

African Oil and Gas Summit

Sommet Africain du Pétrole et du Gaz Naturel

Paris, 7 June 2010

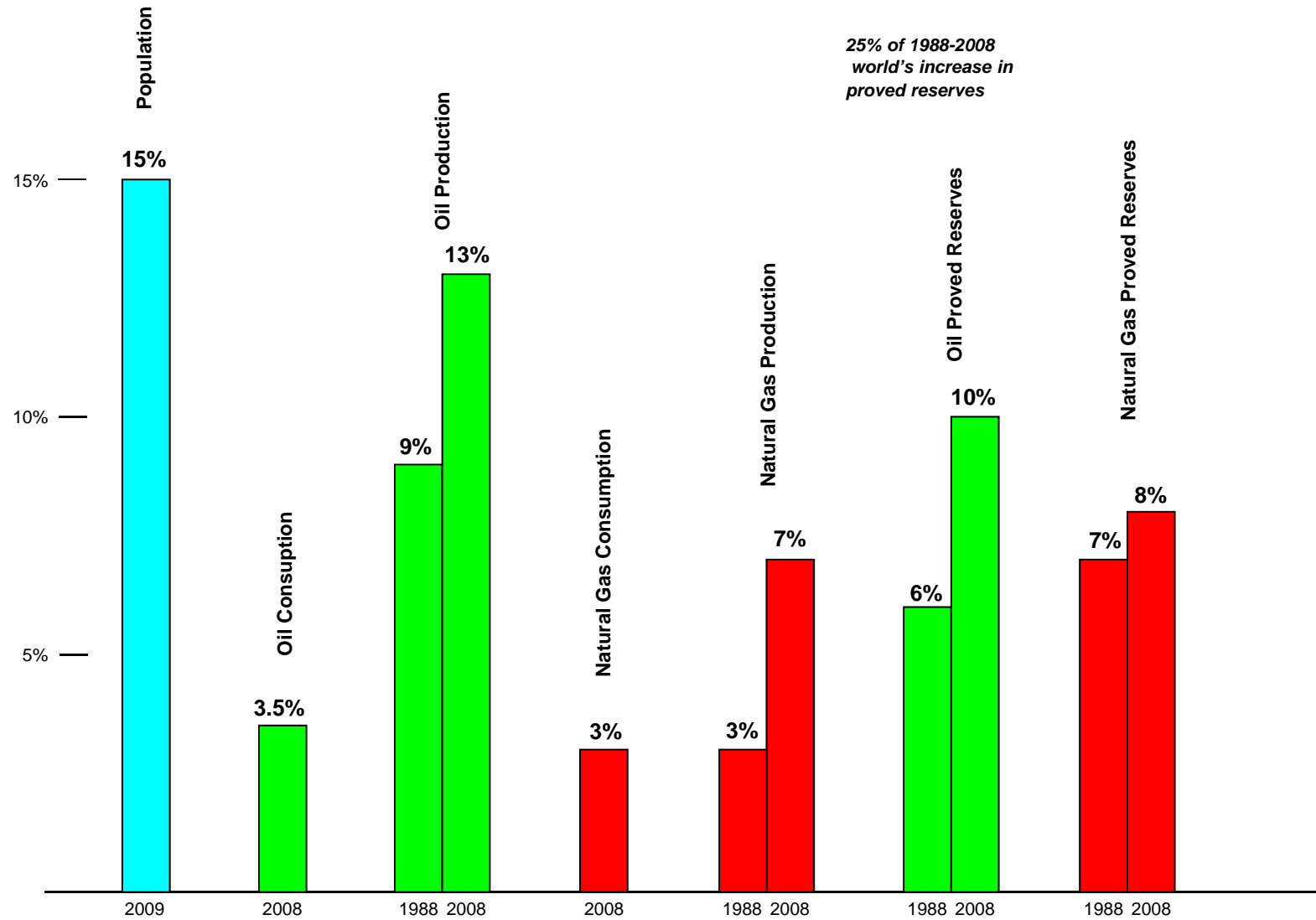
**Recent Trends and Outlook for
Oil and Natural Gas in Africa :
A Growing Role in Energy Supply ?**

