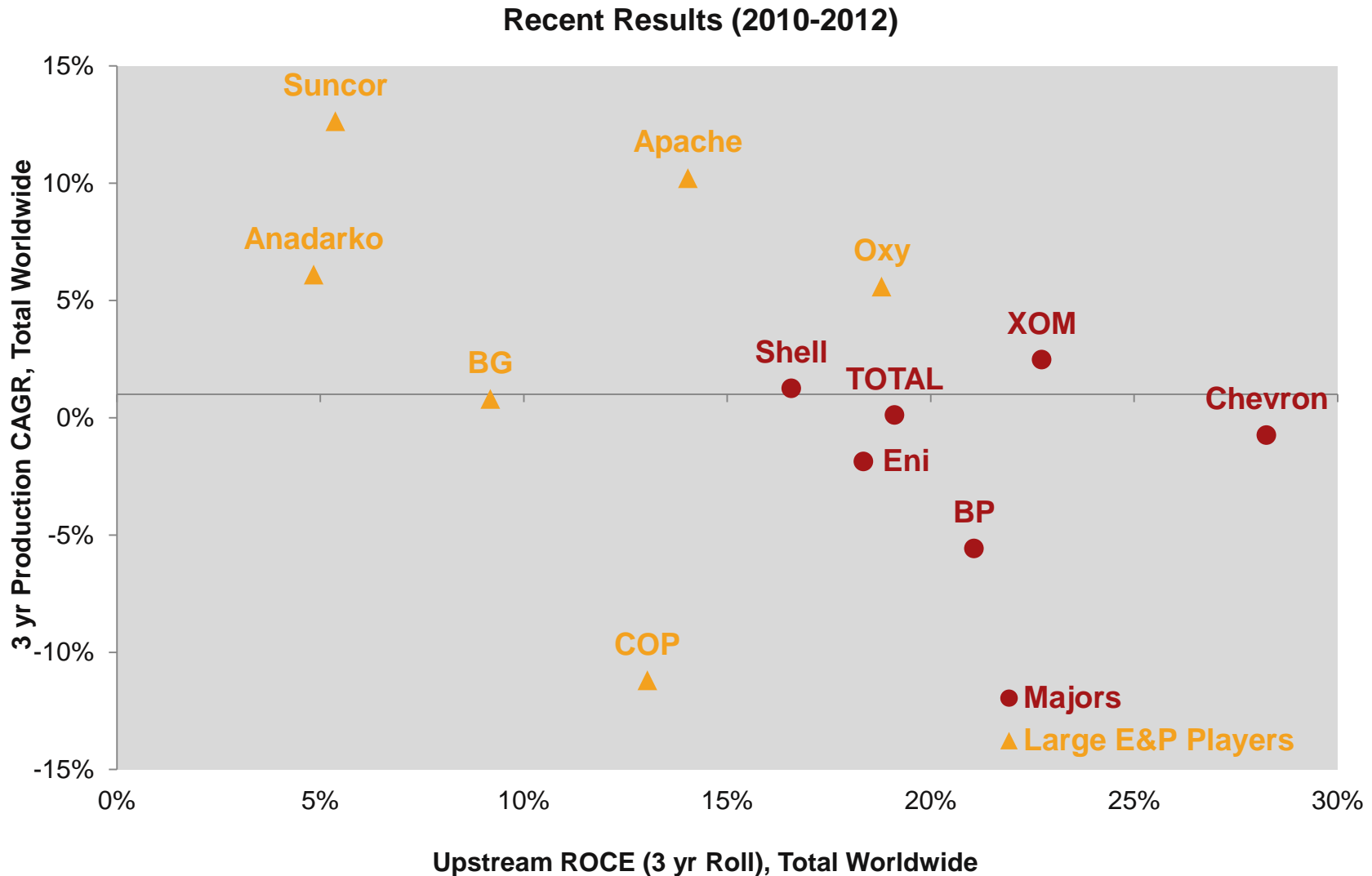




Strategic Drivers in International Oil & Gas

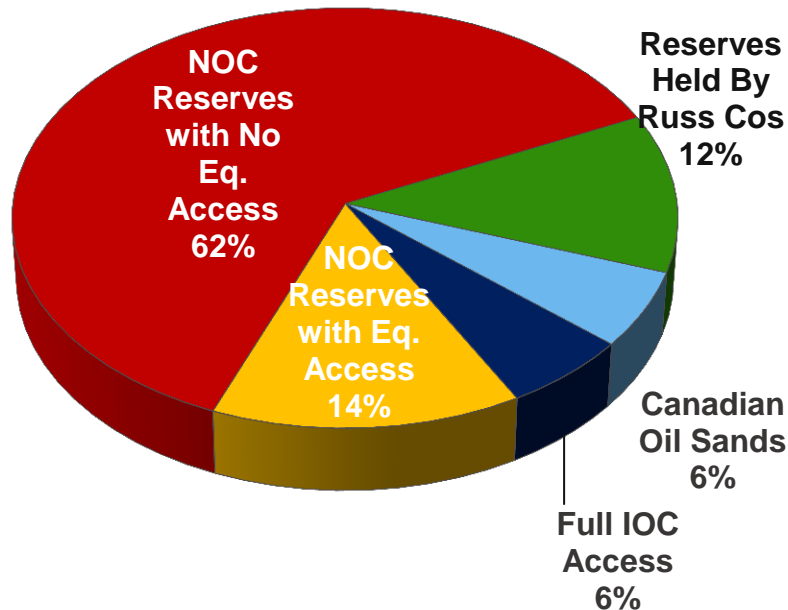
J. Robinson West

Challenge of Majors: Create Repeatable Investments Providing Scale and Return

