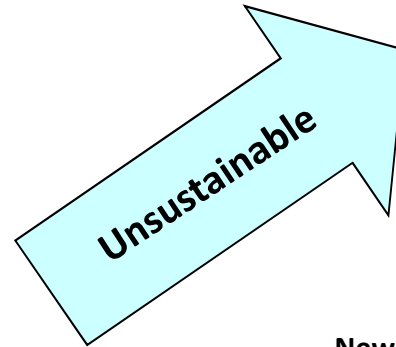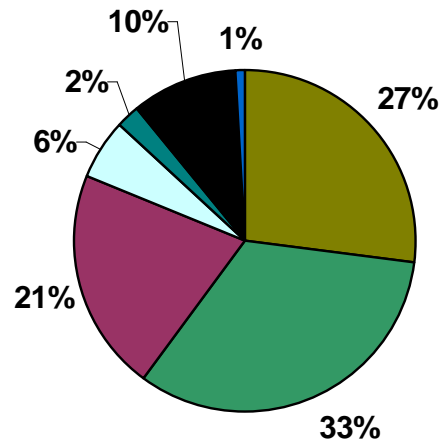# Prospects for Oil Supply

Jean - Marie Chevalier

**Centre de Géopolitique de l'Énergie et des Matières Premières
(CGEMP) de l'Université Paris- Dauphine**

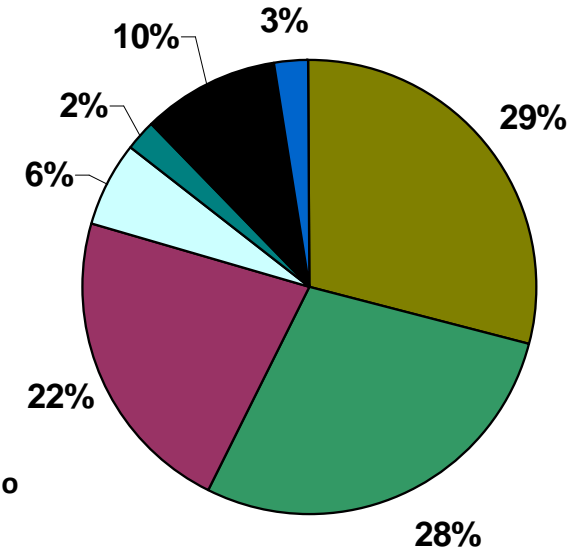**Cambridge Energy Research Associates (IHS- CERA)**
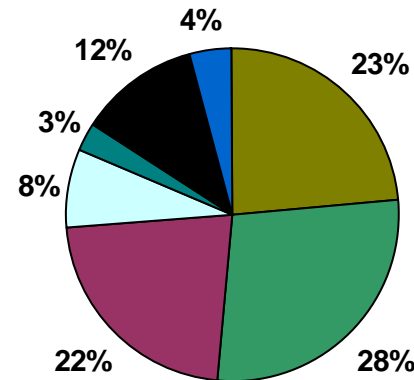
Madrid February 7, 2011

World energy balance

Source: WEO 2010, AIE

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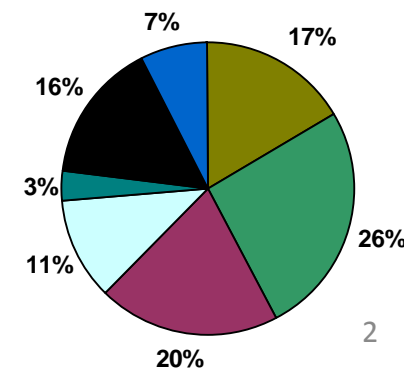
Scenario 450ppm

**World energy-related CO2 emission savings by policy measure
in the 450 Scenario compared with the New Policies Scenario**

	Abatement	
	2020	2035
Efficiency	76%	43%
Renewables	14%	18%
Biofuels	2%	4%
Nuclear	4%	8%
CCS	3%	26%
Total (Gt CO$_2$)	1.8	13.7

