

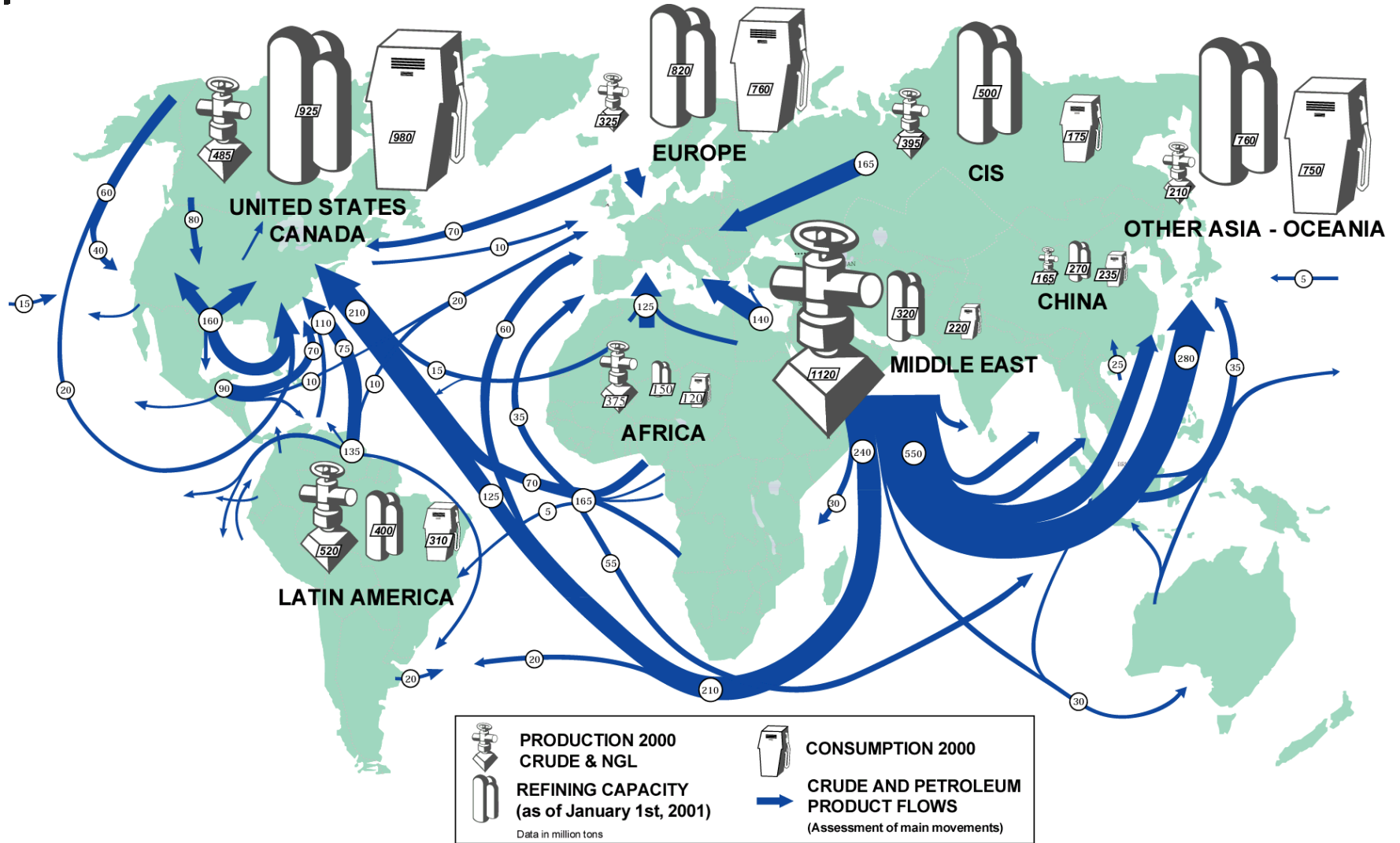


Petroleum Geopolitics at the beginning of the 21st century

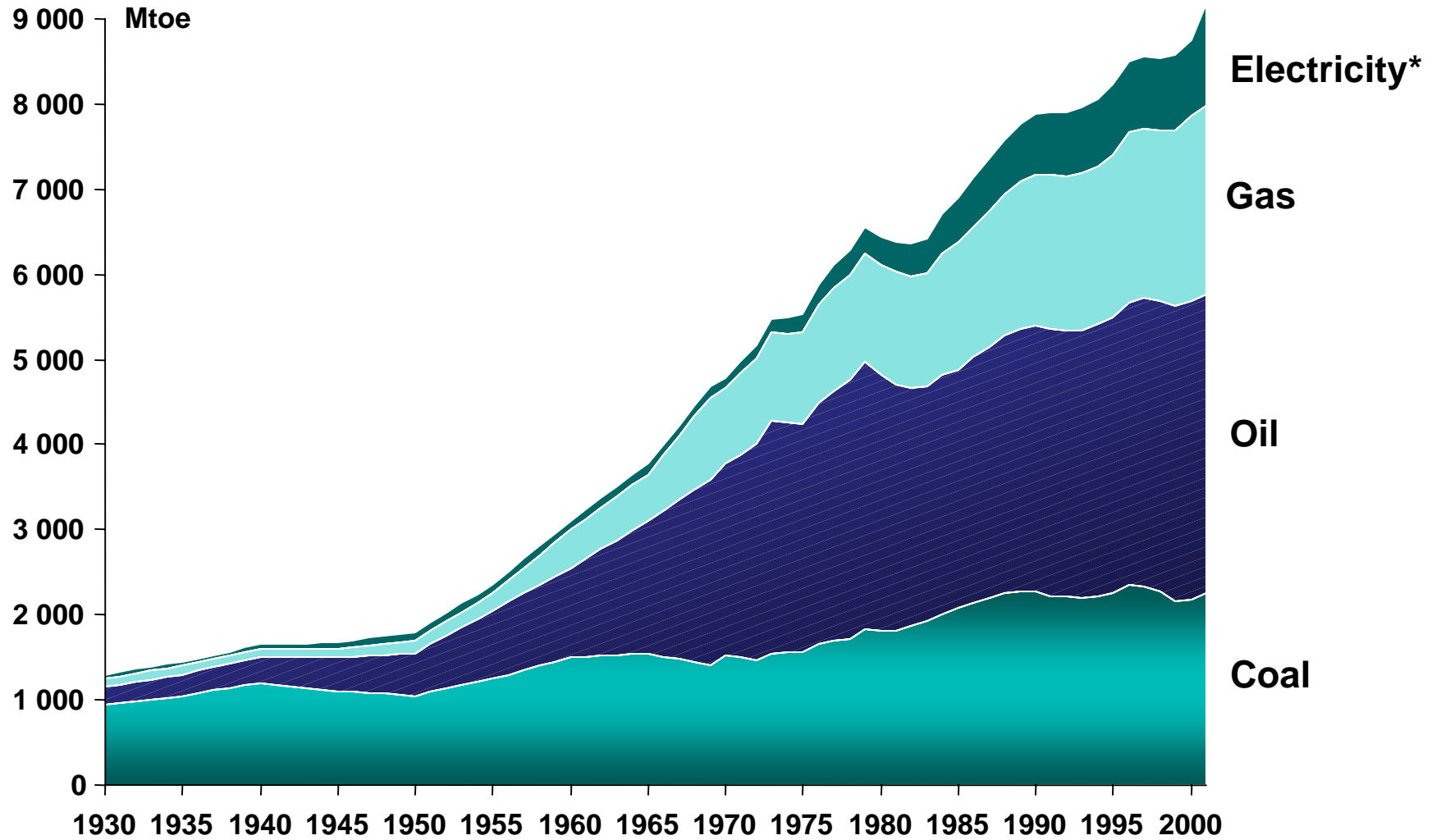
JP. Favennec
Director - Center for Economics and management
Institut français du pétrole