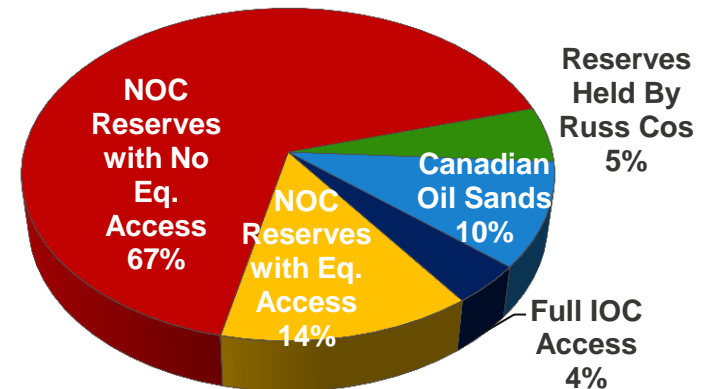


NOCs Control the Proven Reserves Limiting IOC Access

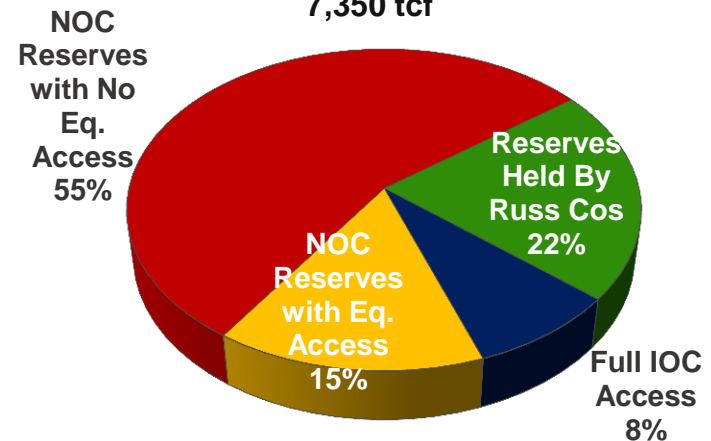
Total Reserves (Oil+Gas, 2011)
2,882 bn boe