Source: WEO 2010, IEA

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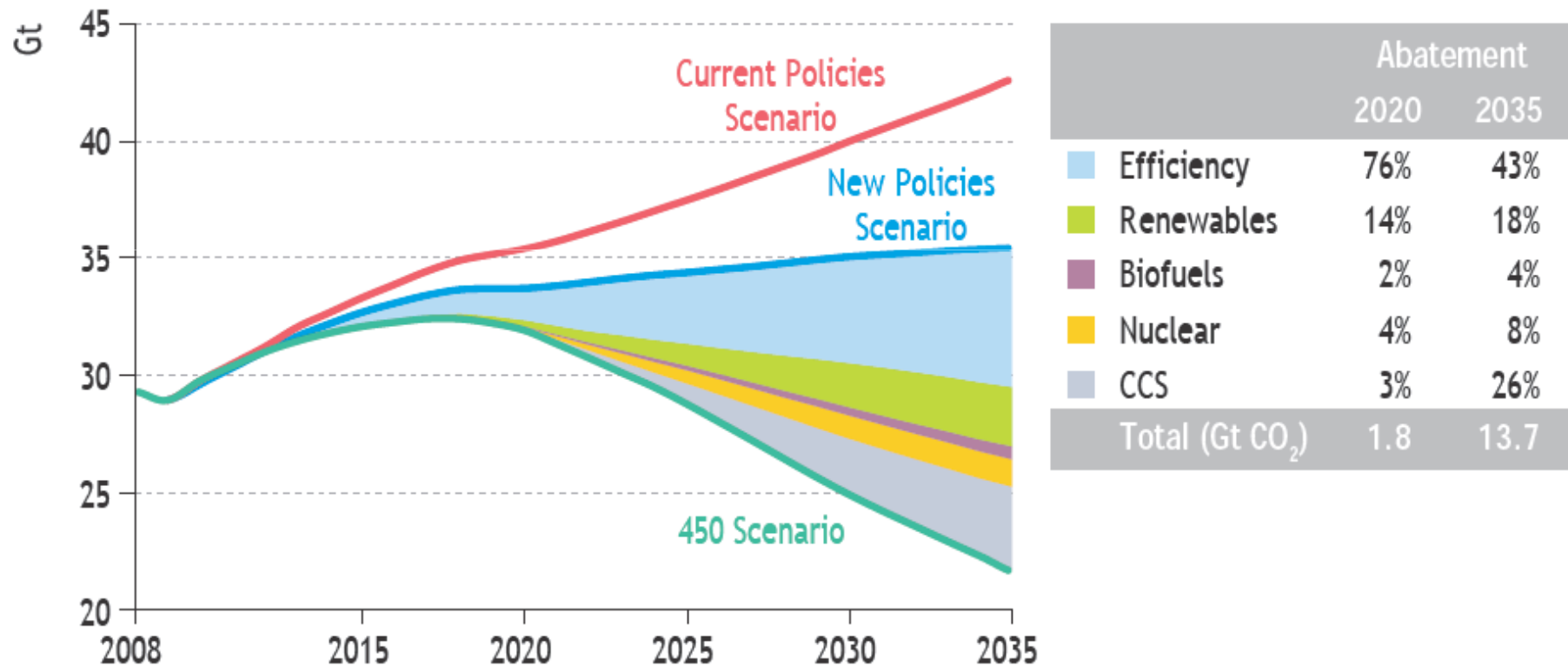