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Introductory Remarks : Recent Trends and Outlook for Africa's Oil and Gas

- Africa's share in world oil and natural gas production & consumption
- Recent trends for African oil and natural gas production:
 - Opec countries versus non-OPEC countries
 - North Africa versus SSA
- Examples of recent discoveries
- Estimates of African oil and gas reserves & resources, and production forecasts
- More and more oil and gas companies invest in Africa

Africa's Share in World's Oil and Gas



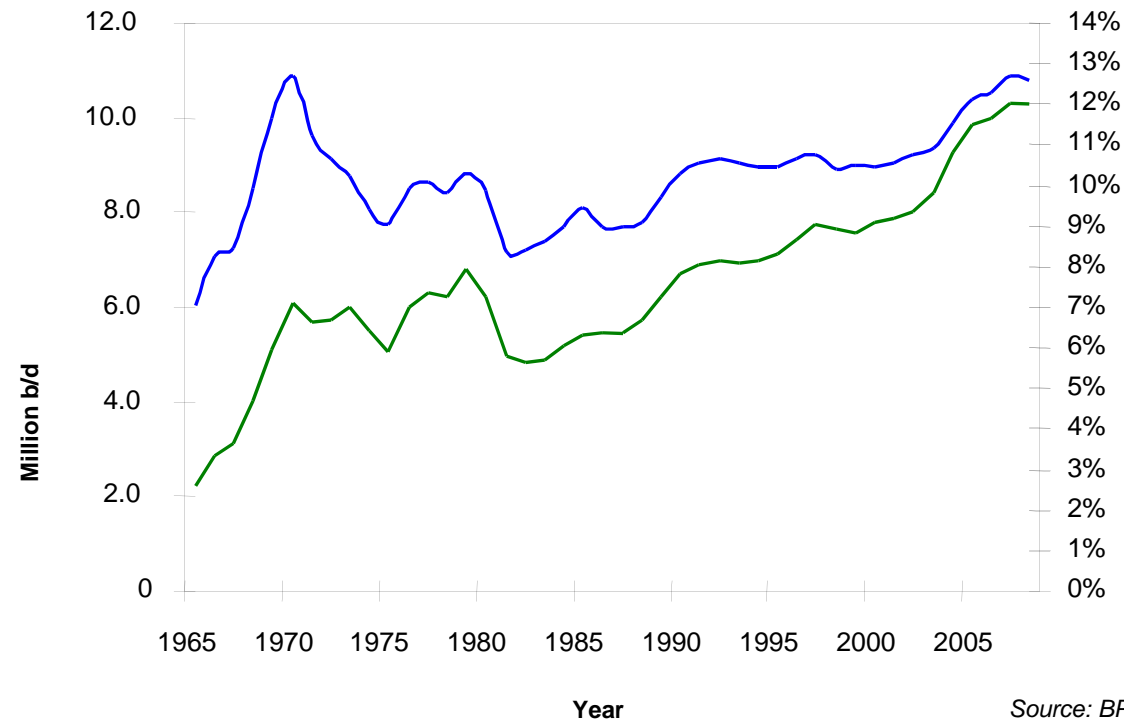
1965-2008 African Oil Production Growth and its World's Share

1988 : 5.8 Mb/d or 9% of world oil production

M = Million

1998 : 7.6 Mb/d or 10% of world oil production

2008 : 10.3 Mb/d or 13% of world oil production



Source: BP Statistical Energy Review June 2009 and Géostratégiques N° 25, October 2009

