Gulf of Guinea Oil and Gas Overview and Outlook

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OTC
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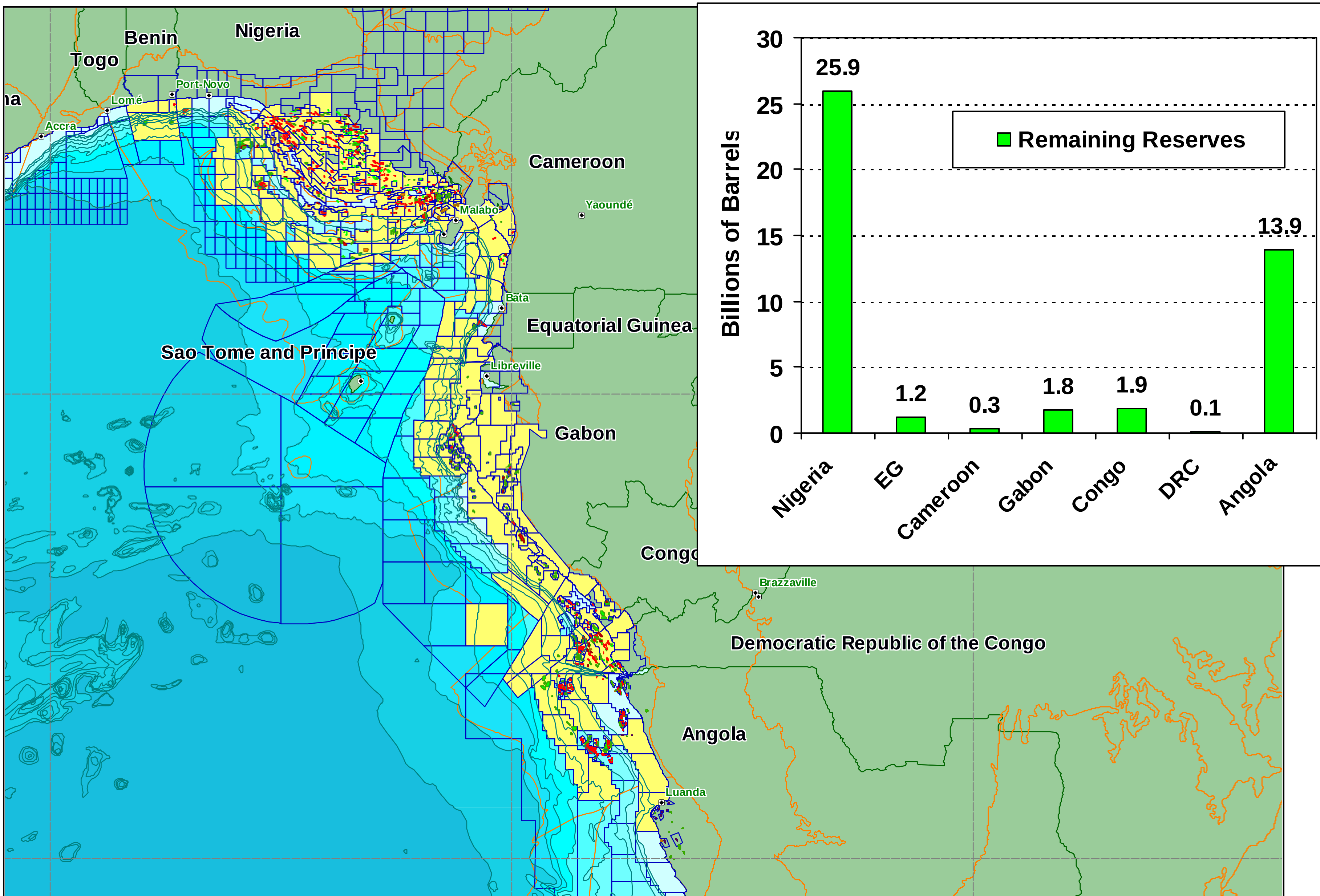