Access to Oil Reserves (2011)
1,657 bn boe



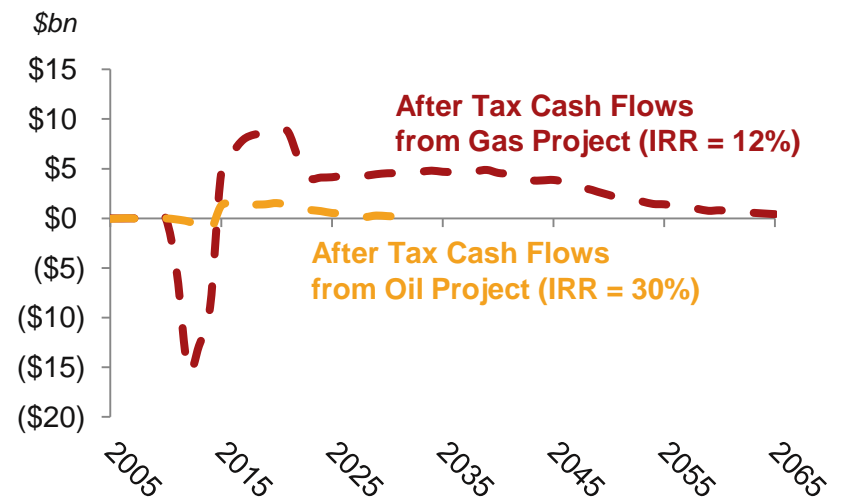
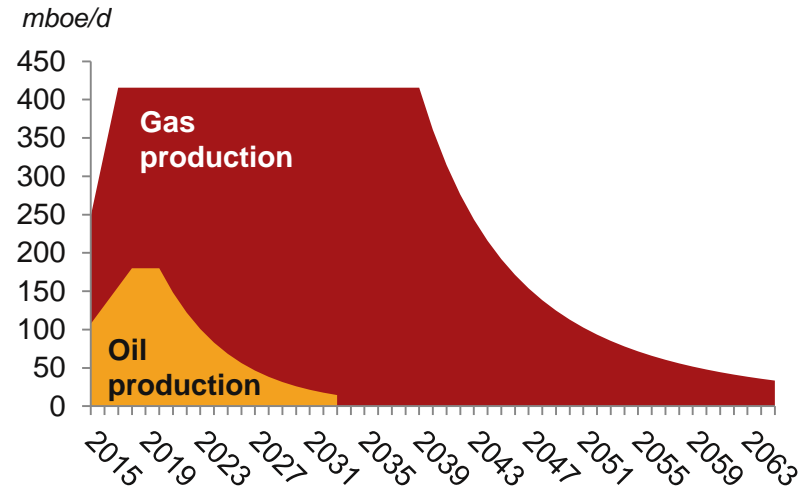
Access to Gas Reserves (2011)
7,350 tcf



Source: PFC Energy National Oil Company Strategy Service
Note: This includes only proven (P1) reserves at end 2011