World Primary Oil Demand
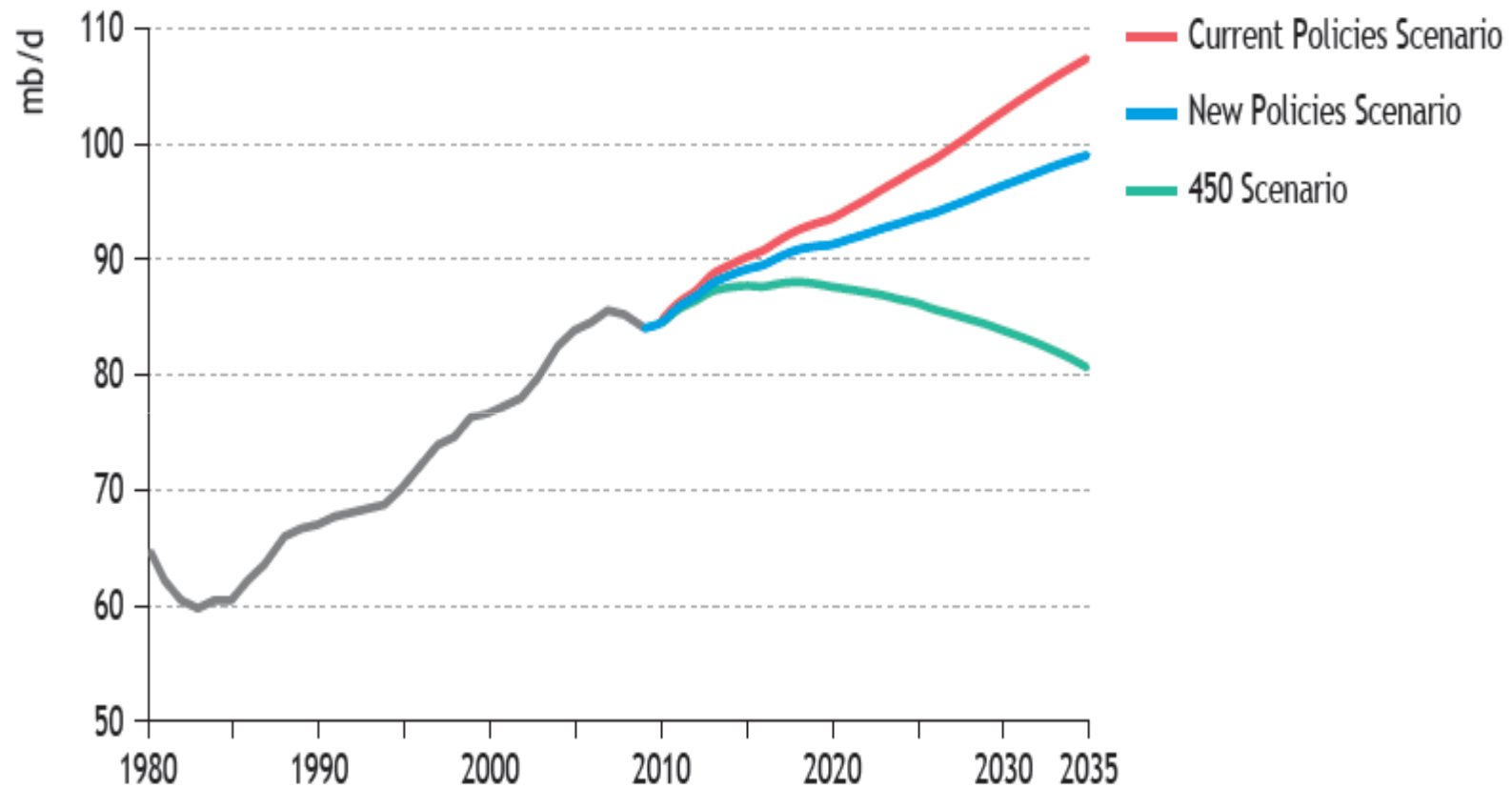
Note: Oil does not include biofuels derived from biomass.