— Oil production in Africa

— Share (in %) of Africa in world oil production

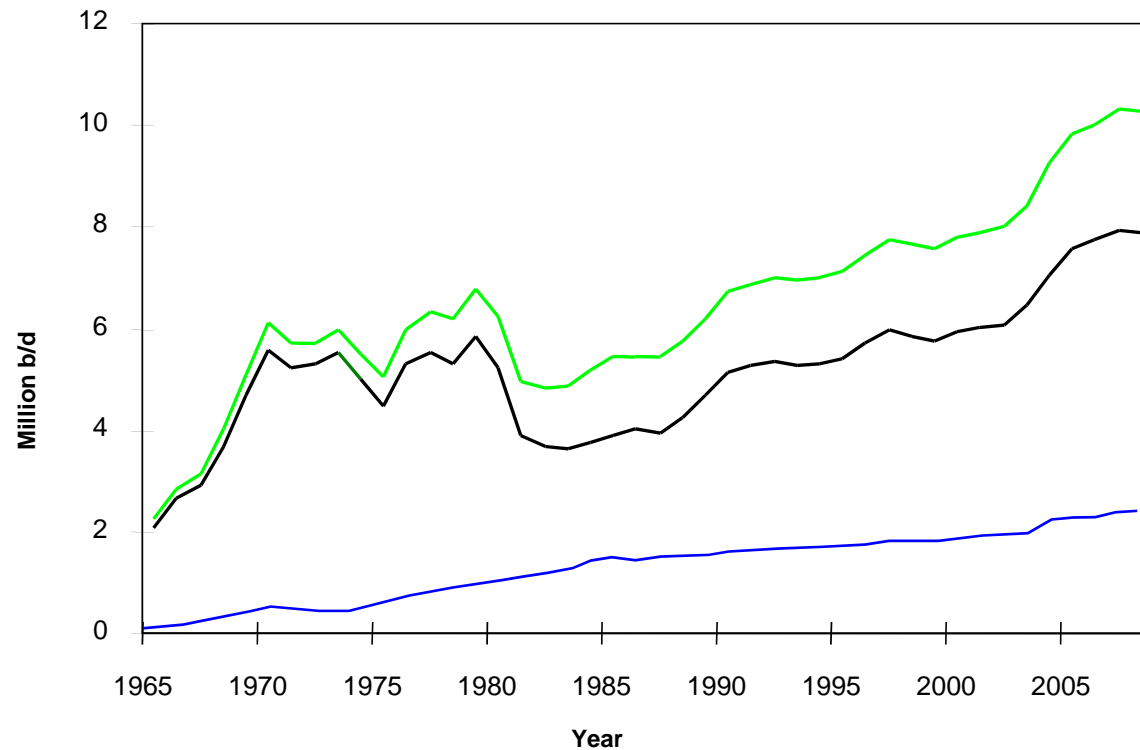
1965-2008 African Oil Production Growth : OPEC and non-OPEC Countries

