

WGCPARIS2015
WORLD GAS CONFERENCE



INTERNATIONAL GAS UNION
UNION INTERNATIONALE DU GAZ

Study Group 1.2 Assessment of Reserves and Resources

Conventional gas exploration

4th WOC 1 Meeting

Seoul

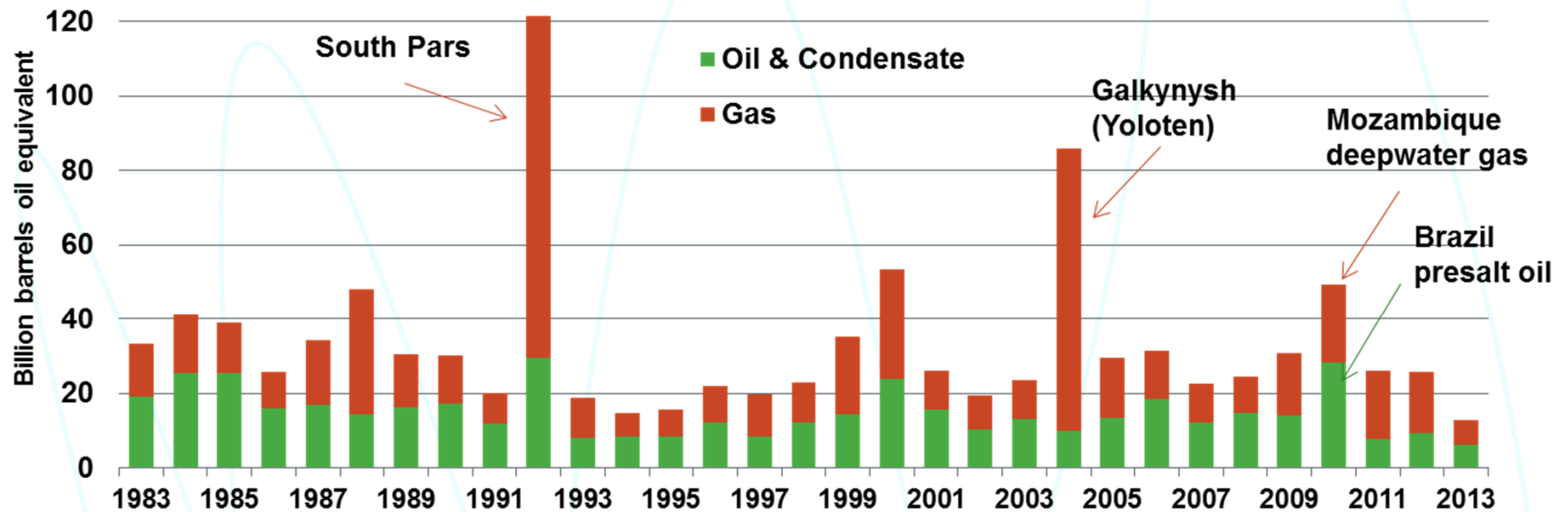
10-13 March 2014

Conventional gas exploration

- Media completely dominated by a general excitement with unconventional oil and gas;
- Literature on the whereabouts of conventional oil and gas discoveries nearly forgotten;
- Interesting review from IHS Energy recently available to members:
“Trends in Global Exploration: What is happening to conventional oil and gas discoveries?”

IHS Energy (2014)

Discoveries of conventional oil and gas



Note: Data exclude Canada onshore and US lower-48 onshore and shallow water. Discoveries are technical discoveries and do not consider commerciality.