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World Energy Reserves
(Oil, gas and coal)

	Oil	Gas	Coal
Reserves (en MTEP)	181,7 Gt	187,49 Gm3 **?**	826 Gt
Ratio Reserves/Production (In years) 2009	45,7	62,8	119
1973	31	48,6	na
Reserves Concentration	OPEC = 77,2 %	OPEC = 48,6% (Without Angola and Equador) Russia 23,7% Iran 15,8 % Qatar 13,5%	US = 29,9% Russia = 19% China = 13,9% India = 7,1% Australia = 9,2%

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What Form for the Peak Oil

- Oil price
- Investments
- Technology
- Geology
- Prouved reserves
- New discoveries

84 Mb/d

?

- Economic growth
- Environnemental Constraints
- Oil Demande
- Energy Policies
- Geopolitics

2009
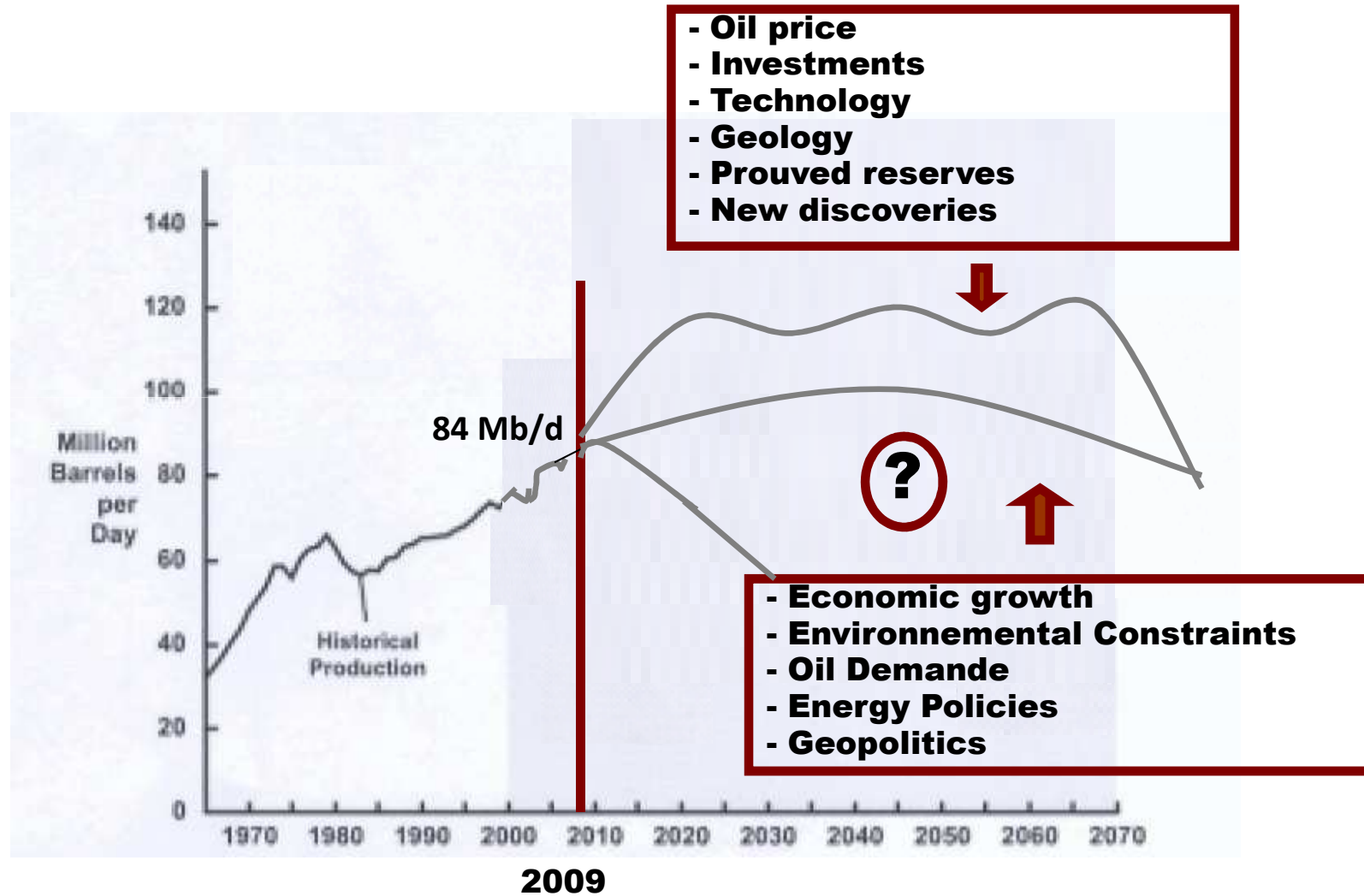
Source: CGEMP

The Rush toward Energy Rich Countries at Risk

USA:
13.6MB/
Day

Europe:
13.9MB/
Day

China+Japan
+India
11.8 MB/Day

Ormuz
16.5MBD

Malacca
15MBD

Gulf of
Aden

Countries in red
89% of World Oil Reserves