26th Annual Conference
International Association for Energy Economics
New Challenges for Energy Decision Makers
Prague, 4-7 June 2003

PETROLEUM WORLDWIDE IN 2000



WORLD PRIMARY ENERGY CONSUMPTION



* Nuclear and hydroelectricity

Source : BP Statistical Review

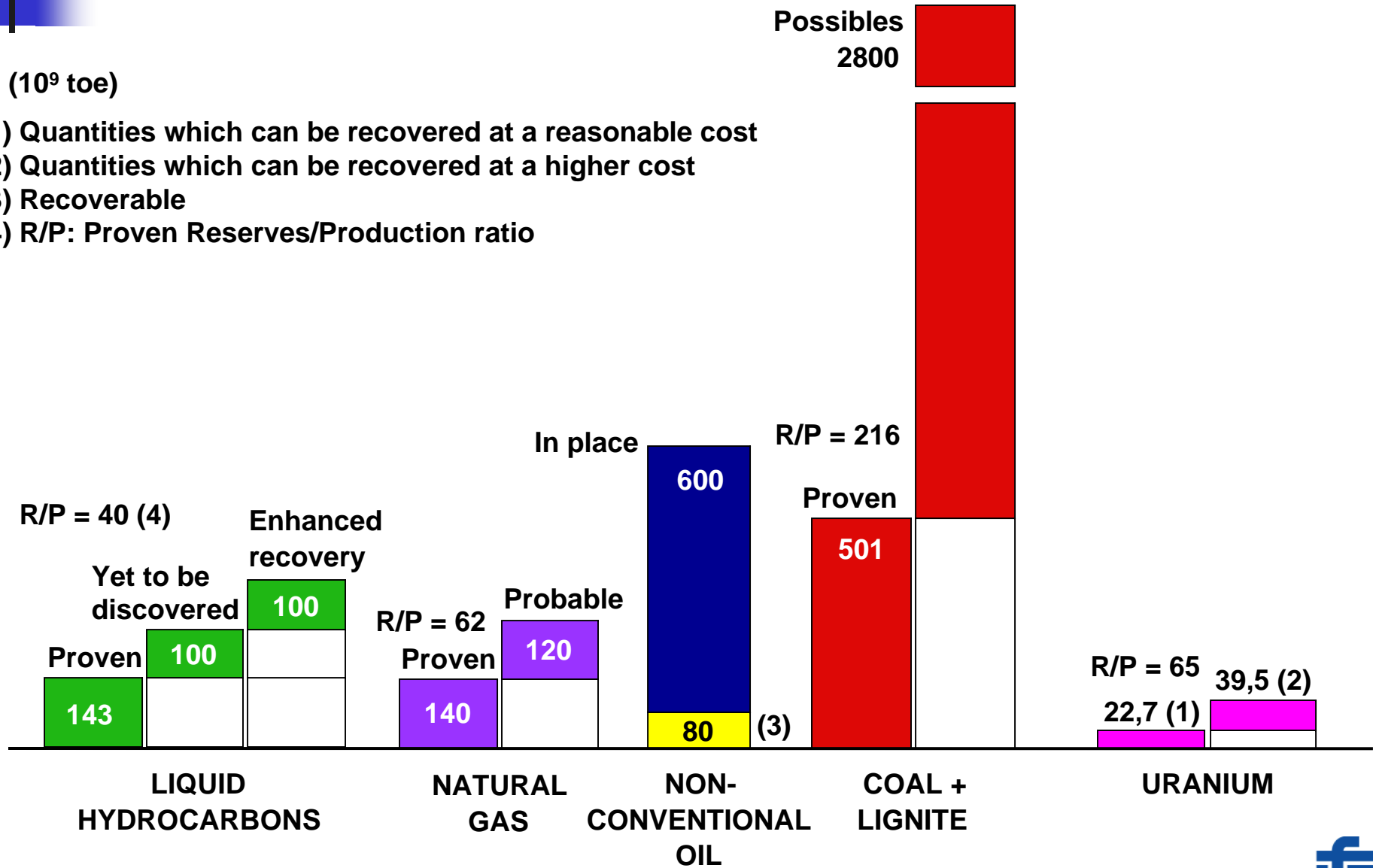
PROJECTED WORLD DEMAND FOR ENERGY

GToe (10 ⁹ toe)	Scenarios 2020				
	1960	2001	A1	B	C1
Oil	1,0	3,5	4,7	3,8	3,0
Gas	0,4	2,2	3,6	3,2	3,1
Coal	1,3	2,3	3,7	3,4	2,3
Nuclear	0,0	0,6	0,9	0,9	0,7
SUB TOTAL	2,7	8,5	12,9	11,3	9,1
Other Renewable energies	0,6	2,1	2,5	2,3	2,6
TOTAL	3,3	10,6	15,4	13,6	11,7

WORLD RESERVES (1.1.2002)