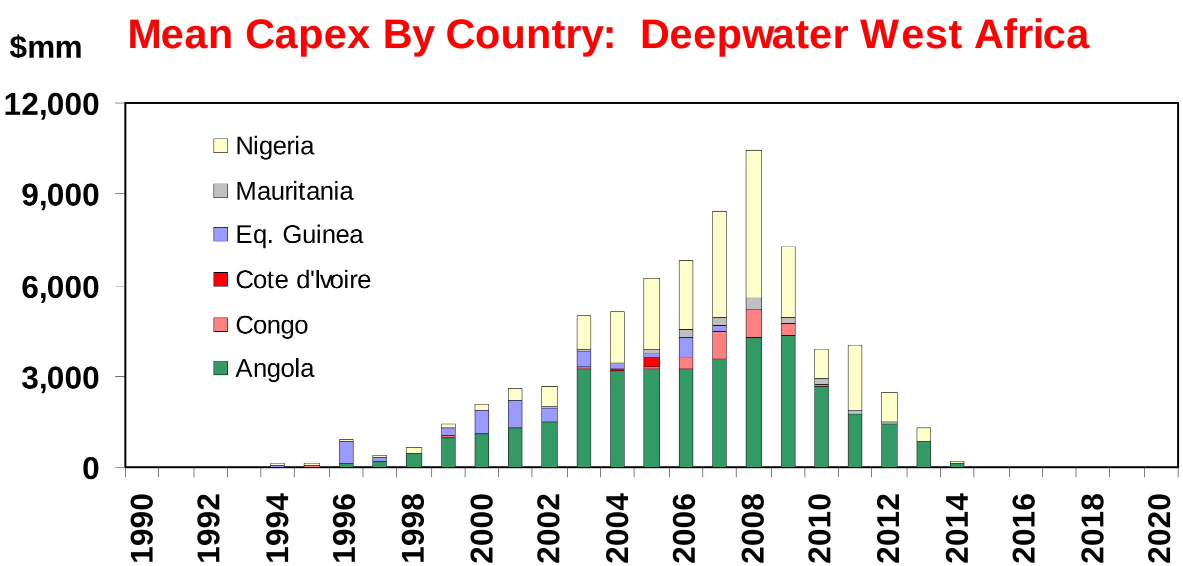
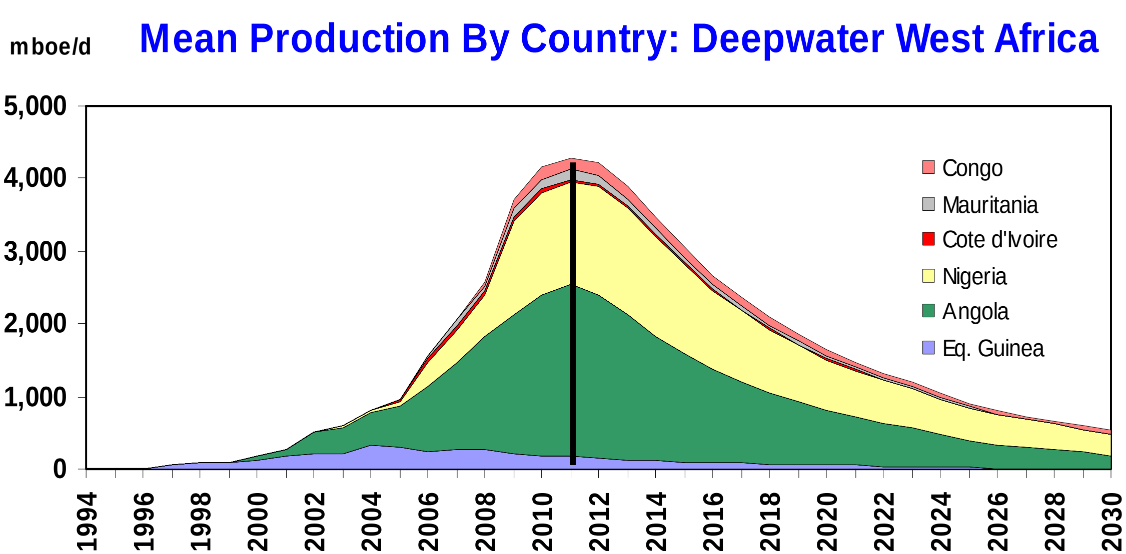
Gulf of Guinea Remaining Reserves are Dominated by Nigeria and Angola



