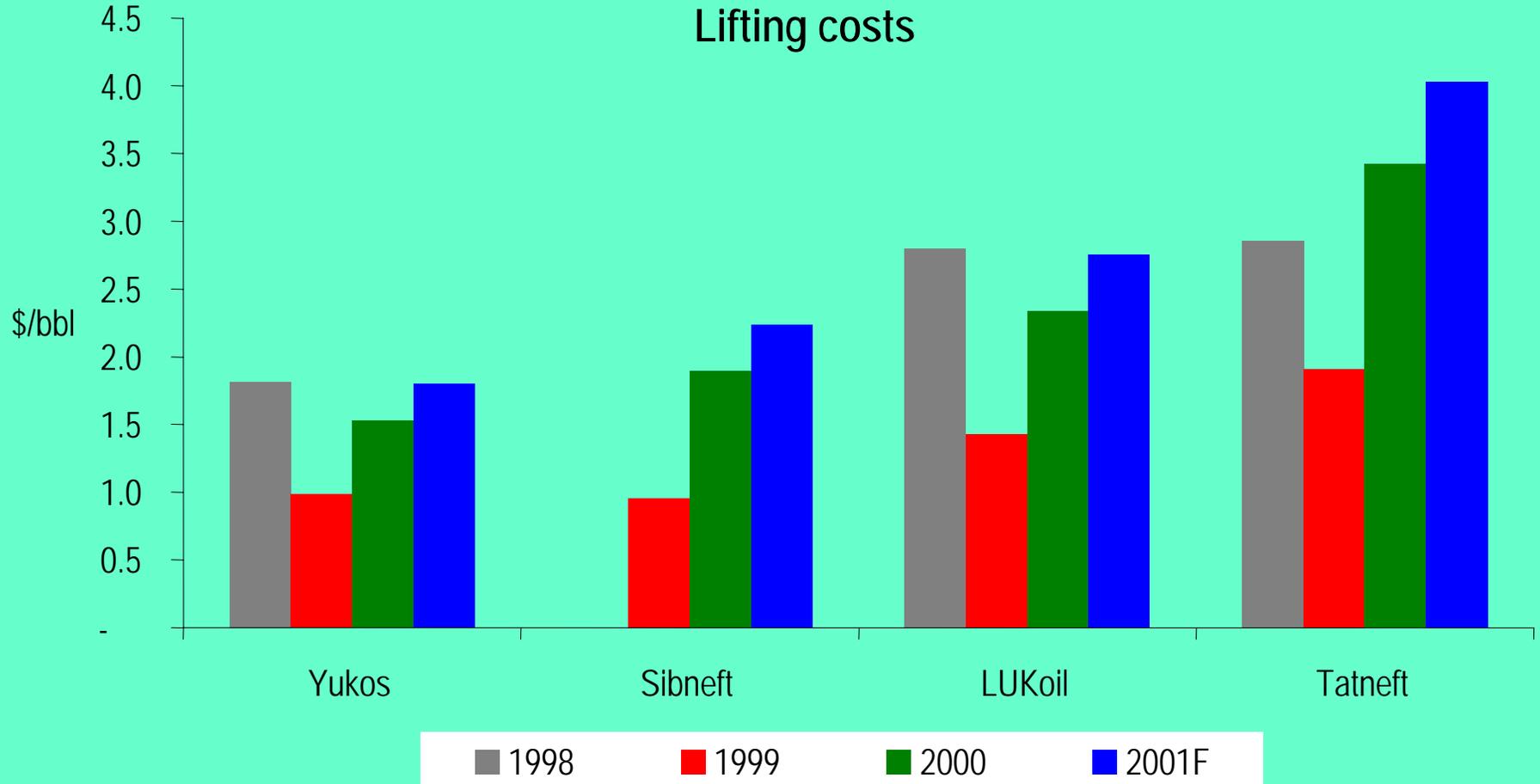
# Decline Rate for Old Wells



## Flow Rate for New