OPEC Countries

1988 : 4.3 Mb/d
2008 : 7.9 Mb/d

non-OPEC Countries

1988 : 1.5 Mb/d
2008 : 2.4 Mb/d

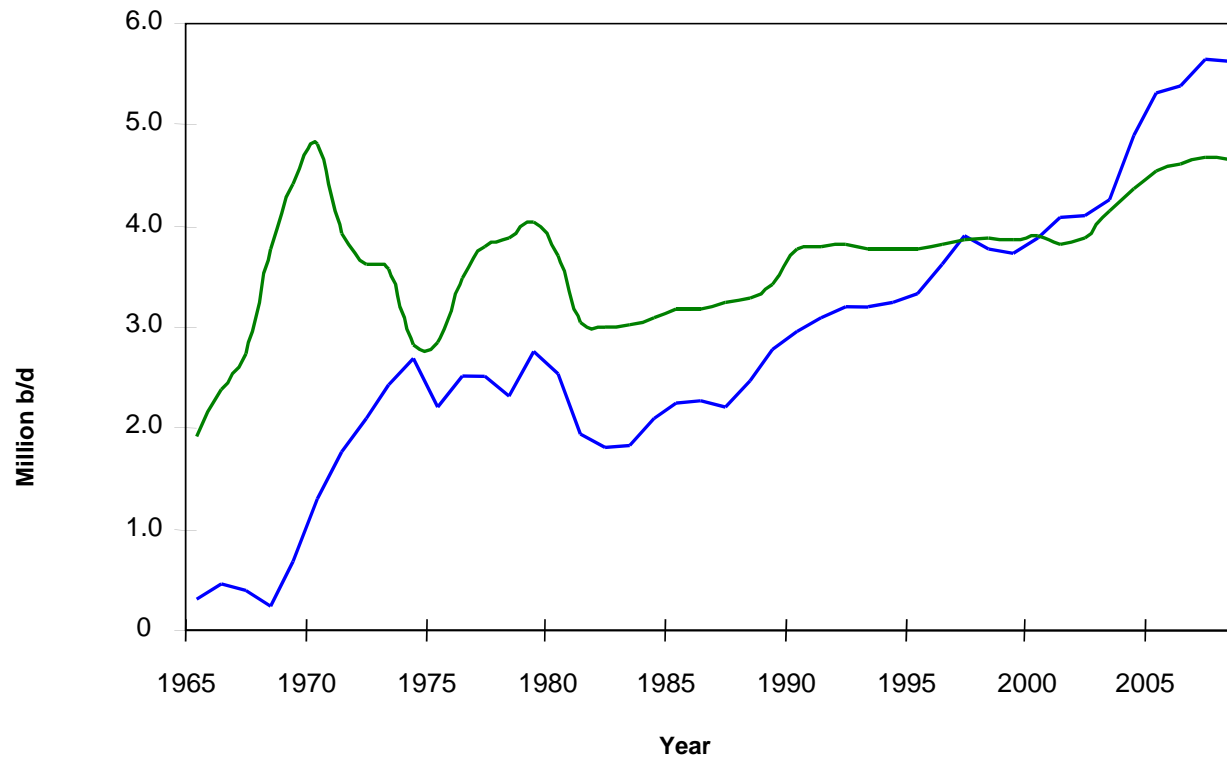


— Total for African countries

— non-OPEC African countries

— OPEC African countries (Algeria, Angola, Libya and Nigeria)

1965-2008 Oil Production in Africa: North Africa *versus* SSA (Sub-Saharan Africa)



— Sub-Saharan African countries

— North African countries
(Algeria, Egypt, Libya and Tunisia)

Examples of Recent Discoveries

- **Onshore:**

- Algeria: Berkine basin
- Egypt: Western desert
- Sudan: rift basins of interior Sudan (Melut, etc.)
- Chad: Doba basin
- Congo: coastal basin
- Eastern Africa: Lake Albert (Uganda), RDC, etc.
- What else?

- **Offshore and Deep Offshore:**

- Angola, Congo, etc
- Equatorial Guinea
- Ghana
- Sierra Leone
- Mozambique
- Mauritania
- Egypt : Mediterranean Sea
- What else?