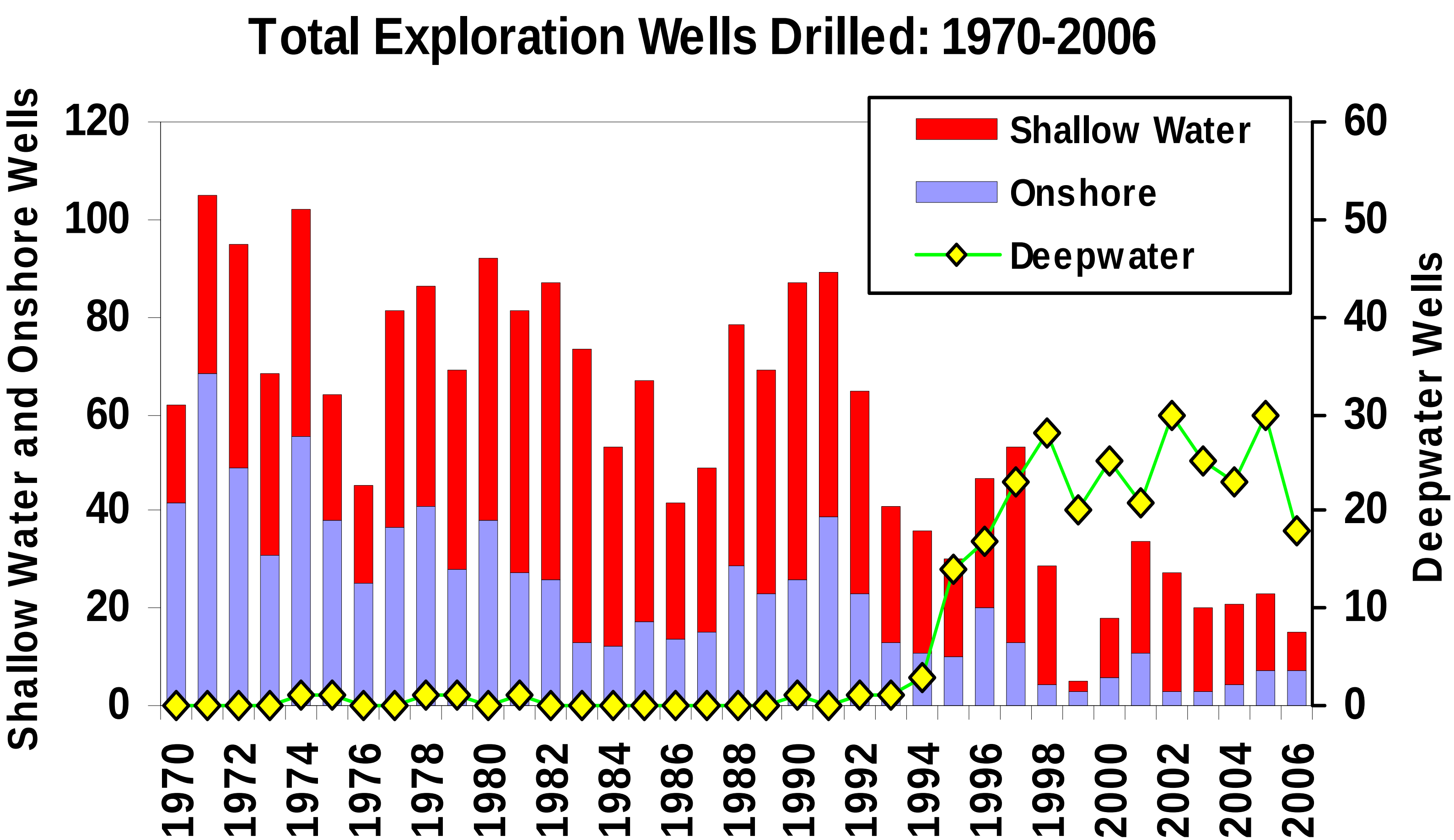
Deepwater Spend is Approaching a Peak in the Cycle for Known Commercial Discoveries