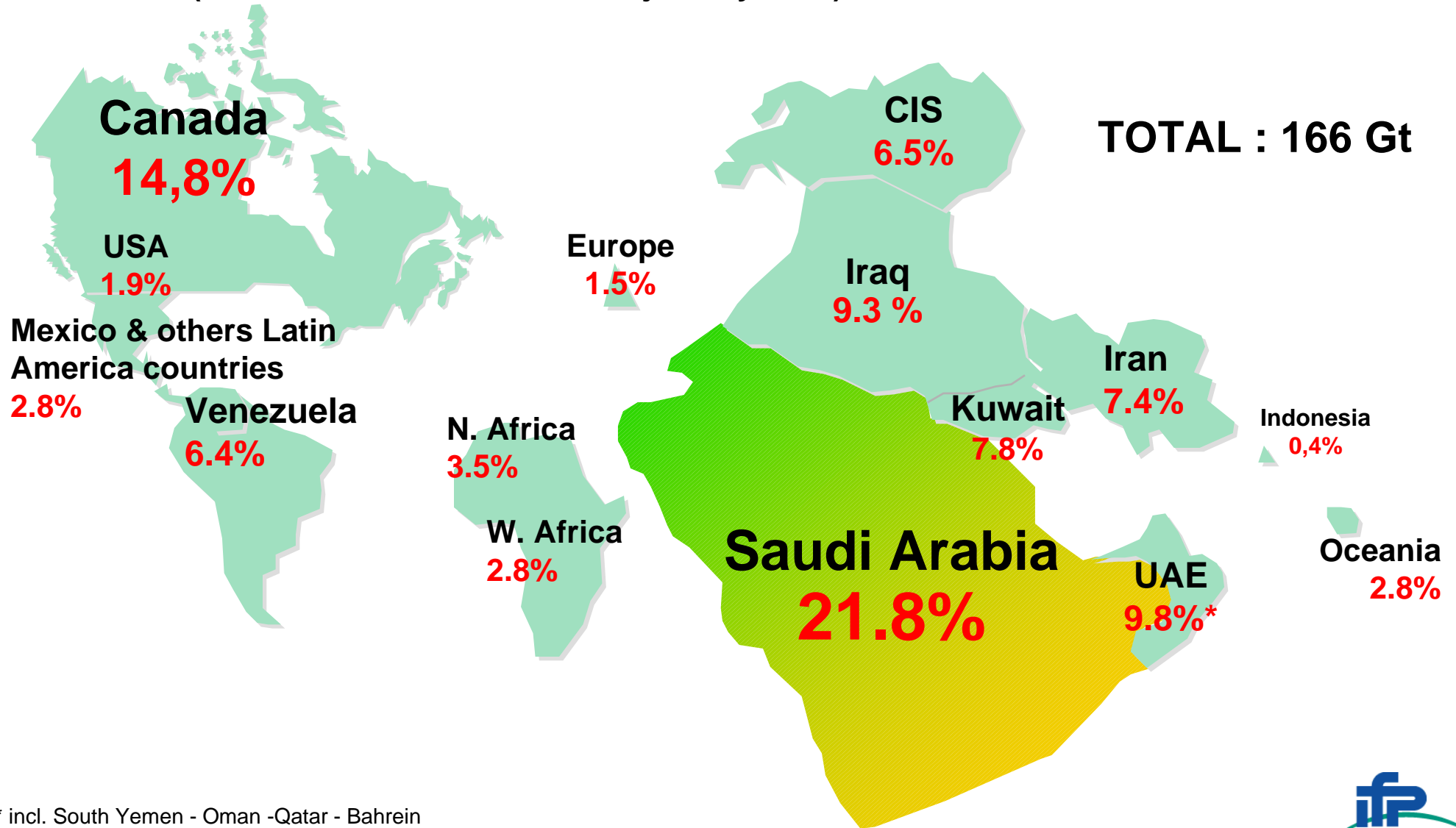
(10⁹ toe)

- (1) Quantities which can be recovered at a reasonable cost
- (2) Quantities which can be recovered at a higher cost
- (3) Recoverable
- (4) R/P: Proven Reserves/Production ratio



DOMINANT POSITION OF SAUDI ARABIA IN THE WORLD OIL RESERVES

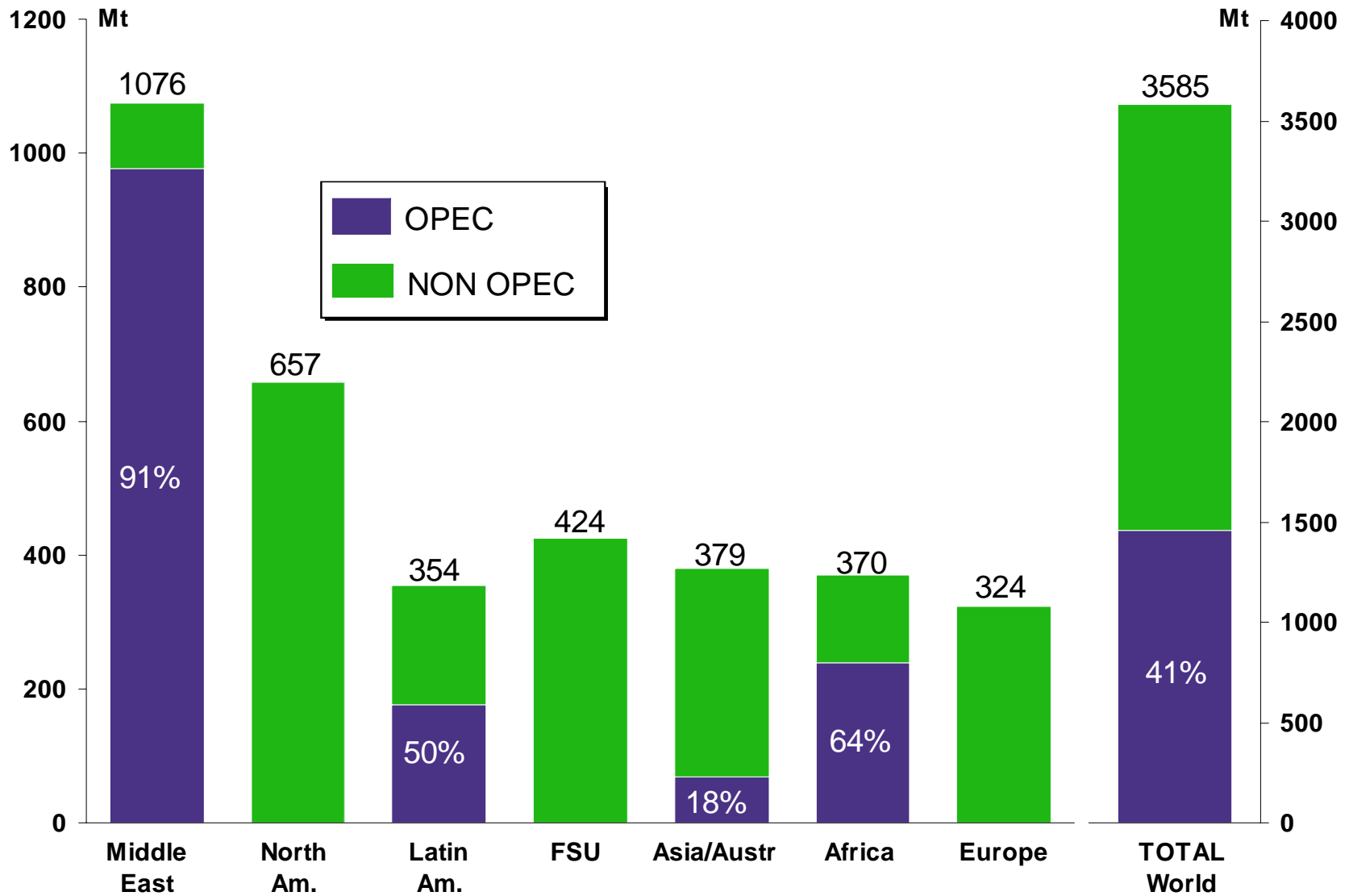
(Proven oil reserves as at 1st January 2003)