81% of World Gas Reserves
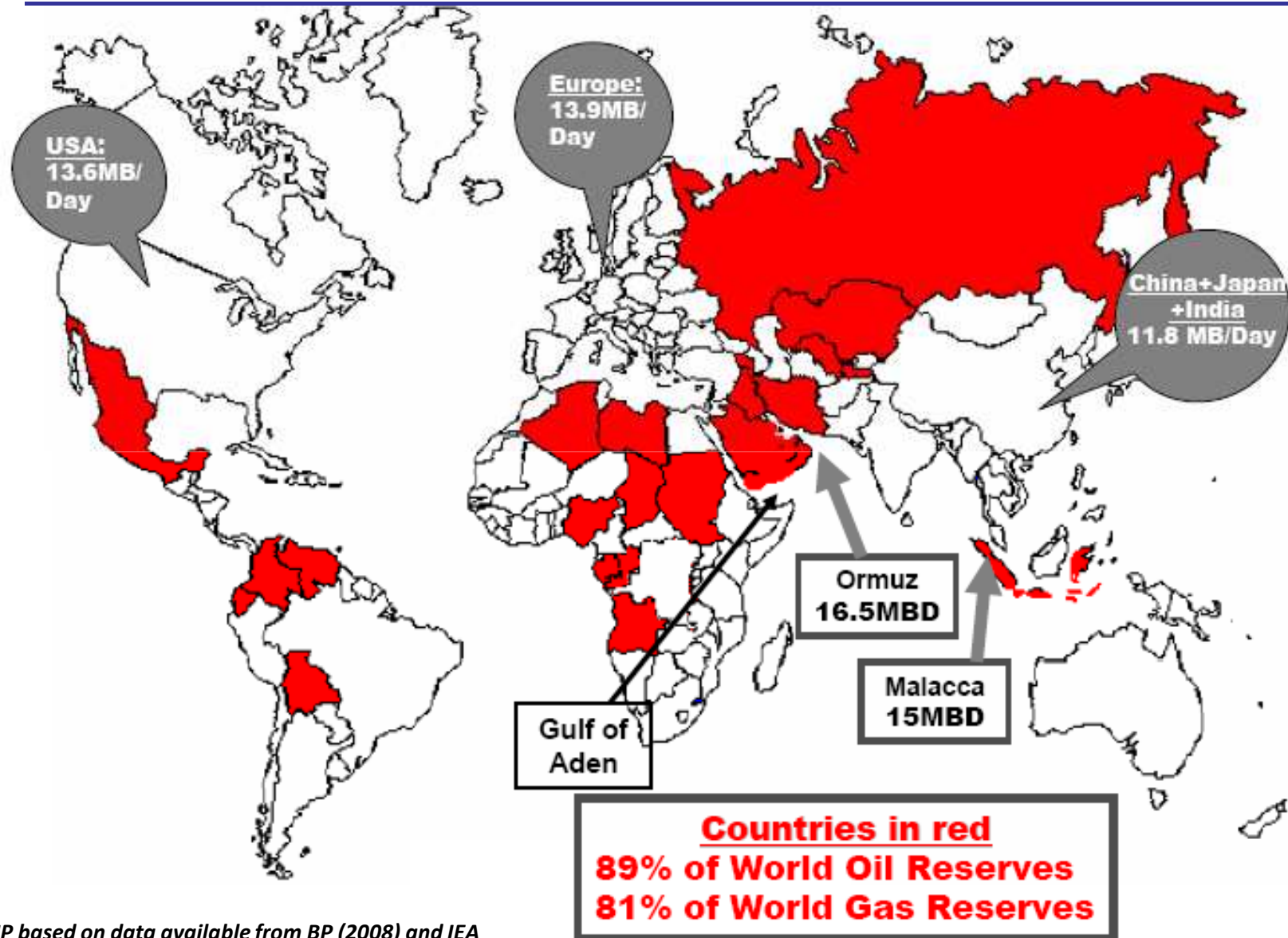
Source: CGEMP based on data available from BP (2008) and IEA (2008)

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A Question of Demand Dynamic

- Differentiated economic growth (OEDC vs BRICs) in quality and quantity

- Differentiated energy policies (efficiency, emissions, renewables)

- Constraints imposed by alarming Global Warming ?

A shift from West to East

Primary Oil Demand 2009 - 2035

		2009	2035
Current policies	OECD	41.7	38.7
	Non OECD	35.8	59.4
New policies	OECD	41.7	35.3
	Non OECD	35.8	54.6
450 scenario	OECD	41.7	28
	Non OECD	35.8	45.6

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A Question of Investment for Supply

- The potential for investments is limited by oil nationalism

- Economic attractiveness ?

- Risks : country, project and market risks

- Who are the investors : IOC, NOC, Financiers ?

Price will balance supply and demand