Wells



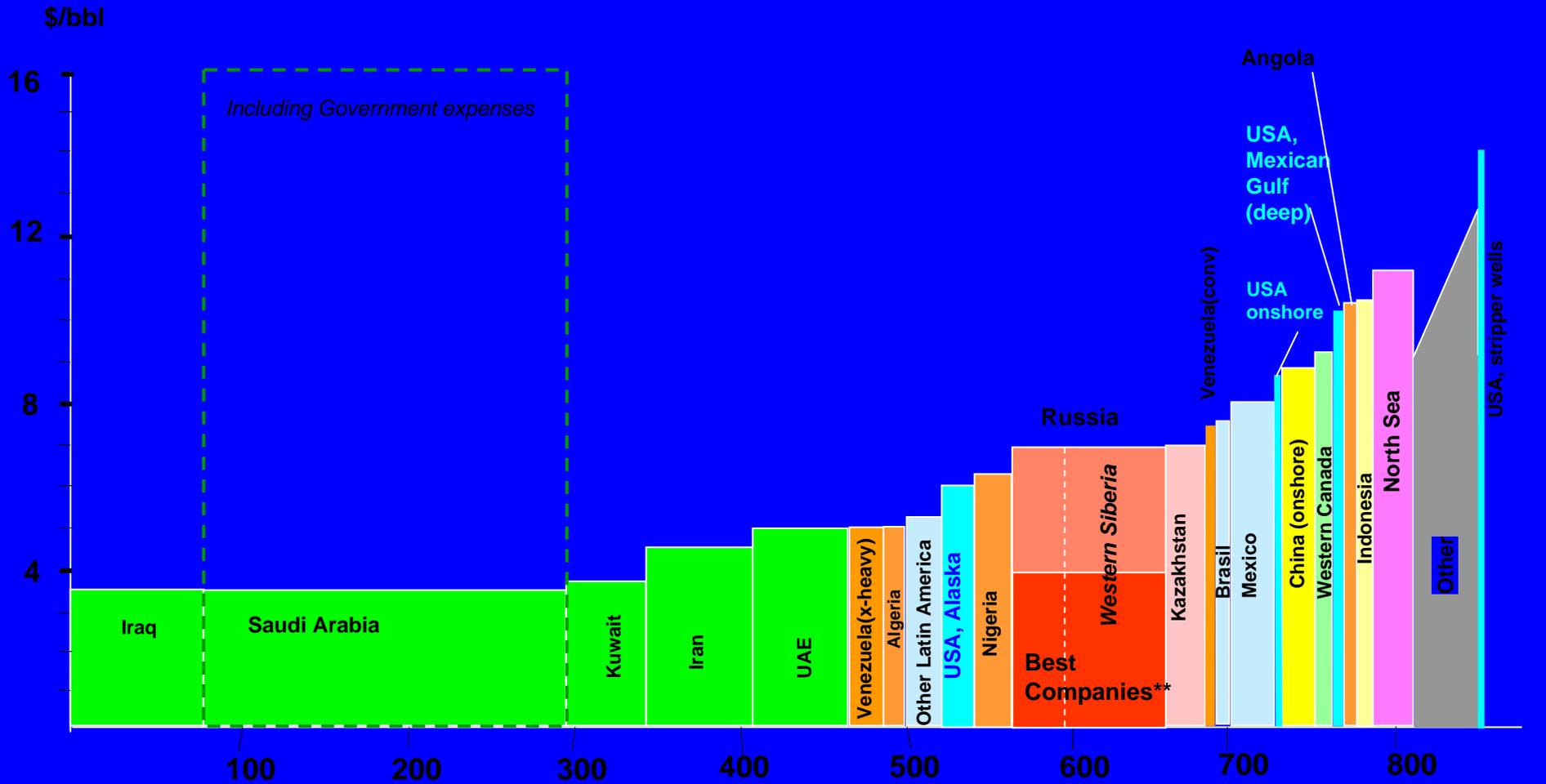
(United Financial Group, S. O'Sullivan)