* incl. South Yemen - Oman - Qatar - Bahrein

Source: Oil & Gas Journal

CRUDE OIL PRODUCTION 2001

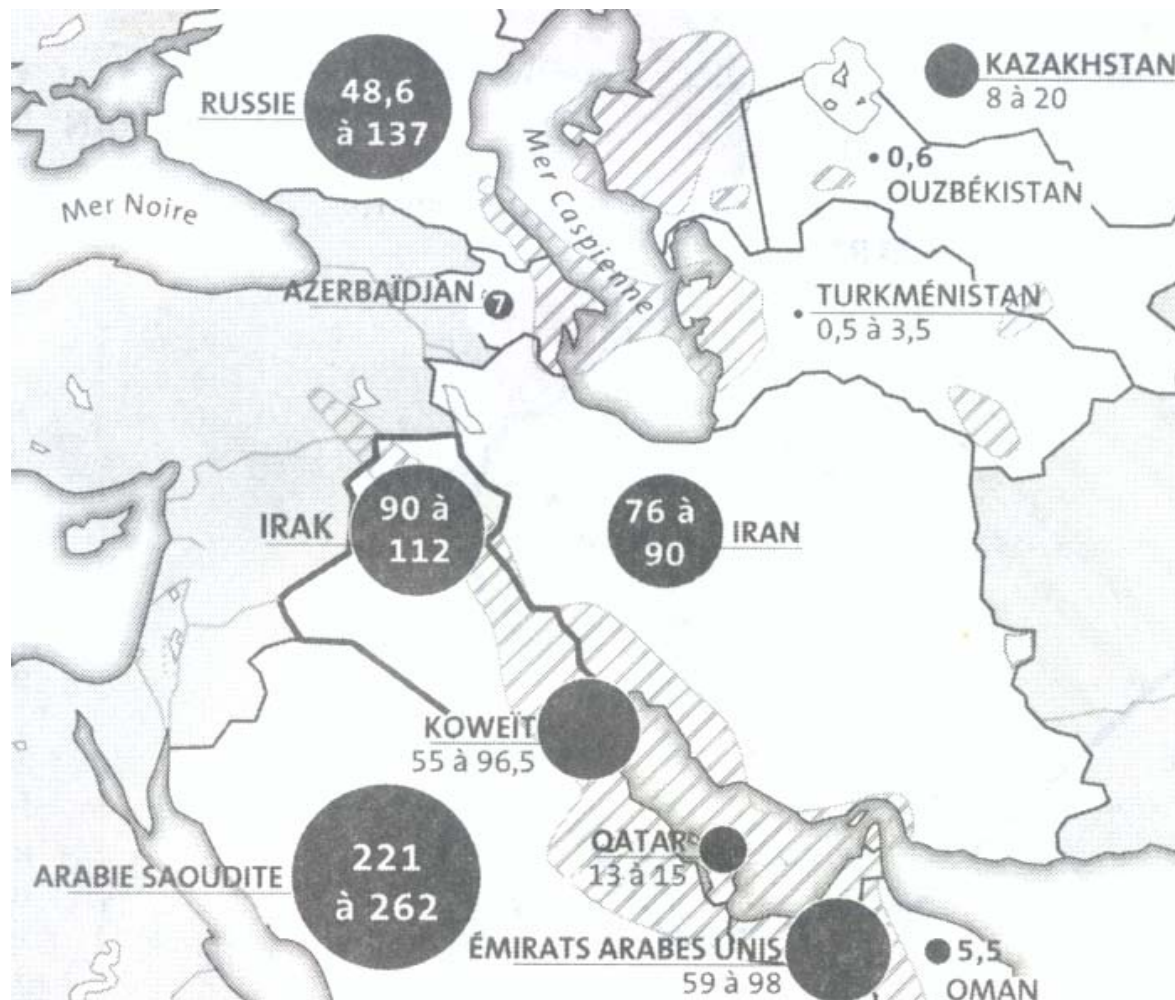


OIL RESERVES ESTIMATES

	Proven reserves in billion barrels				To be discovered (IEA)*
	IEA* 02	BP 02	OGJ 02	OGJ 03	
Saudi Arabia	221	262	259	259	136
Canada		7	5	180	
Russia	137	49	49	60	115
Iraq	78	113	113	113	51
Iran	76	90	90	90	67
UAE	59	98	98	92	10
Kuwait	55	97	94	94	4
United States	32	30	22	22	83
Venezuela	30	78	78	78	24
Libya	25	30	30	30	9
China	25	24	24	18	17
Mexico	22	27	27	13	23
Nigeria	20	24	24	24	43
Kazakhstan	20	8	5	9	25
Norway	16	9	9	10	23
Algeria	15	9	9	9	10
Total 15 countries	831	953	935	1101	640
World total		1050	1032	1213	