- Dominance of Nigeria and Angola is clear
- Average field size is declining and outer limits of petroleum system are being seen
- Likely flattening of future development spend and production
- Slow decline after peak spend, although that will spread out due to project delays

West Africa Exploratory Drilling Has Been Dominated by Deepwater Since the 1990s

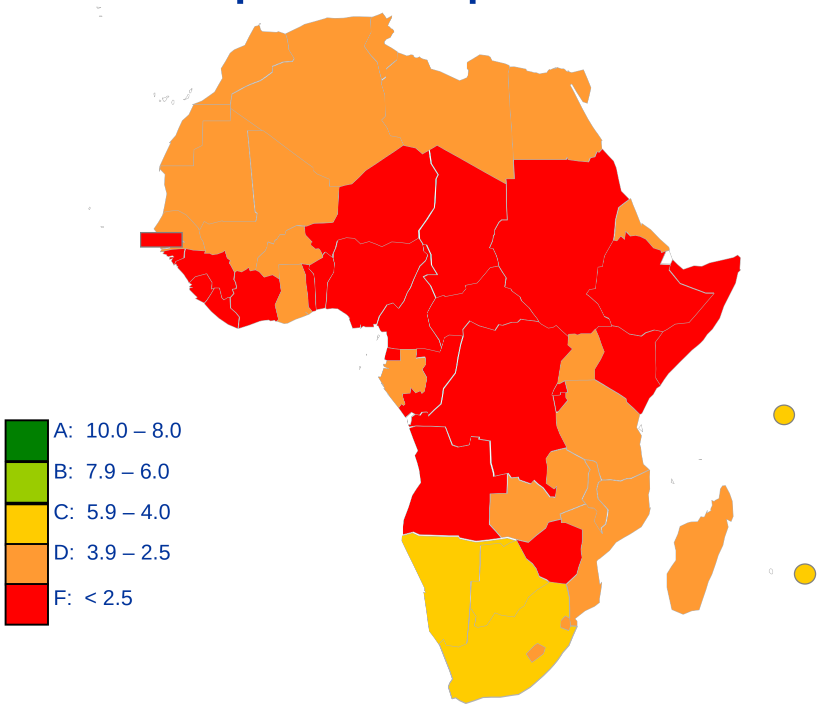


Note: Deepwater is defined as water depth of at least 1,000 feet.

African Regional Stability is of Increasing Concern

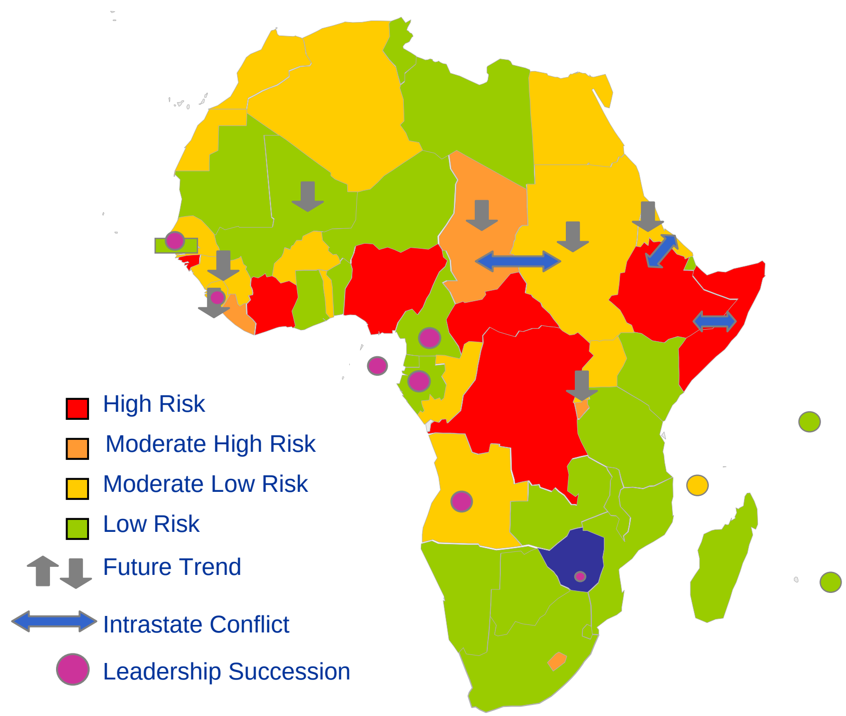
- **Poor governance, lack of transparency and high levels of corruption contribute to political instability in Africa.**
- **From an oil investment standpoint, potential wave of succession in Gulf of Guinea is an additional concern.**