# FSU oil is competitive on the world market

## Worldwide full-cycle upstream cost\* of oil in 2001

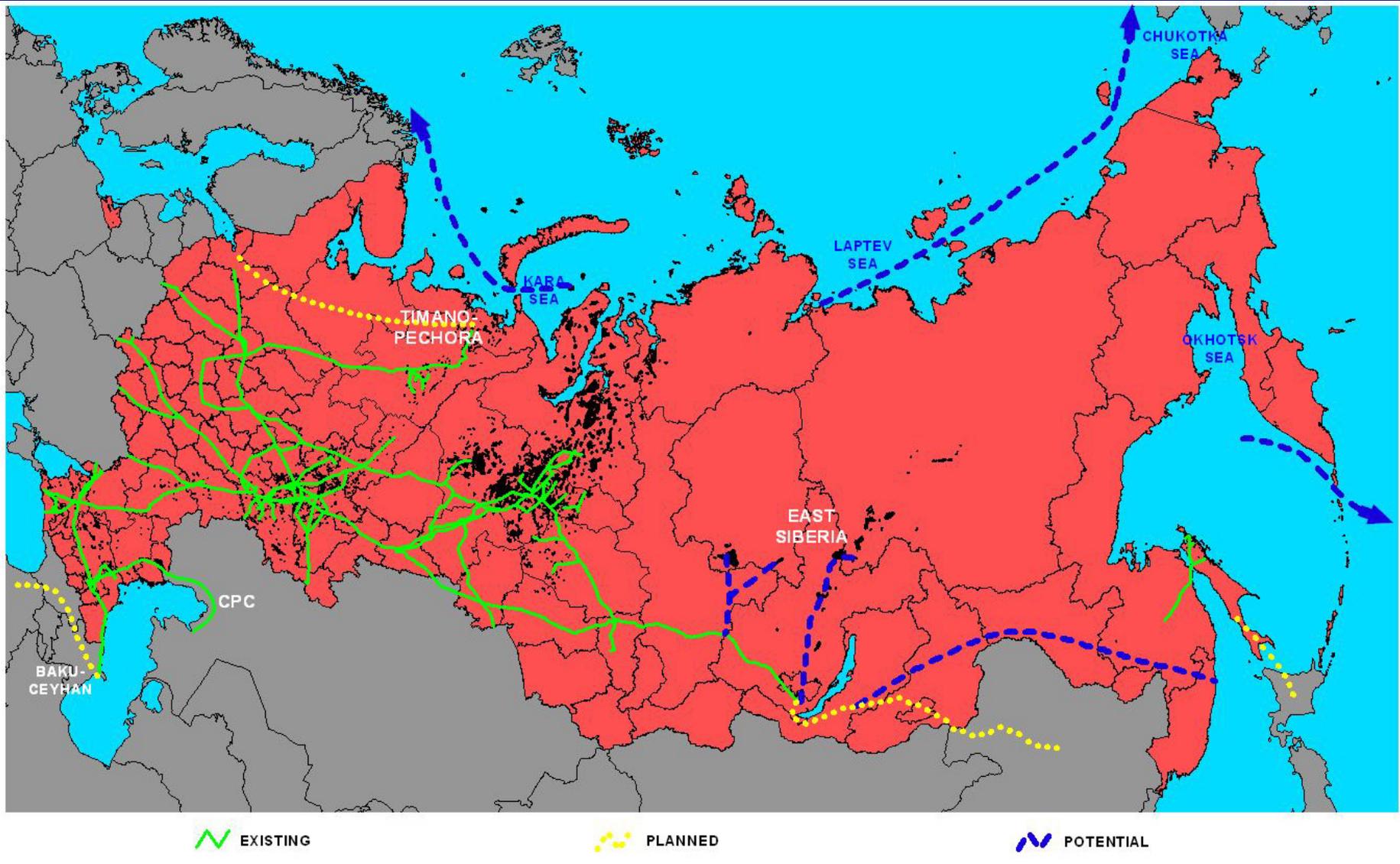