Worldwide Distribution of Offshore Salt Sheets



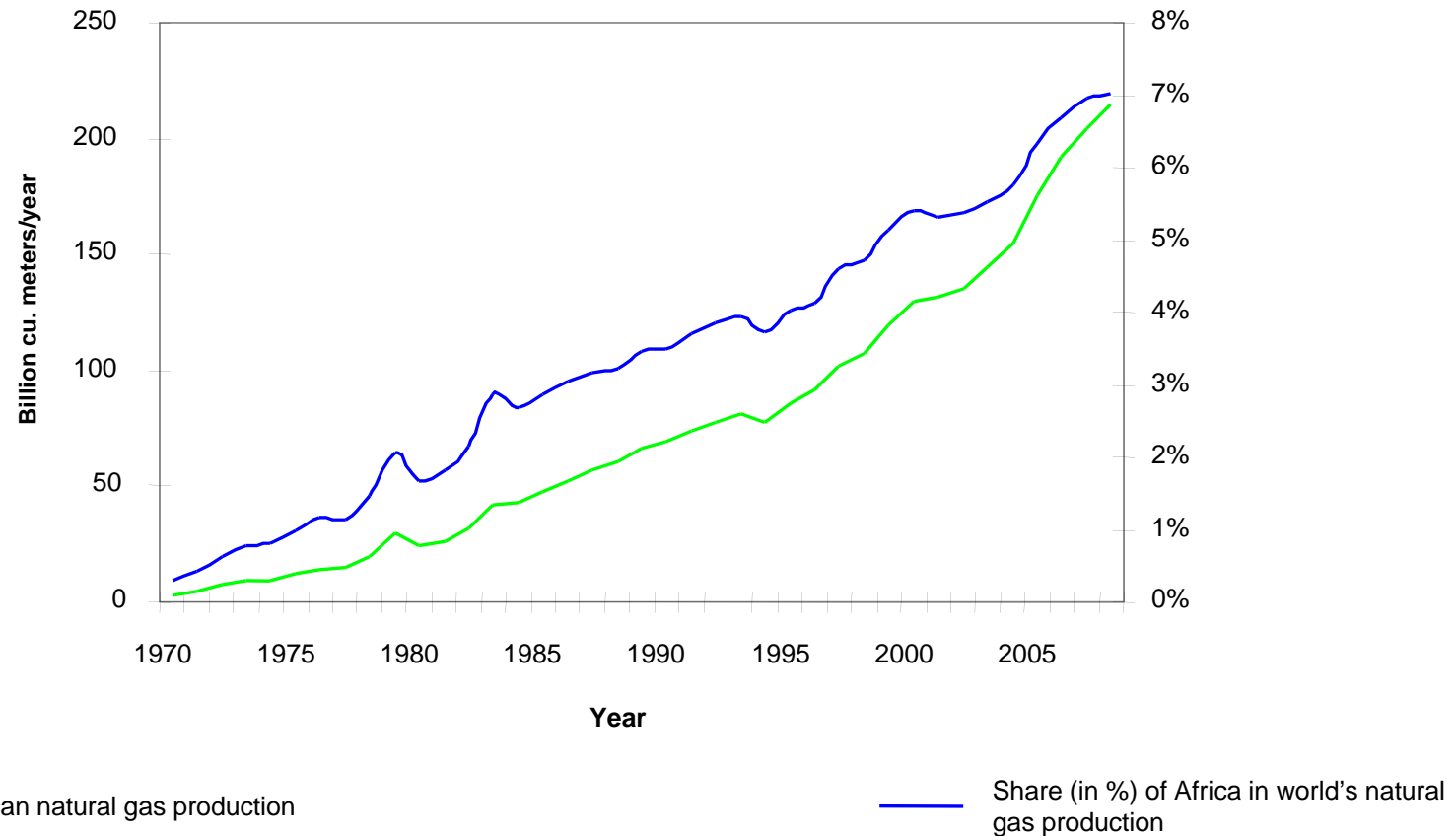
Source : Farmer et al. Oilfield Review, 1996, adapted from Ward et al. The LeadingEdge