Transparency International Corruption Perceptions Index



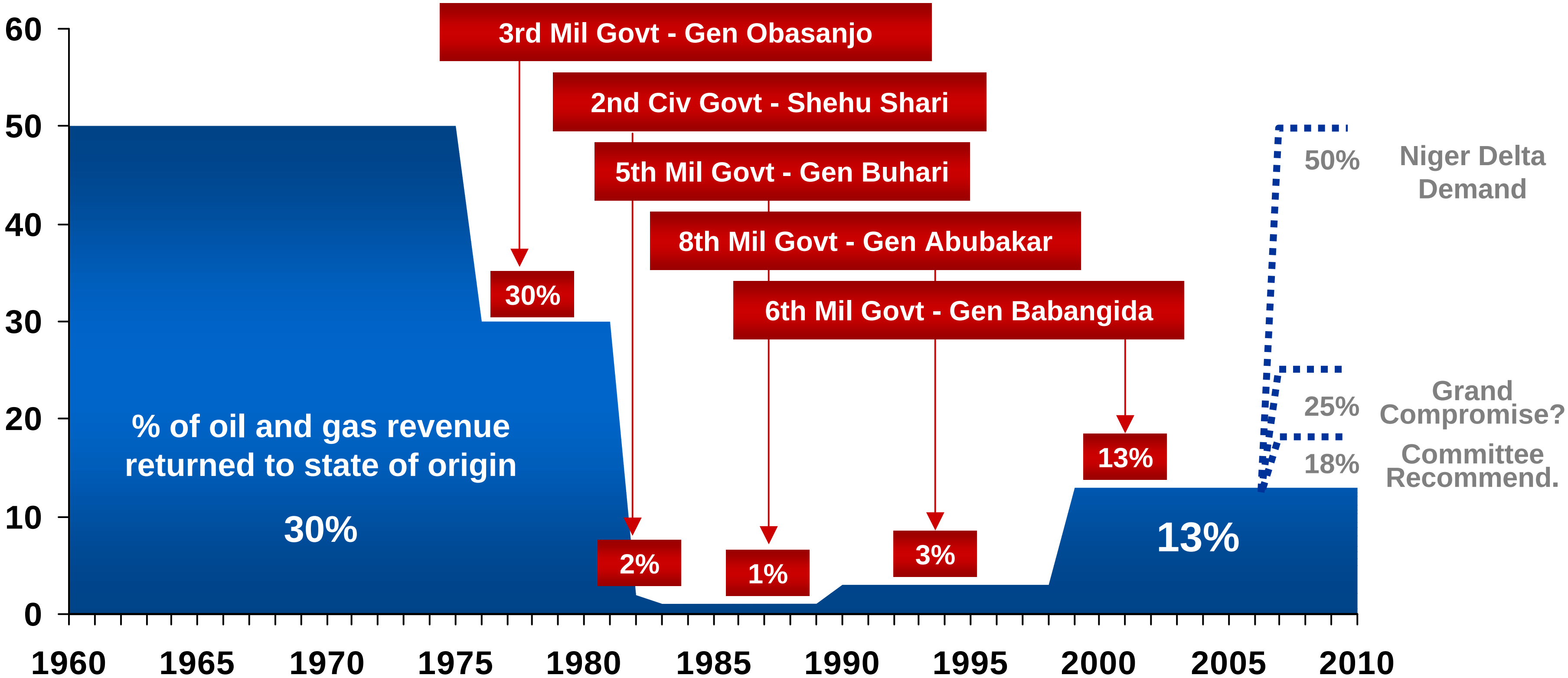
Data source: Transparency International, Corruption Perception Index 2006