Source: IHS EDIN

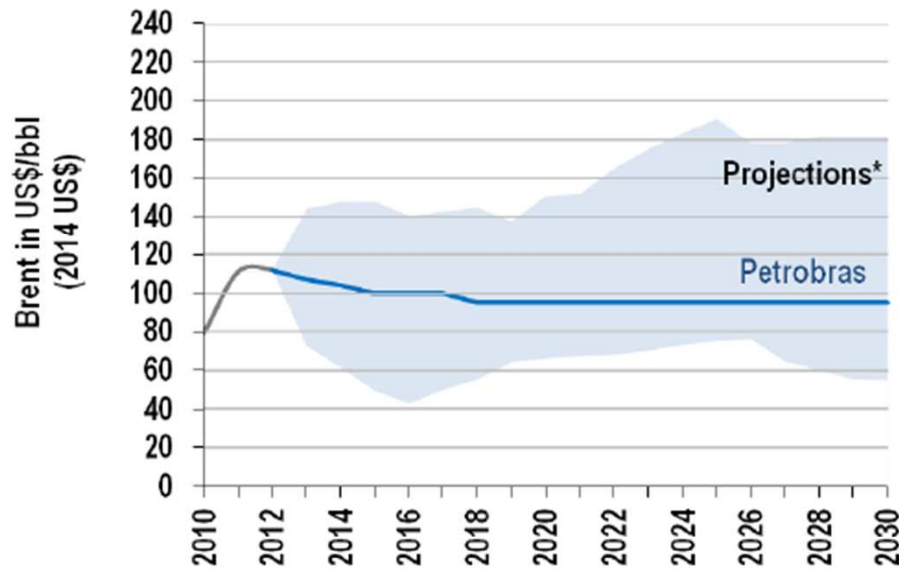
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Oil and gas prices

Brent and Henry Hub expectations

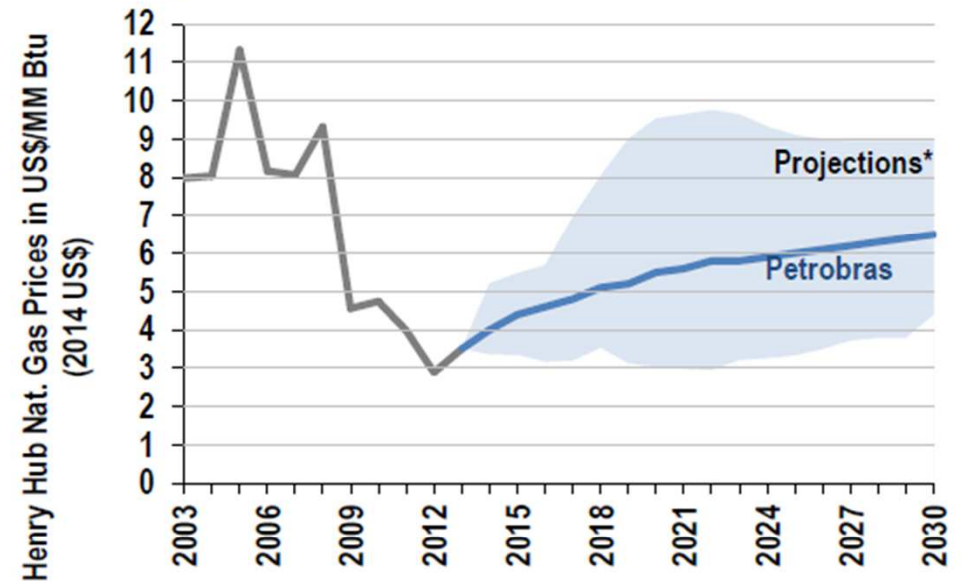
Oil prices in US\$/bbl (2010 – 2030)



| 2013 | 2014 | 2015-2017 | 2018-2030 |
|--------------|--------------|--------------|-------------|
| US\$ 107/bbl | US\$ 105/bbl | US\$ 100/bbl | US\$ 95/bbl |

* Projections: AIE (Nov/2013), PIRA (May/2013), WoodMackenzie (March/2013), IHS (Jul/2013), AEO (April/2013).

Henry Hub Natural Gas Prices in US\$/MMBtu



| 2013 | 2014 | 2015-2017 | 2018-2030 |
|-----------------|-----------------|-----------------|-----------------|
| 3.51 US\$/MMBtu | 4.00 US\$/MMBtu | 4.60 US\$/MMBtu | 5.88 US\$/MMBtu |