1970-2008 Gas Production in Africa and its Share of World Gas Production

1988 : 60 billion m³ or 3% of world production

1988 : 107 billion m³ or 5% of world production

2008 : 215 billion m³ or 7% of world production

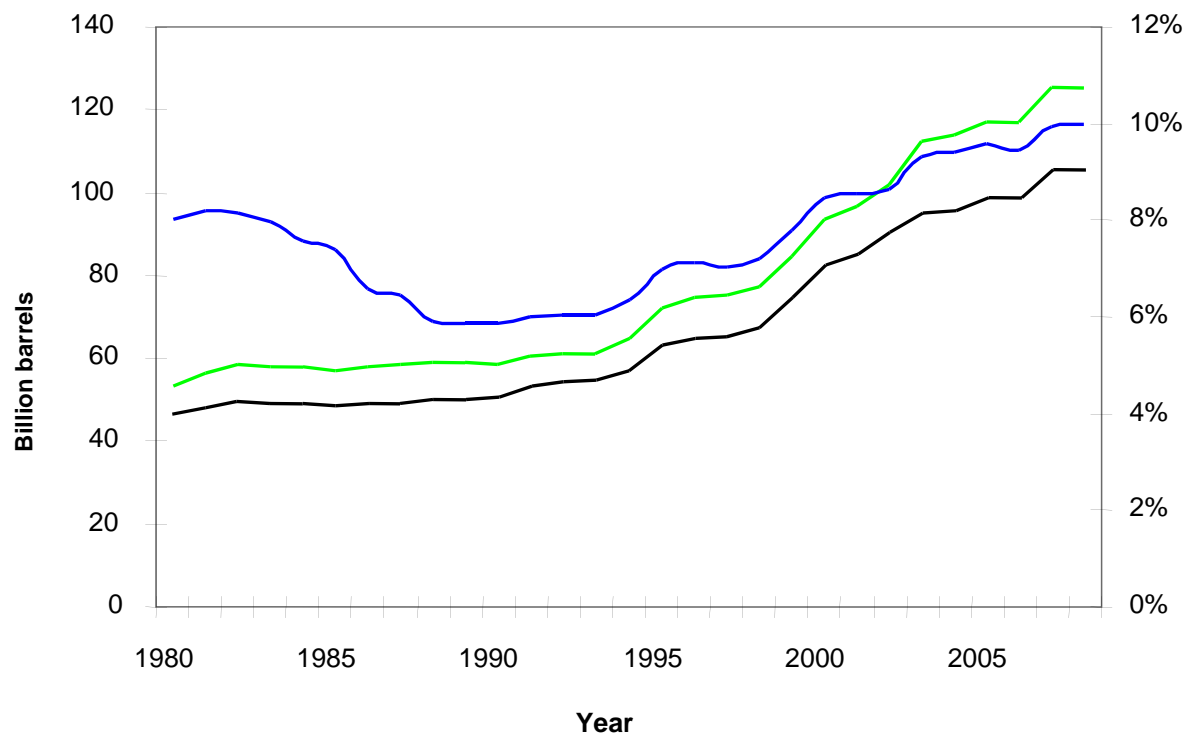


1980-2008 Growth of African Oil Proved Reserves and its Share in World Oil Reserves