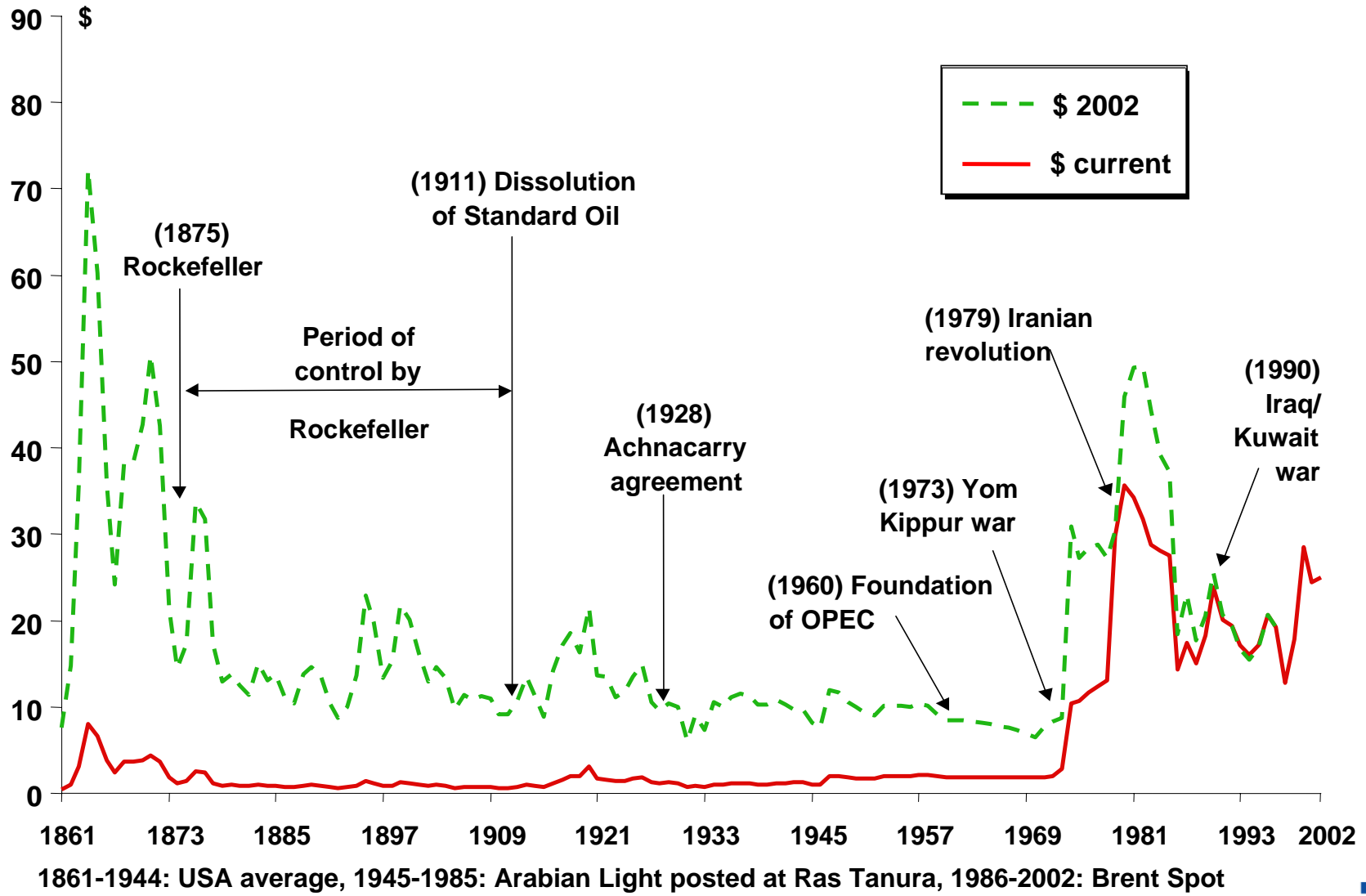
* US geological survey origin

MIDDLE EAST AND CASPIAN AREA

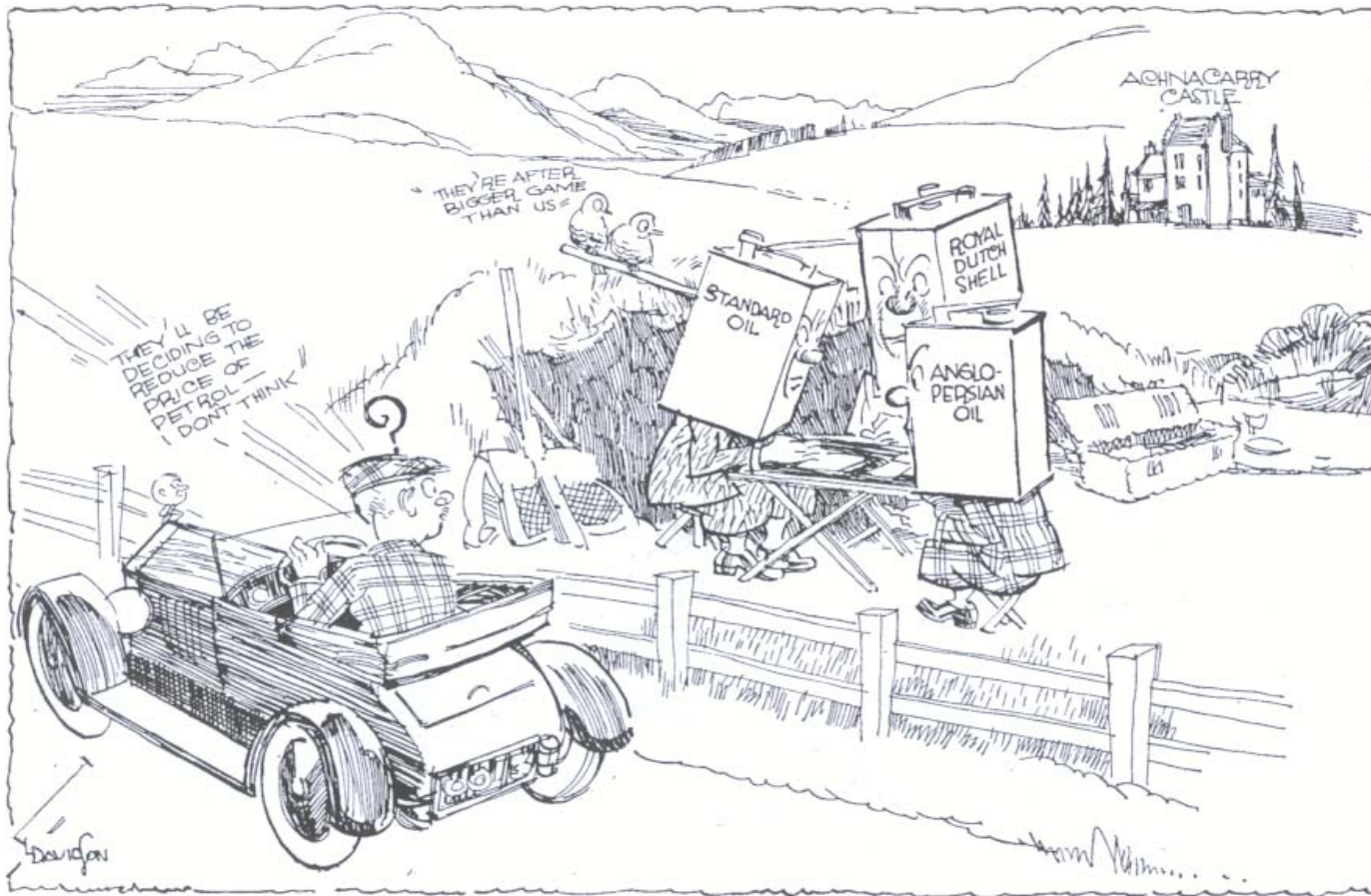


● Reserves (range) billion barrels
 ▨ Main oil areas

CRUDE PRICE VARIATION



ACHNACARRY : DOMINATION OF THE SEVEN SISTERS



OPEC DOMINATION : 1960-1986

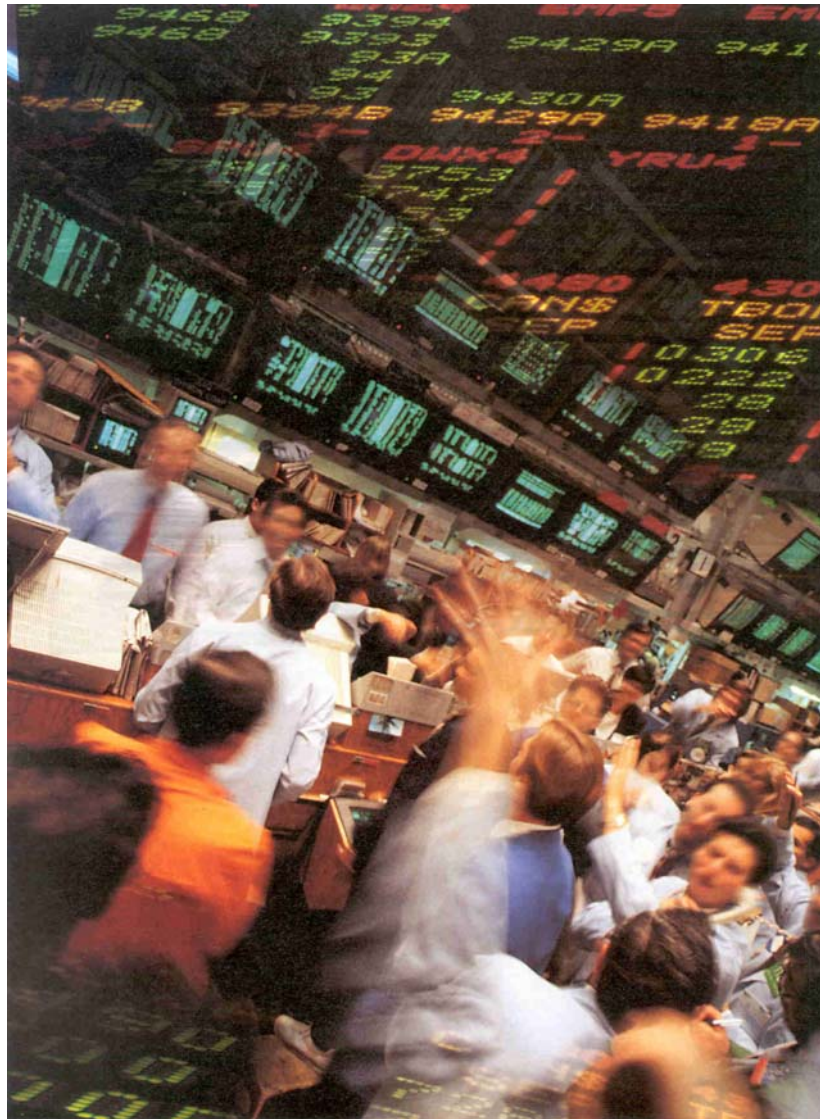


1st OPEC conference, Bagdad, Septembre 10-14 1960

Source : OPEP

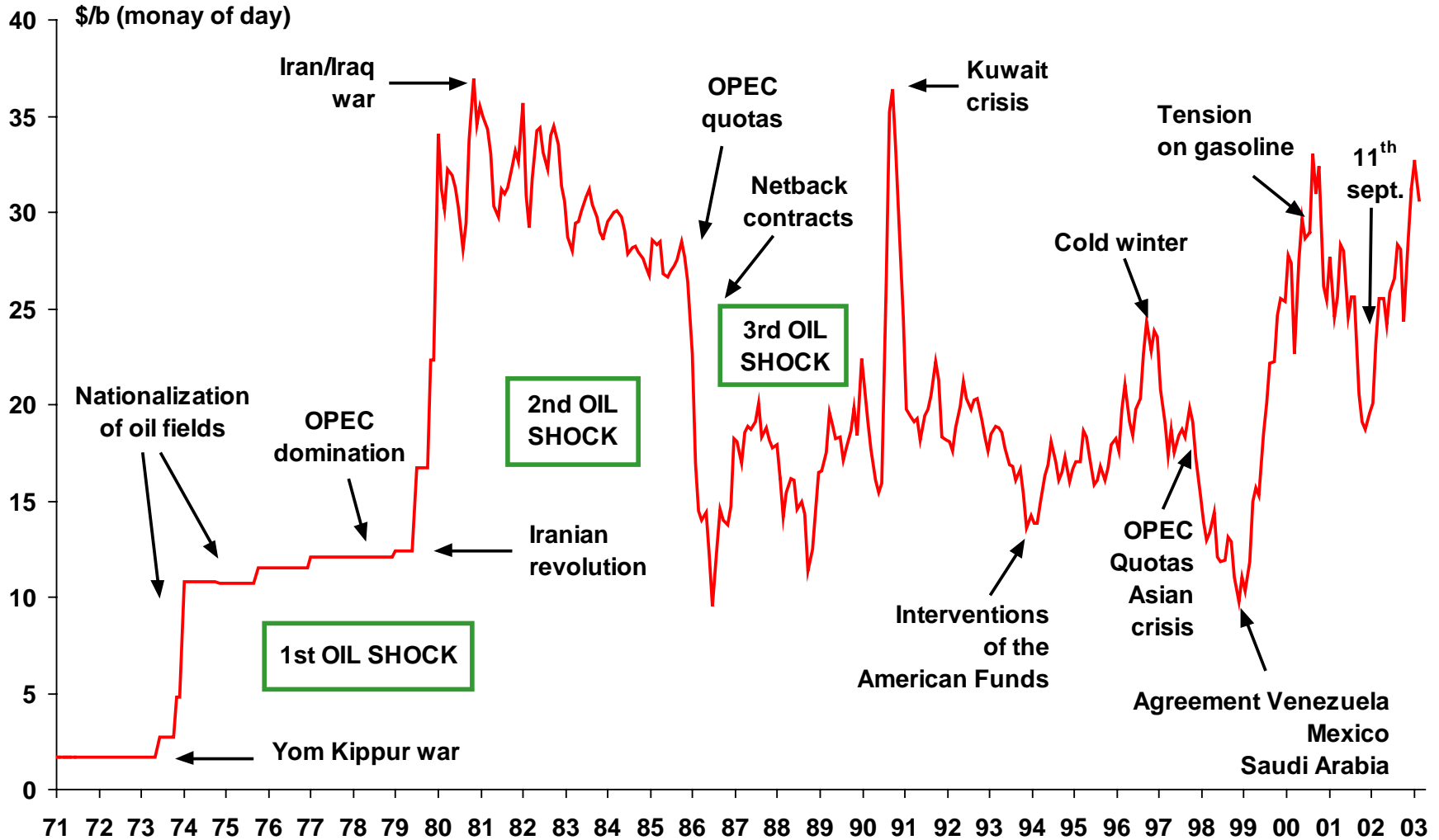


MARKETS : THE LEADING FORCE



Source : Analyse financière

CRUDE OIL PRICE



Source : Platt 's



THE WORLD'S 10 LARGEST NET OIL EXPORTERS IN 2002

Country	Net export volume (mn b/d)
1 - Saudi Arabia	7.07
2 - FSU	5.59
3 - Norway	3.08
4 - Venezuela	2.43
5 - Iran	2.33
6 - UAE	2.05
7 - Nigeria	1.86
8 - Mexico	1.73
9 - Kuwait	1.58
10 - Iraq	1.54

Source : IEA



THE MAIN PLAYERS

1 - The USA

- Large consumption, large imports



2002	Consumption	19.7 mb/d
	Production	8.1 mb/d
	Crude oil imports	9.1 mb/d
	Products imports	2.5 mb/d

- Between 1989 and 2002 :