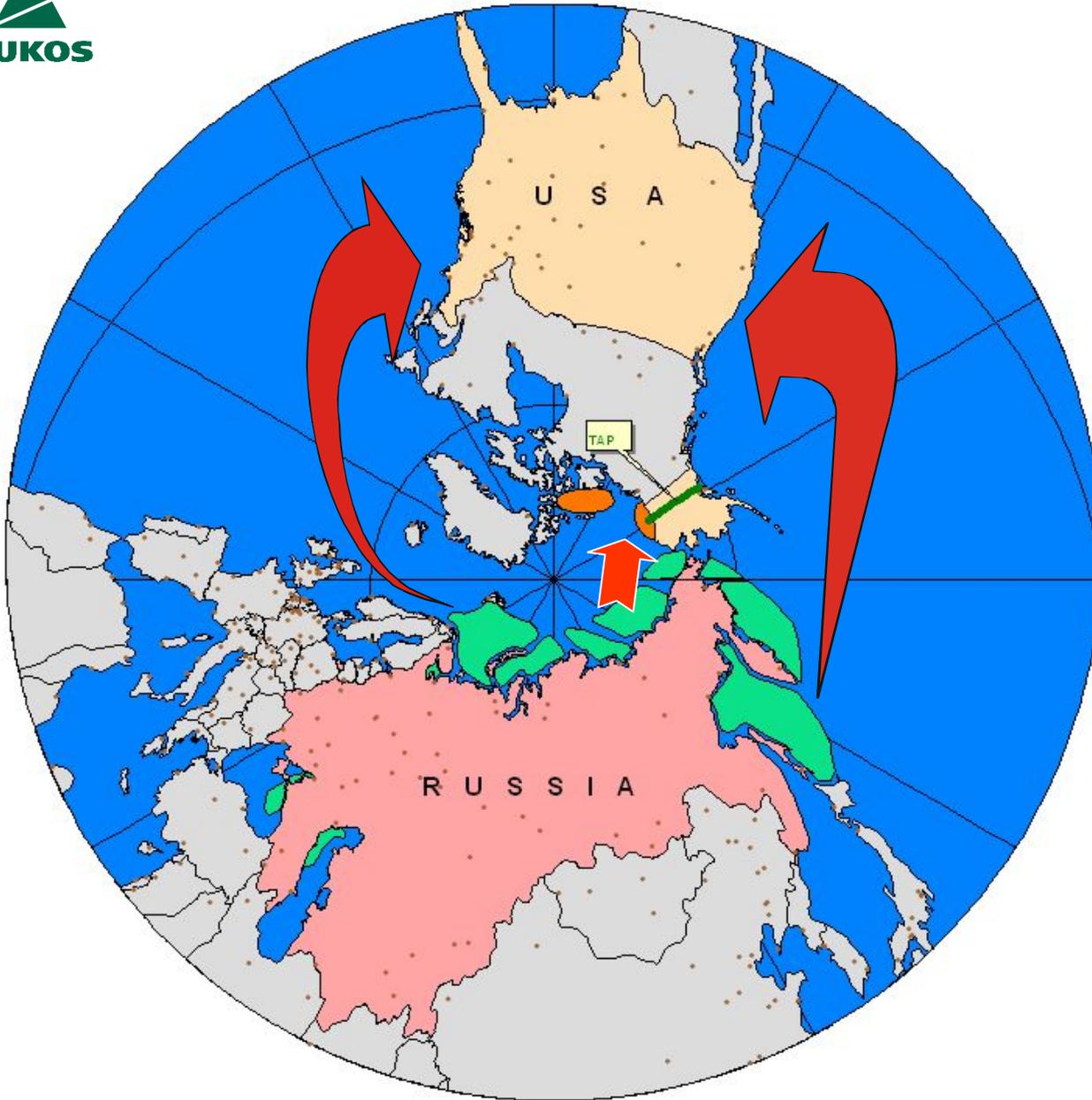
\* - finding, development and production  
excl. transportation and taxes (CERA, Sept. 2001)