1988 : 59 billion barrels or 6% of world reserves

1988 : 77 billion barrels or 7% of world reserves

2008 : 126 billion barrels or 10% of world reserves



— Total Africa's oil proved reserves
— Of which Africa's OPEC countries

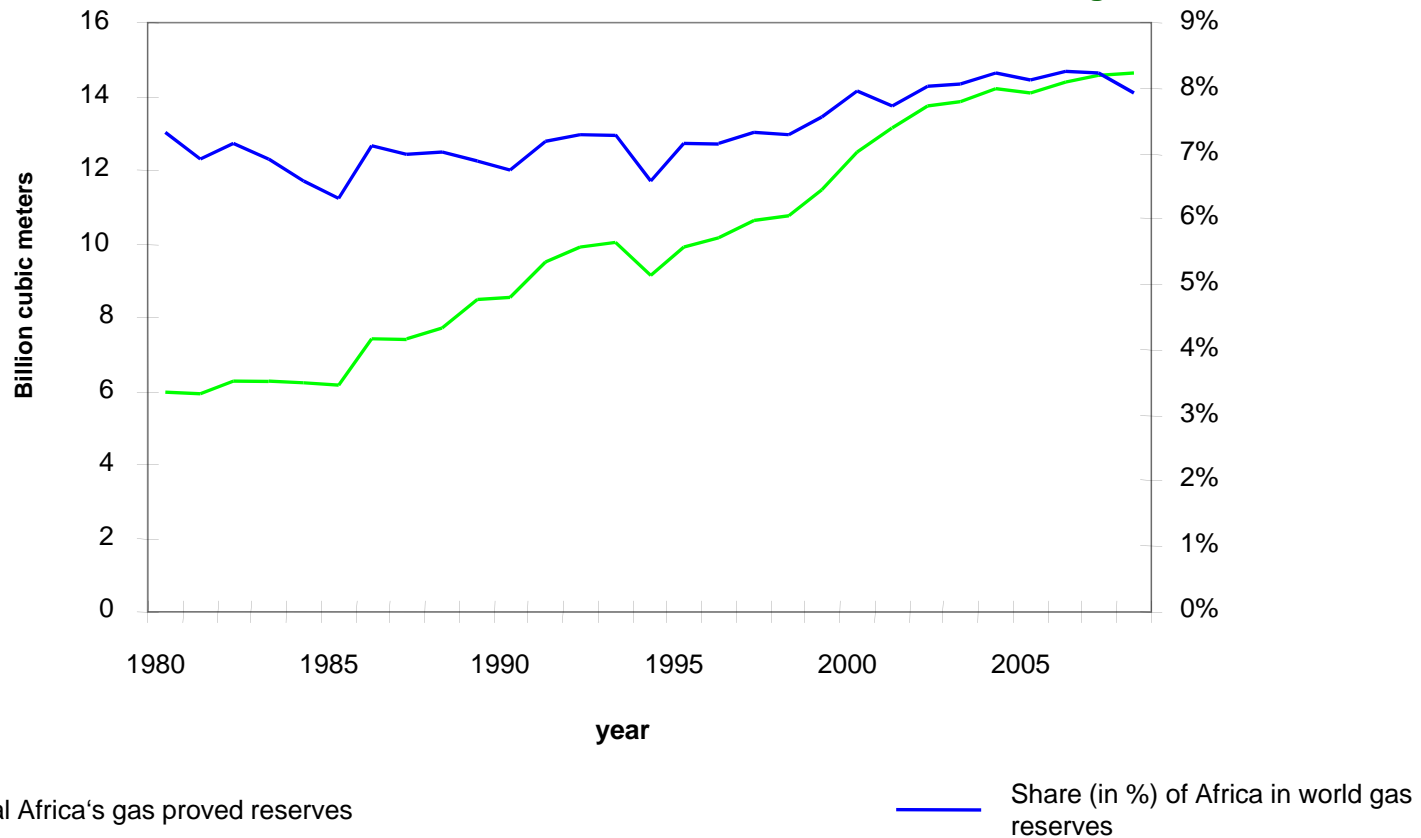
— Share (in %) of Africa in world oil reserves

1980-2008 Growth of African Gas Proved Reserves and its Share in World Reserves

1988 : 7 680 billion m³ or 7% of world gas reserves

1998 : 10 770 billion m³ or 7.5% of world gas reserves

2008 : 14 650 billion m³ or 8% of world gas reserves



Oil and Natural Gas Outlook for Africa

- ✓ Africa's oil and gas prospective resources are significant
- ✓ However, they will require many efforts and investment in exploration and development
- ✓ An example of forecasts : The WEO (World Energy Outlook) 2008 by IEA
 - Oil prospective resources : 120 billion barrels?
 - 2007–2030 estimated cumulative E&P investment :
1200 billion \$ 2007 (or 14% of world's investment)
 - 2030 forecasted production:

Years	2008	2030	Augmentation
Oil (M b/d)	10.3	12.7	+2.4
Gas (Billion m ³)	215	452*	+237

* 350-414 under the WEO 2009

More and More Oil and Gas Companies Active in Africa

More than 400 companies of all types and geographical origins are investing in the continent (onshore & offshore):

- « **Majors** »: Total, ExxonMobil, Chevron, Eni, BP, Shell, etc.
- « **Independents** » : UMIC/Devon, Anadarko, Apache, Tullow, Addax, Maurel et Prom, Burren Energy, Perenco, Kosmos Energy, Heritage, Veranex, Afex, Bayfield, etc.
- « **NOCs** » : Petronas, CNPC/Sinopec/CNOOC, ONGC, Lukoil, Gazprom, etc.

Some Questions for the Round Table

- How to foster oil and gas exploration & development/redevelopment projects benefitting to African countries and their people?
- What are the challenges for accelerating E&P in Africa?
- What difficulties may limit E&P investment and activities in Africa?
- What incentives for encouraging more E&P capex and production in Africa?
- How Africa's oil and gas resources and revenues may result in « Blessing » and not « Curse » for the country?