African Regional Instability



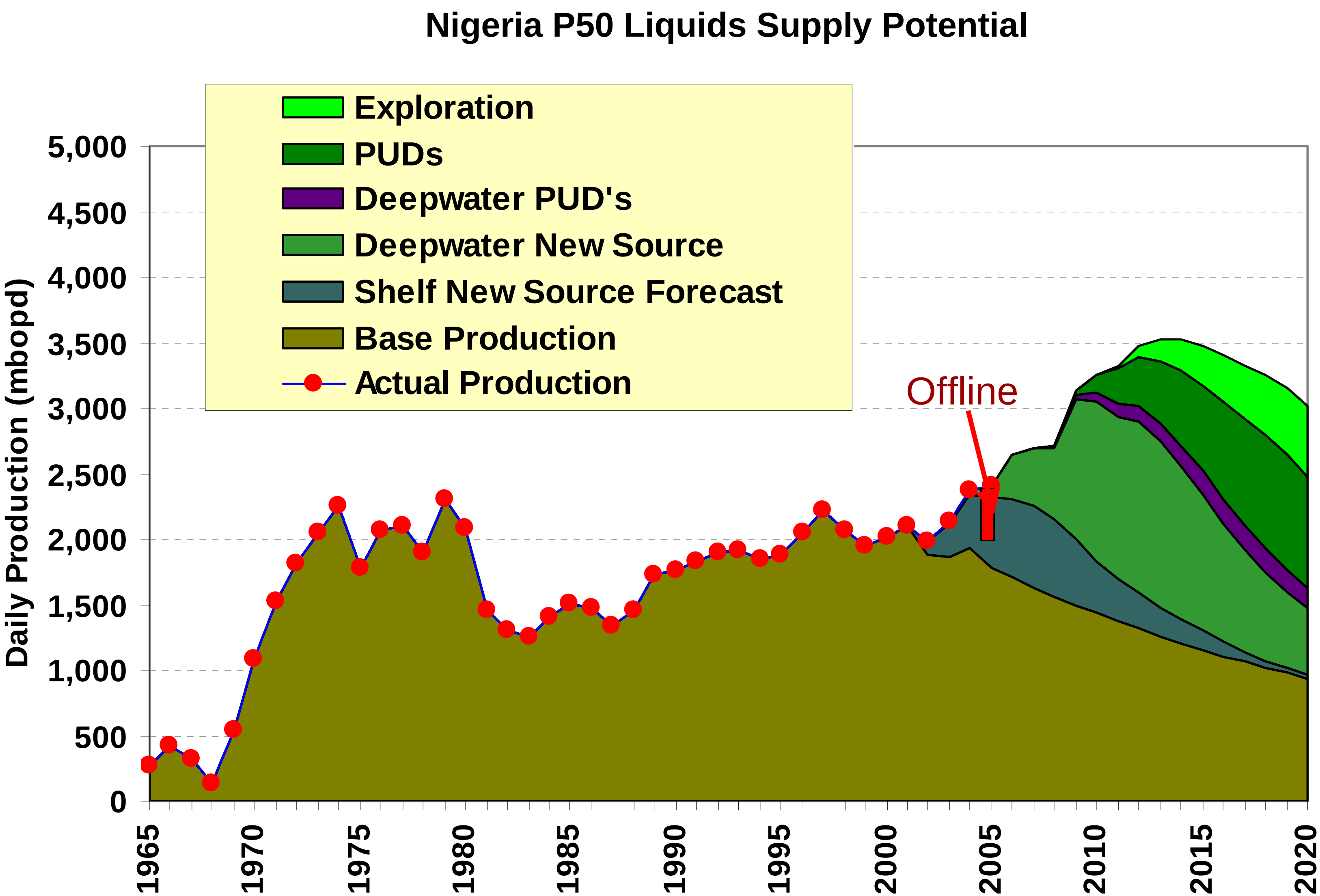
“Instability” is an aggregate measure of key components: political factionalism, leadership succession, religious factions, et al.