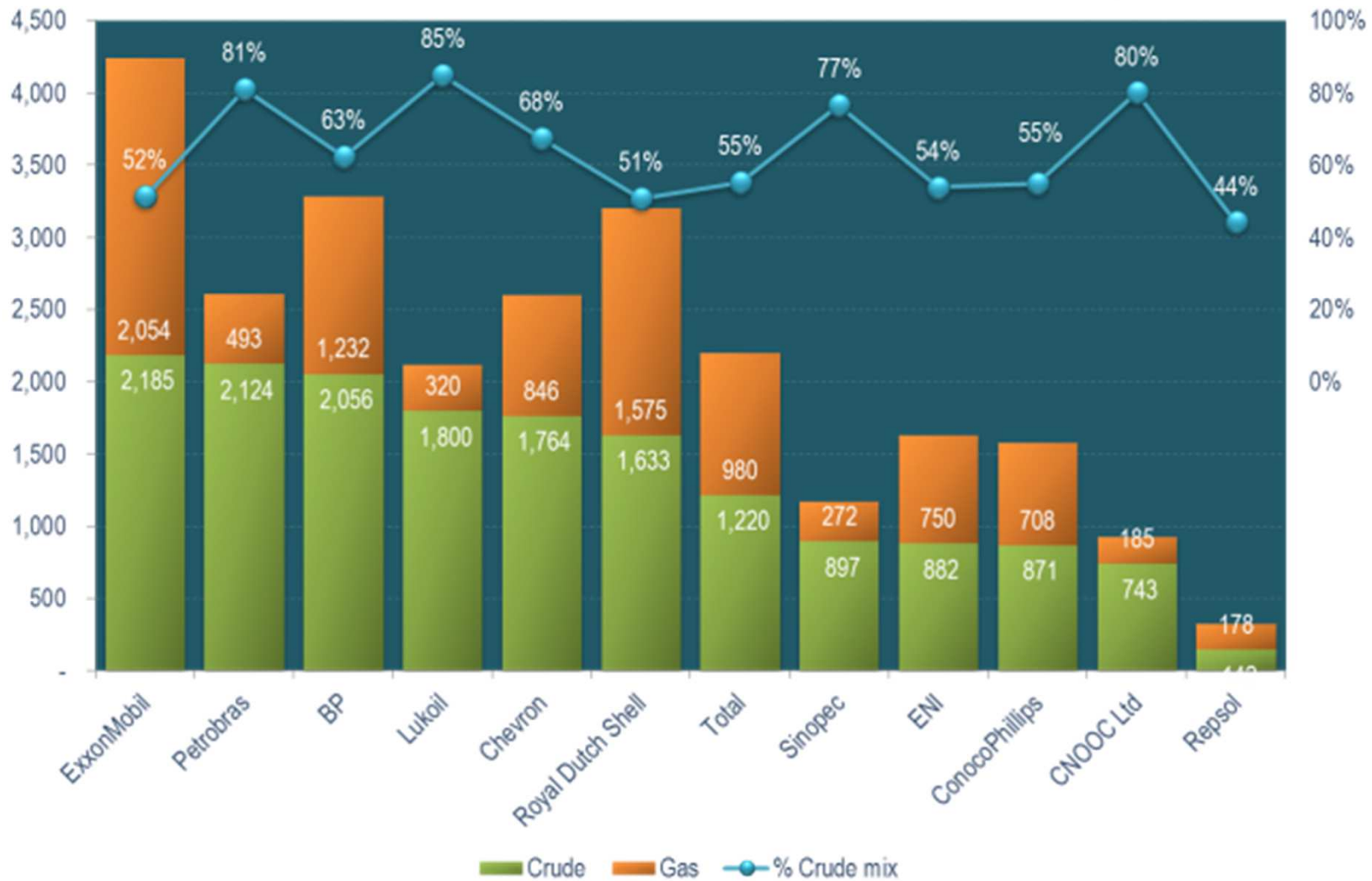
* Projections: IEA/DOE (June/2012), PIRA (Jan/2013) and CERA (Oct/2012), Barclays Capital (Nov/2012)

Source: Petrobras Strategic Plan 2030

<http://www.investidorpetrobras.com.br/en/business-management-plan/2030-strategic-plan-and-2014-2018-business-and-management-plan-presentation.htm>

Gas gaining importance relatively to oil

Oil & gas production (thousand bpd)



Potential theses

- ❖ Gas will continue to gain space relatively to oil in the business portfolios of IOCs
- ❖ China and other far east countries will continue to lead the drilling activity for the exploration and appraisal of new reserves

감사합니다!