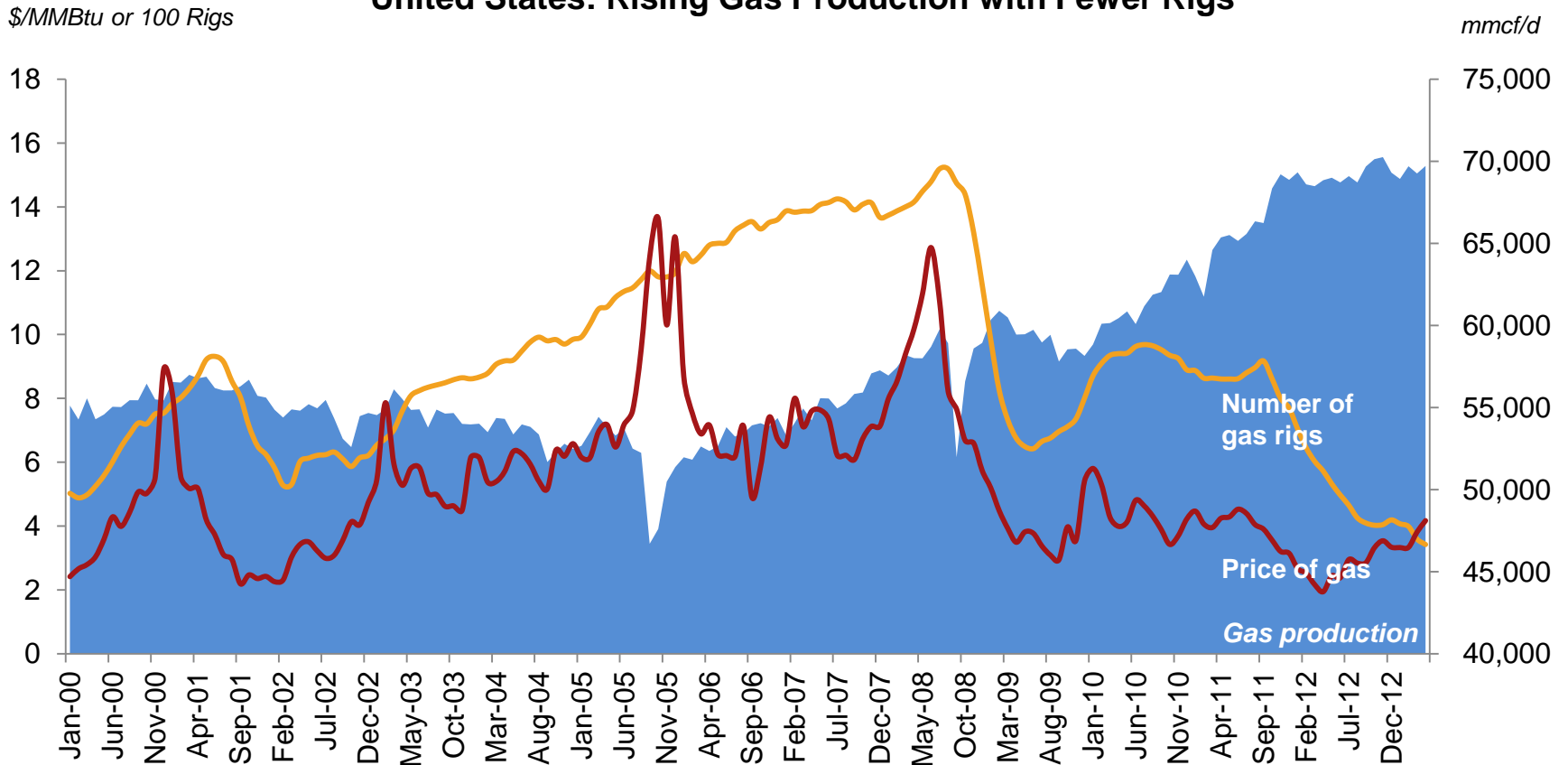
Production Profile: Oil vs. Gas

- Gas
 - Gas production is constrained by LNG capacity – sustained peak production for longer duration
 - Massive capital investment with longer, but lower returns
- Oil
 - Maximize peak production – lower initial CAPEX for large facility capacity
 - Quicker project turnaround means higher returns and value within a shorter time period