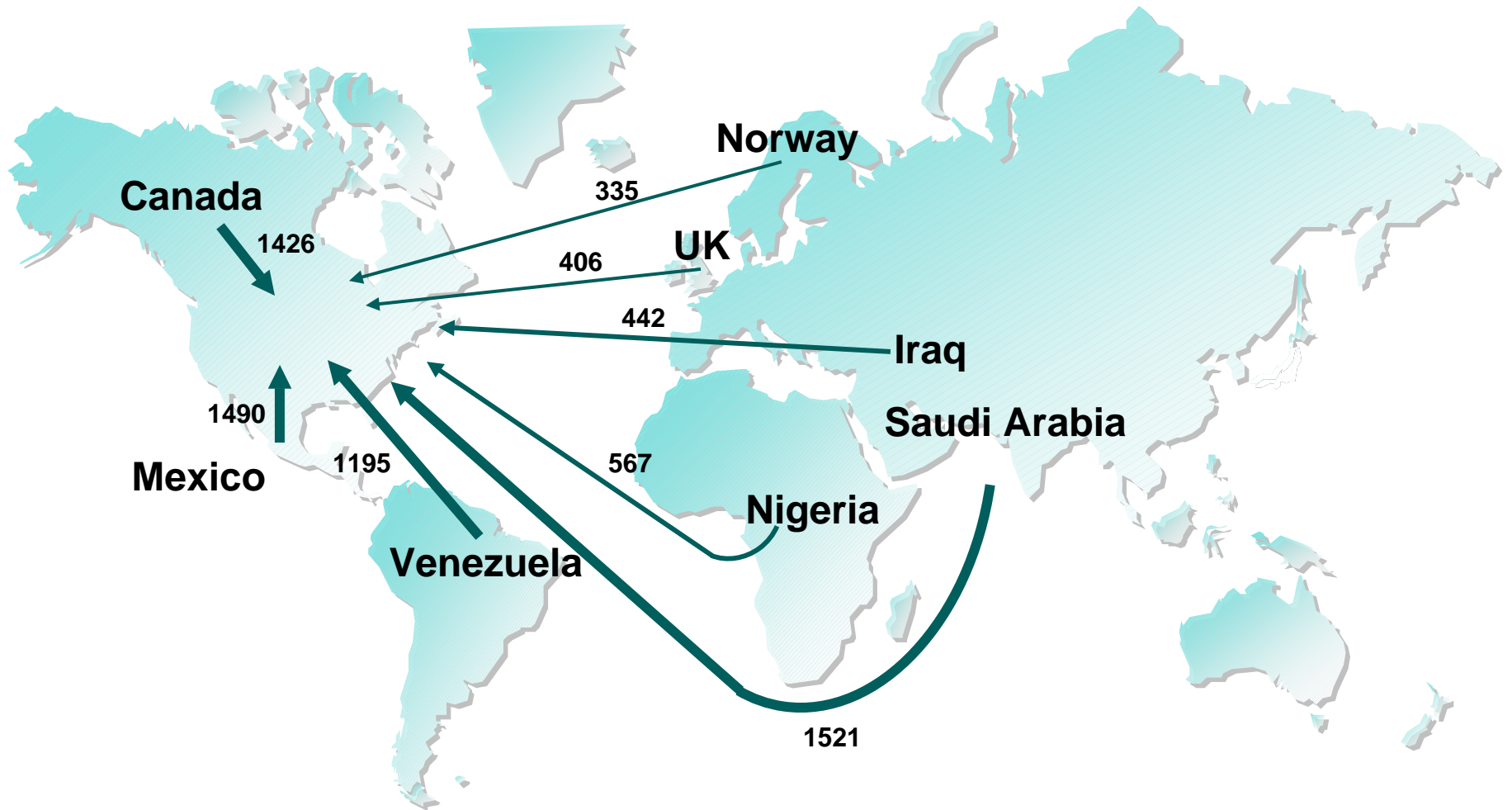
- Energy consumption increased by 2% p.a.
- Oil consumption increased by 1% p.a.
- but oil production decreased by 2.3% p.a.
- - Oil imports increased by 70%

- Middle East oil : large requirements

- USA / Russia : a strong relationship ?

CRUDE OIL IMPORTS IN THE USA IN 2002

(Thousands barrels per day)



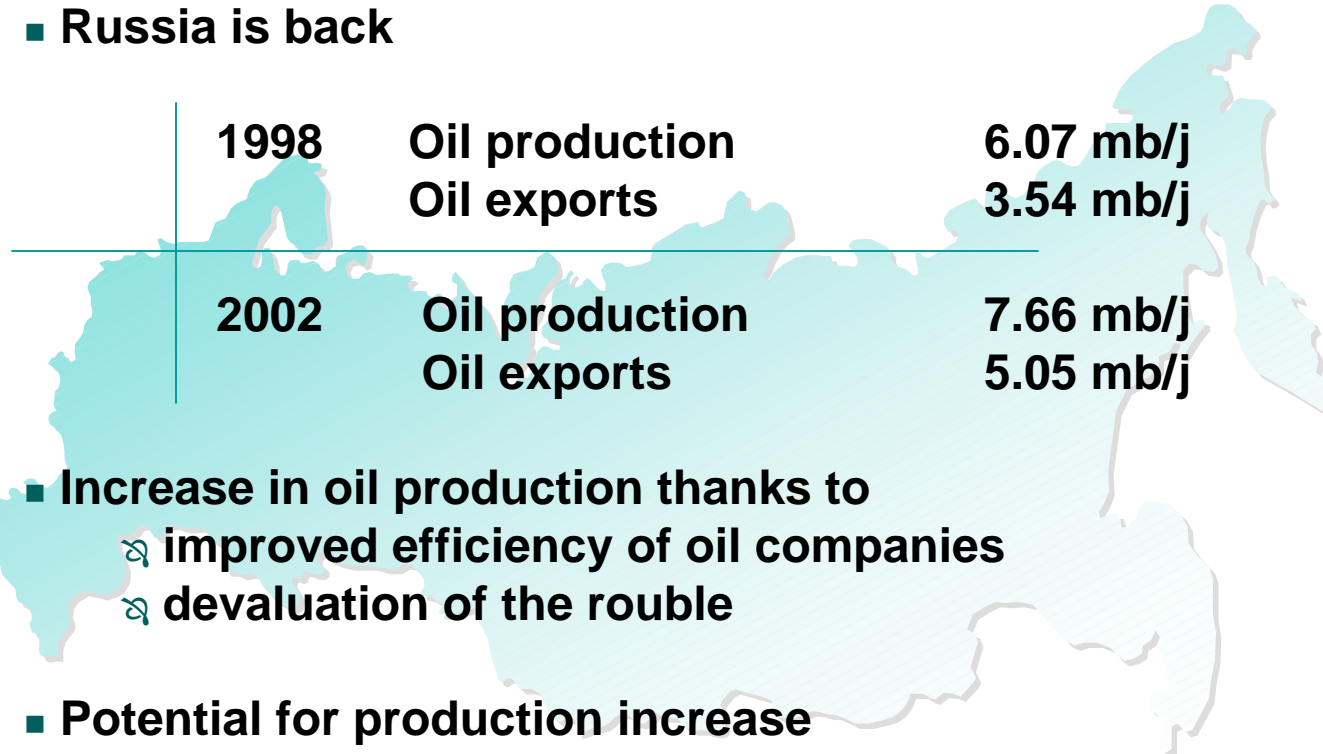
Source : EIA, Petroleum Supply Monthly, march 2003



THE MAIN ACTORS

2 - Russia

- Russia is back



1998	Oil production	6.07 mb/j
	Oil exports	3.54 mb/j
2002	Oil production	7.66 mb/j
	Oil exports	5.05 mb/j

- Increase in oil production thanks to
 - ⌘ improved efficiency of oil companies
 - ⌘ devaluation of the rouble

- Potential for production increase

- Russia : a route for Caspian exports ?