Niger Delta Security Depends on Resolving Delta Demands

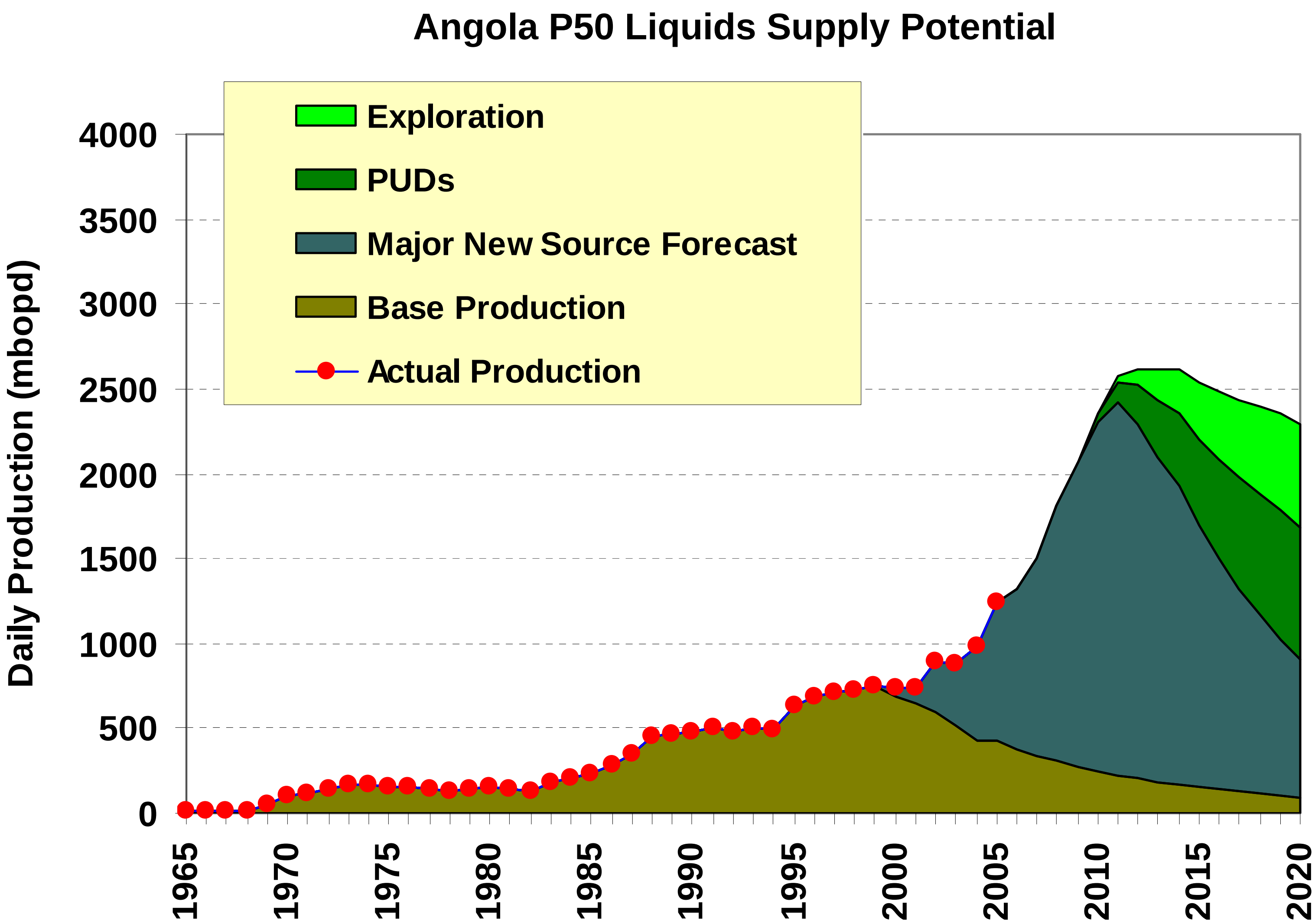


- Multiple governments have sought to address Delta demands – but it has not translated into economic growth or sustainable development
- Continued unrest will impact supply security – physical operations and exports, project development, future investment

Nigeria has Significant Upside But Above Ground Risk Will Limit Onshore/Shallow Prospects