\*\* - 2001 finding, development and production cost -3.7 \$/bbl,

Reserves,  
bln.bbl

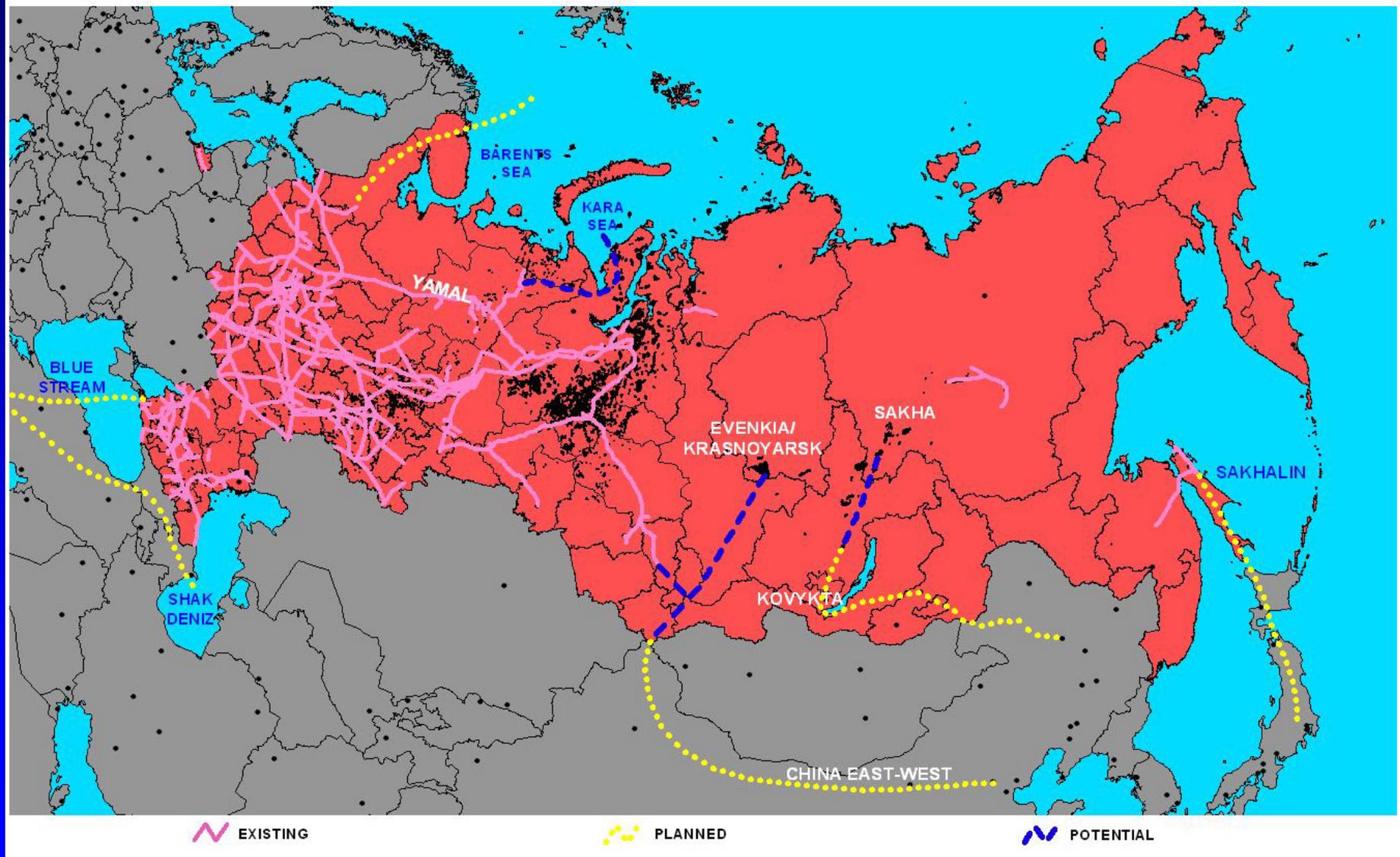
# OIL EXPORT ROUTES





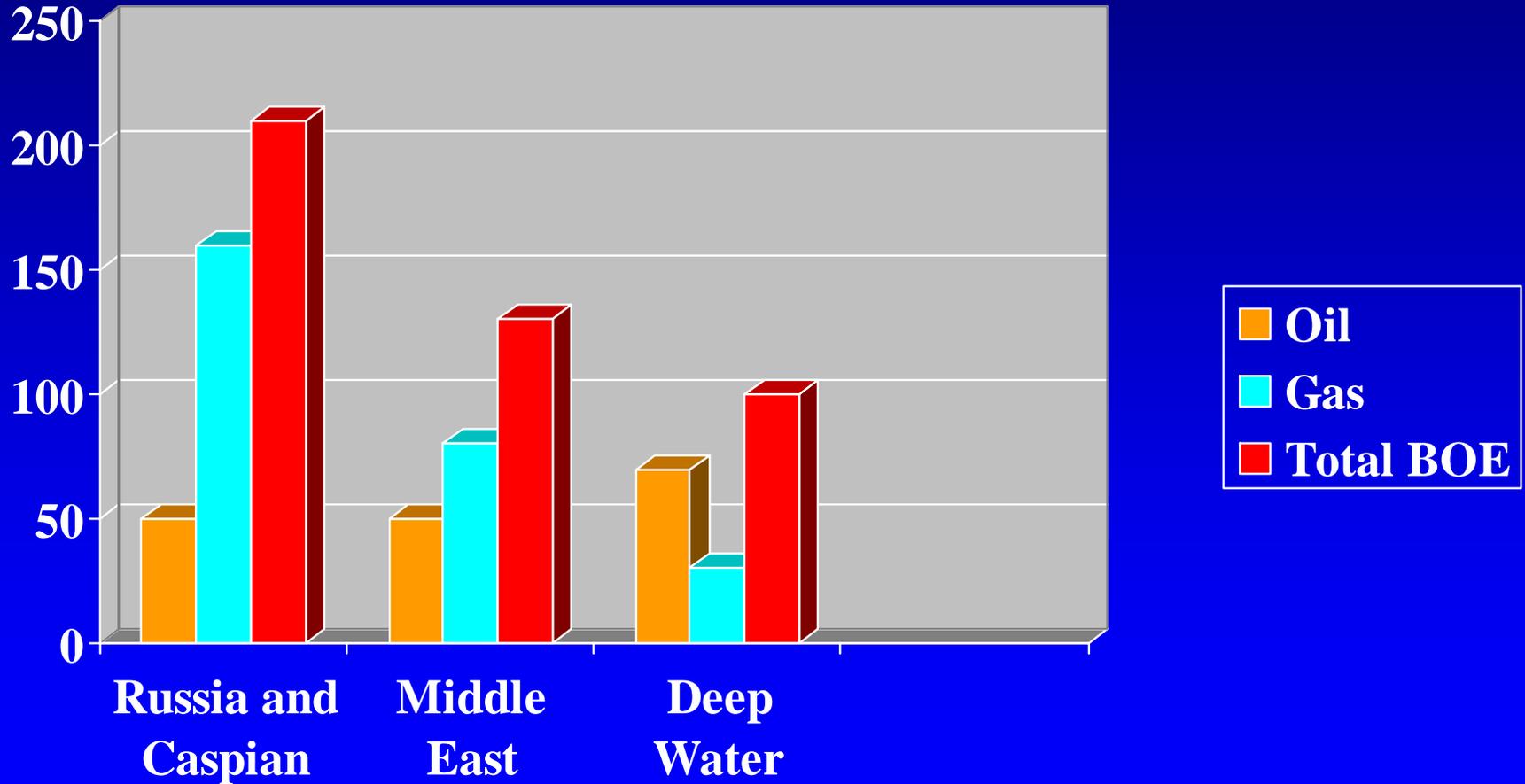
# POTENTIAL EXPORT OF RUSSIAN OIL TO U.S.A

# GAS EXPORT ROUTES

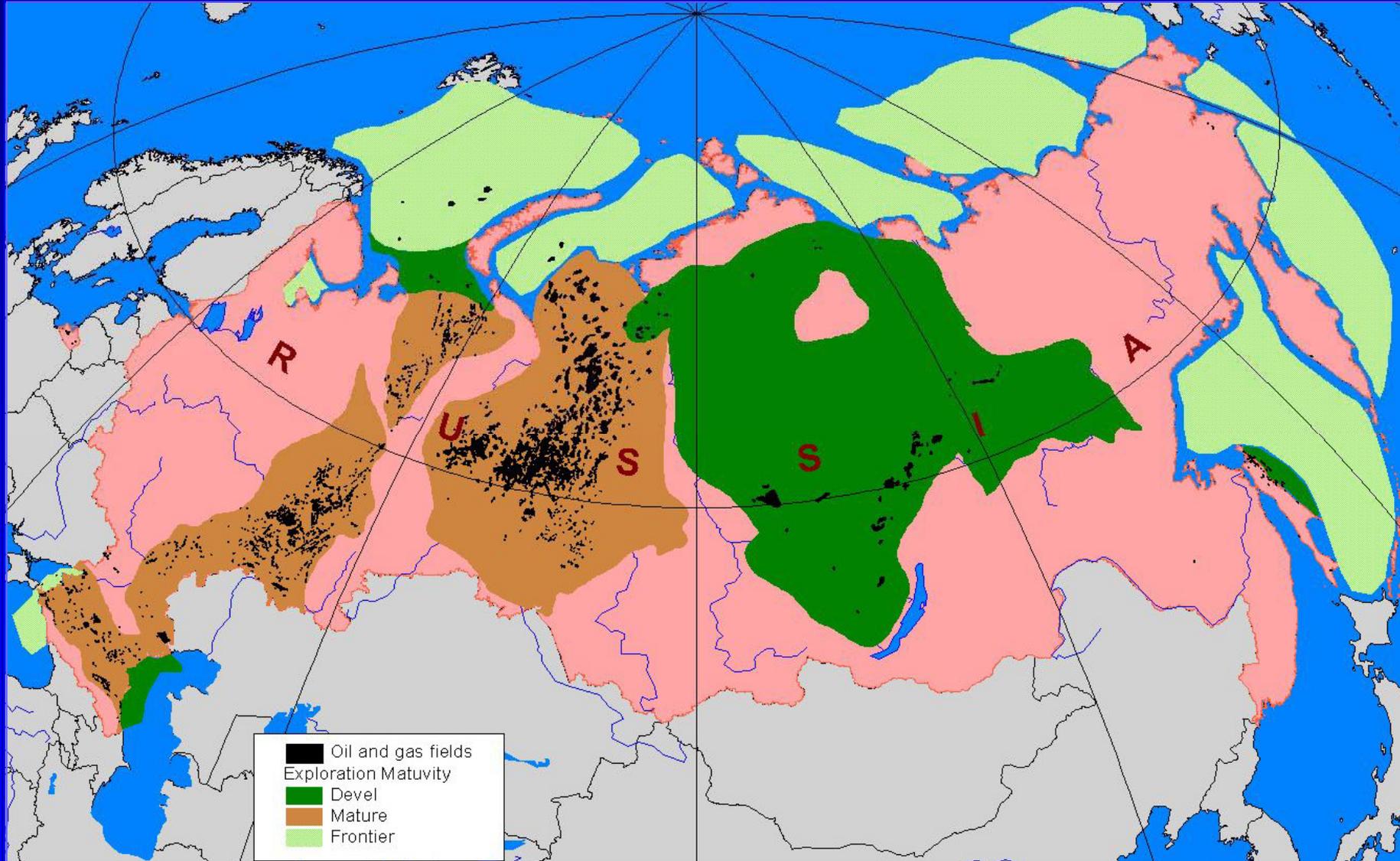




# Future Potential Reserves



# EXPLORATION MATURITY

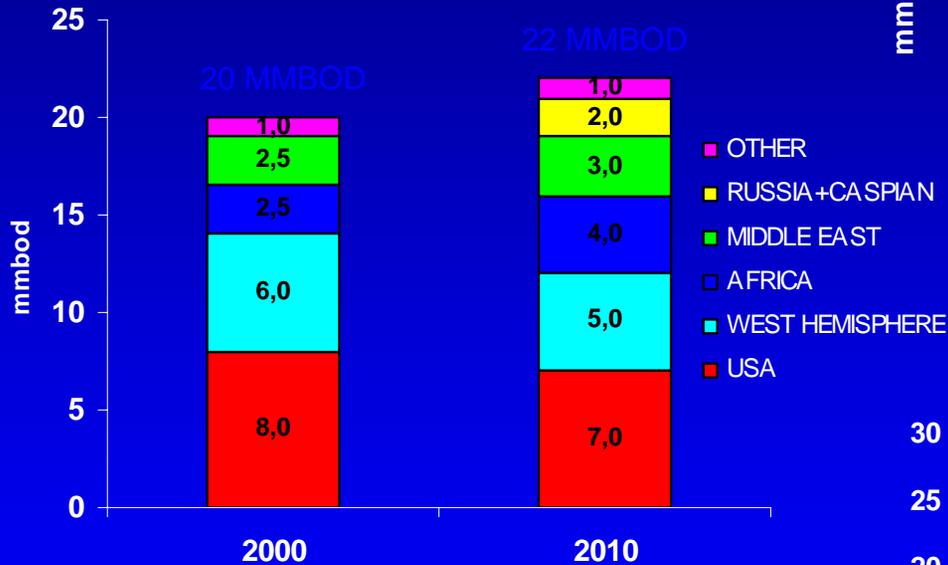