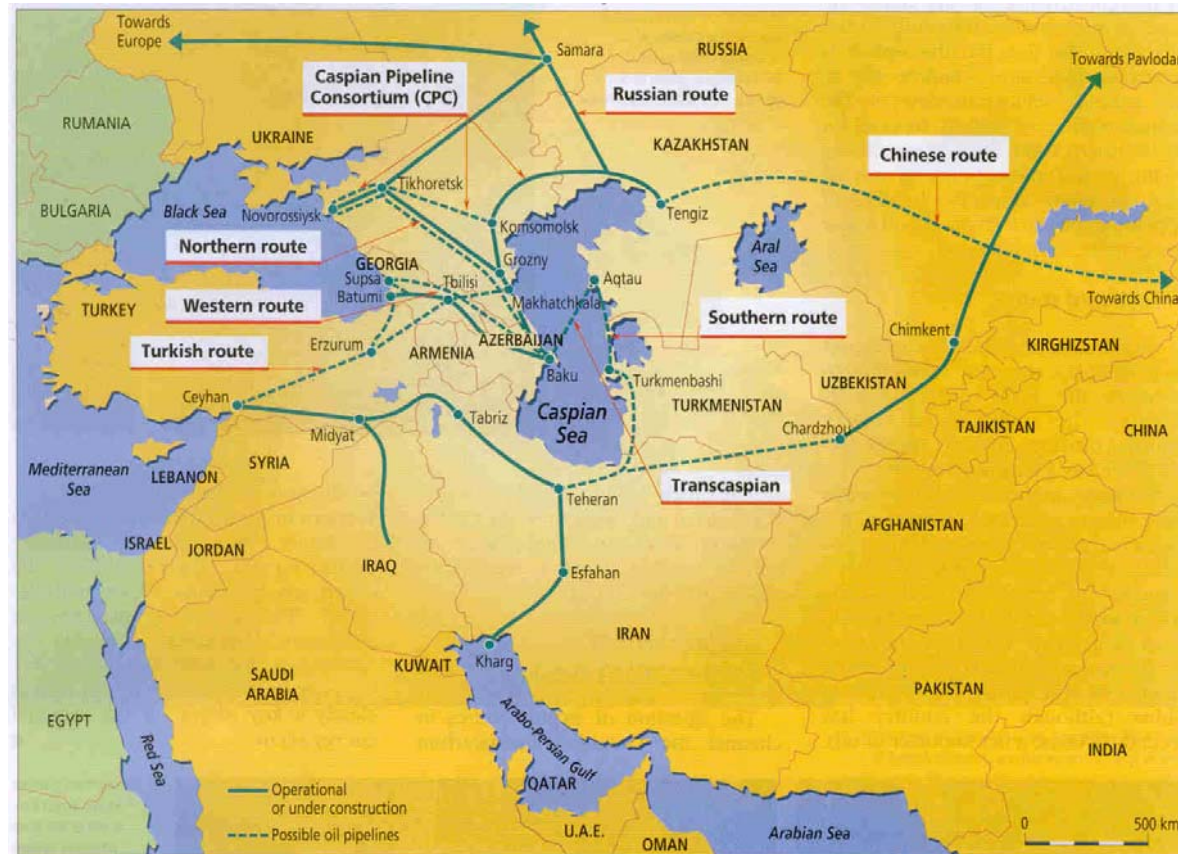
CIS

Crude oil

million b/d	Production	Consumption	Surplus
1988	12.5	9.0	3.5
1989	12.2	8.8	3.4
1990	11.5	8.4	3.1
1991	10.4	8.0	2.4
1992	9.1	6.9	2.2
1993	8.2	5.5	2.7
1994	7.4	4.7	2.7
1995	7.3	4.4	2.9
1996	7.2	3.8	3.4
1997	7.4	3.7	3.7
1998	7.4	3.6	3.8
1999	7.5	3.5	4.0
2000	8.0	3.4	4.6
2001	8.6	3.4	5.2
2002	9.4	3.7	5.7

Source: IEA & BP Stat. Review

CASPIAN AREA



Source : Totalfinaelf

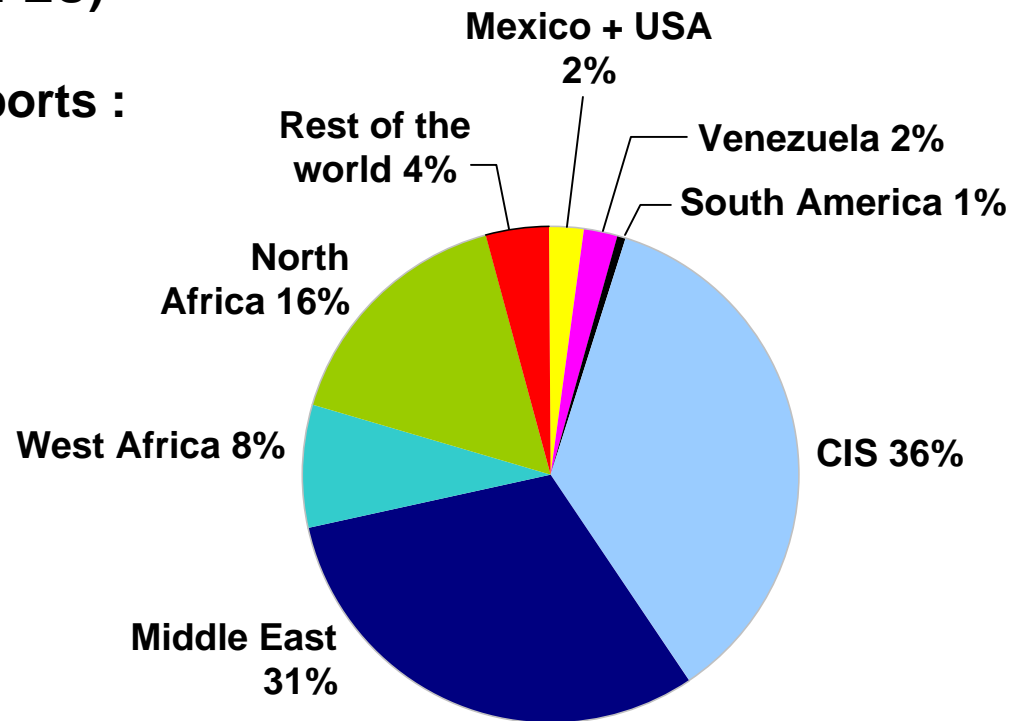
- Proven oil reserves : 30 billion barrels
- Proven gas reserves : 200 Tcf
- But how to ship the oil and the gas ?

THE MAIN ACTORS

3 - European Union

- Limited and declining production (United Kingdom, Norway - not a member of EU)

- Main imports :



- Stagnant consumption
- Very dependant upon imported energy



THE MAIN ACTORS

4 - Middle East / Saudi Arabia

- Middle East : Iraq, Iran, Kuwait, UAE, Saudi Arabia
 - Kuwait and UAE linked to Saudi Arabia
 - Iran and Iraq : "Axis of evil"
 - USA and Saudi Arabia : a necessary alliance
- but : the US criticize Saudi Arabia for conservatism and links with Al Quaida
Saudi Arabia criticize the USA for Israël support
- 



THE MAIN ACTORS

5 - China

➤ Oil imports forecasts - China (Mt)

	2001	2010	2020
Demand	258	375	425*
Local production	170	175	190
Deficit	89	200	235

* 5 - 7% of world demand

Chinese energy policy :

- development of local production
- strategic reserves
- foreign technology and capital
- strategic investments abroad in upstream



KEY ISSUES



■ **US Policy**

■ **The role of Irak**

■ **Evolution of Israel - Palestine conflict**

■ **Potential of production of Russia**

■ **Future of OPEC**