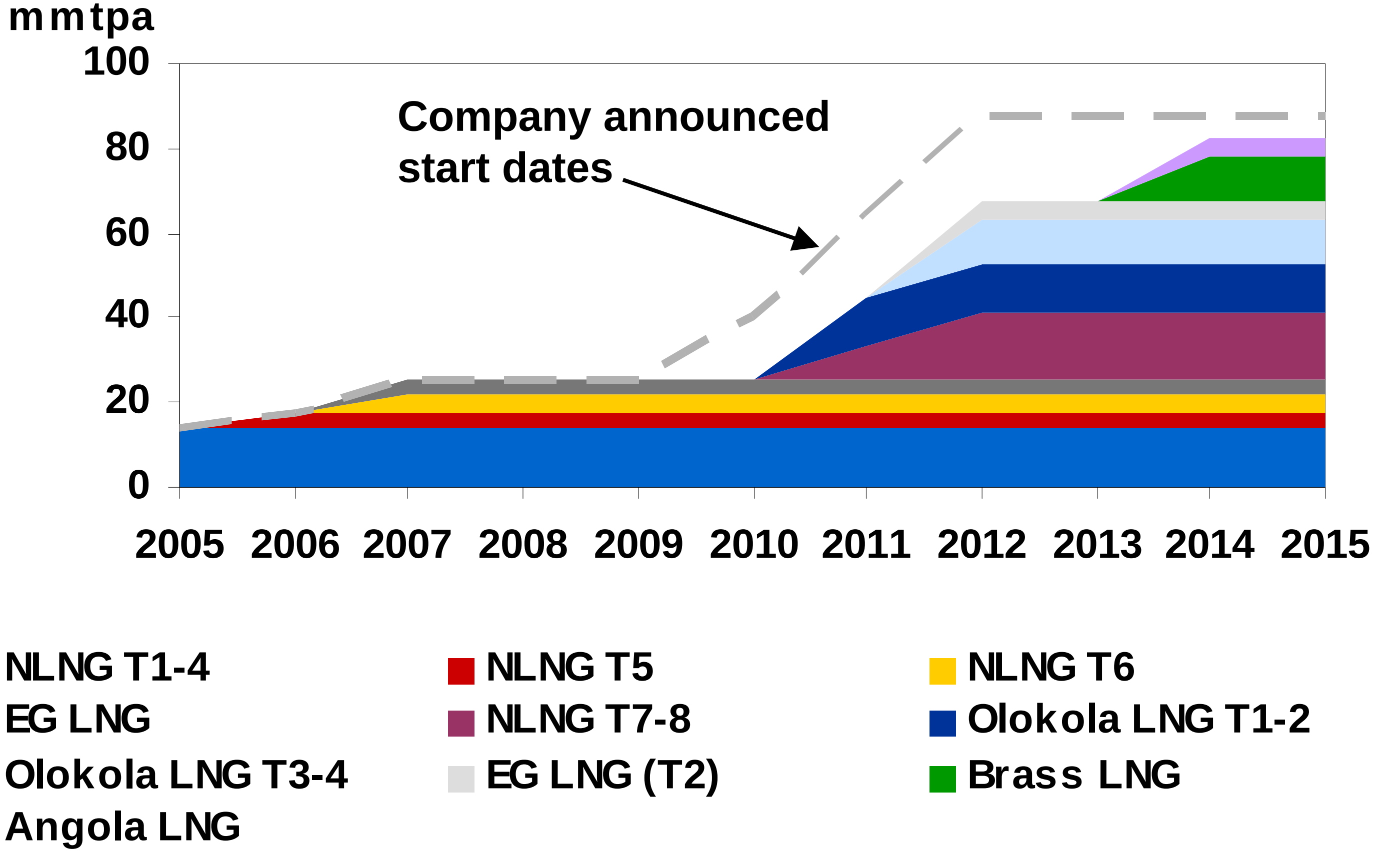
Angola's Entry into OPEC is Not Expected to Limit Potential Up to 2 Million BPD



W. African LNG Capacity Will More than Triple by 2015 In Spite of Project Delays

- Nigerian expansions alone are expected to add 50mmtpa of new LNG capacity from current 18 mmtpa
- PFC Energy expects some delay in the Angola LNG start-up (2014), although this project has made several initial contractual agreements recently and may become more realistic for a 2012/13 production start

PFC Energy Estimated Start-up of LNG Projects vs. Announced Dates



The Gulf of Guinea Will Continue to Be a Major Investment Area But Faces New Challenges

- **Is Deepwater in a Cycle or Near a Peak?**
  - as new discovery sizes fall and companies develop their portfolio faster than they find new large fields there is a predictable peak to the current investment and production growth cycle in the period 2010-2014, will exploration success continue?

- **Political instability is Impacting Decisions**
  - violence in the Niger Delta is now the greatest challenge to future oil and gas investments and the most likely area where we will see supply disruptions

- **Angola has become a member of OPEC**
  - with quotas to be imposed in 2008 likely at 2 million bpd and longer term implications for slowing exploration

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Gulf of Guinea – Country Comments

- **Nigeria** – ***new deepwater field discovery sizes have been falling but there is a lot of potential for production growth and further discoveries but above ground risk is a severe impediment to***
- **Cameroon** – ***no significant exploration potential and falling production***
- **Equatorial Guinea** – ***oil production at peak with no inventory of undeveloped oil discoveries, future developments will be focused around LNG***
- **Gabon** – ***shallow water and onshore production is falling, limited deepwater success in the north but these developments have not performed as well as expected***
- **Congo** – ***shallow water and onshore production is falling, limited deepwater success in the south will stabilize production when brought on stream***
- **Angola** – ***Significant deepwater development portfolio and realtively stable political environment at present should allow for continued development and production growth, entry into OPEC is not expected to pose significant risks to developments***