# Potential of Russian Shelf

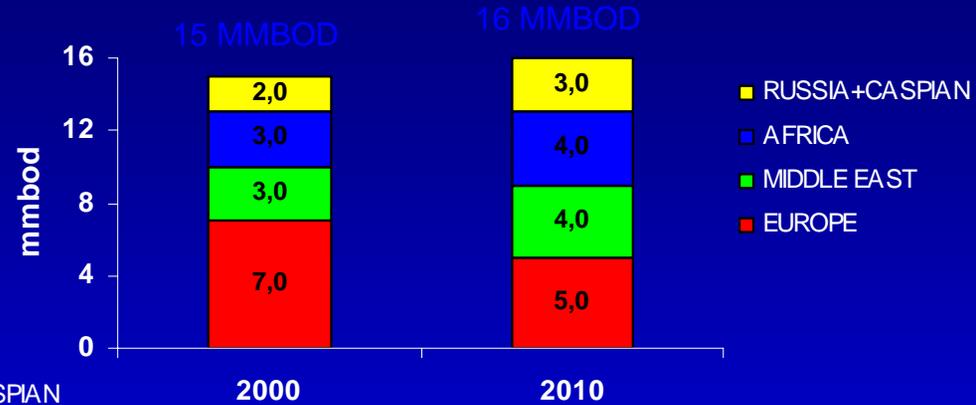
- Seven major basins, each equal to or larger than the Gulf of Mexico or the North Sea
- Extensions of producing trends in Pechora Sea, Kara Sea and Sea of Okhotsk
- Thick sedimentary basins with all elements for hydrocarbon accumulations in other Arctic and Pacific Basins

# SUPPLY AND DEMAND 2000-2010

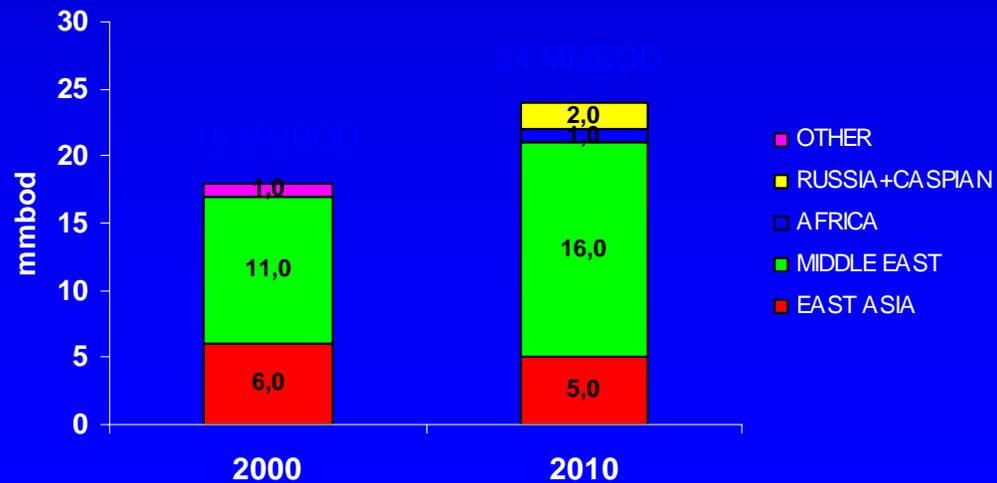
## US CONSUMPTION



## W.EUROPE CONSUMPTION



## EAST ASIA CONSUMPTION





# CONCLUSIONS

- Russian oil reserves are probably in the range of 90-105 Billion barrels
- These reserves will be capable of sustaining an additional 35% increase over current levels (7.5 MMBOD) for an extended period
- New export oil and gas pipelines will allow additional Caspian oil to be marketed and supply Russian oil and gas to the Far East
- A combination of mature, developing and frontier exploration can add an estimated 40-50 billion barrels and larger amounts of natural gas
- Russian and Caspian oil exports will reach the level of one half of the Middle East by 2010
- Russian gas reserves allow a significant increase from current production and will assume increasing importance as world production eventually peaks and begins to decline