Gas Market Price Drivers

United States: Rising Gas Production with Fewer Rigs

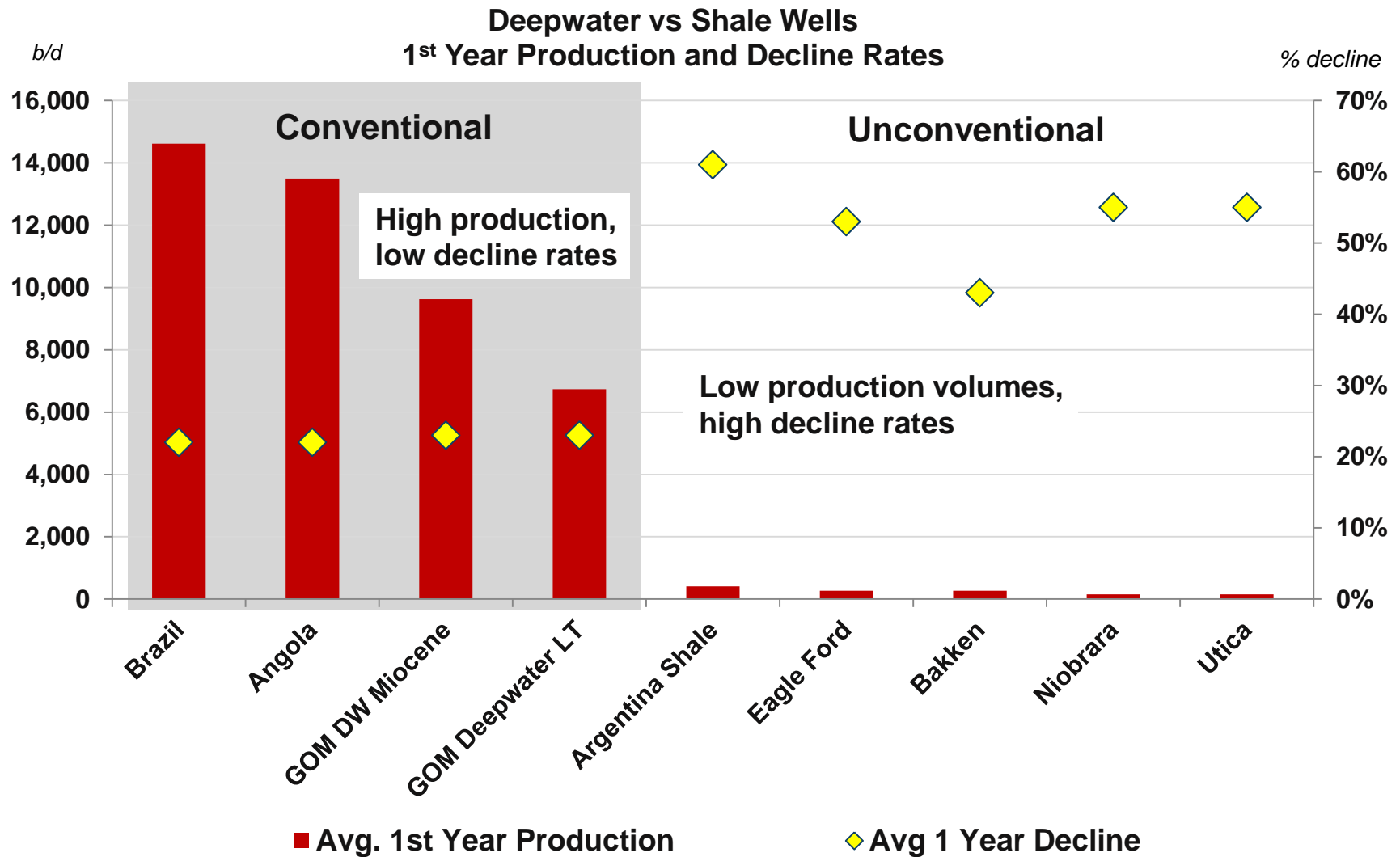


Production continued to rise despite lower prices and fewer rigs, owing to better technology and selectively drilling only the best acreage.

Source: PFC Energy North America Onshore Service

North American Unconventional

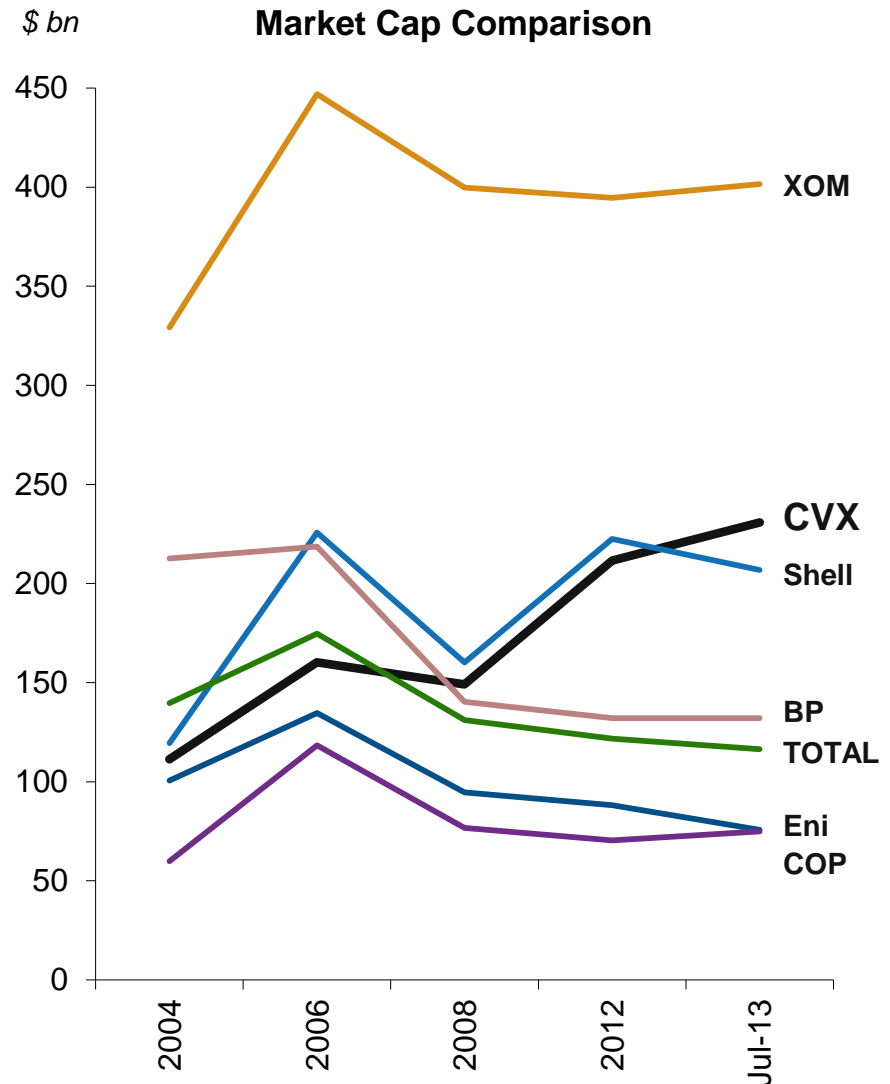
Small wells, high decline rate, different business model



Source: PFC Energy Upstream Competition Service

Majors

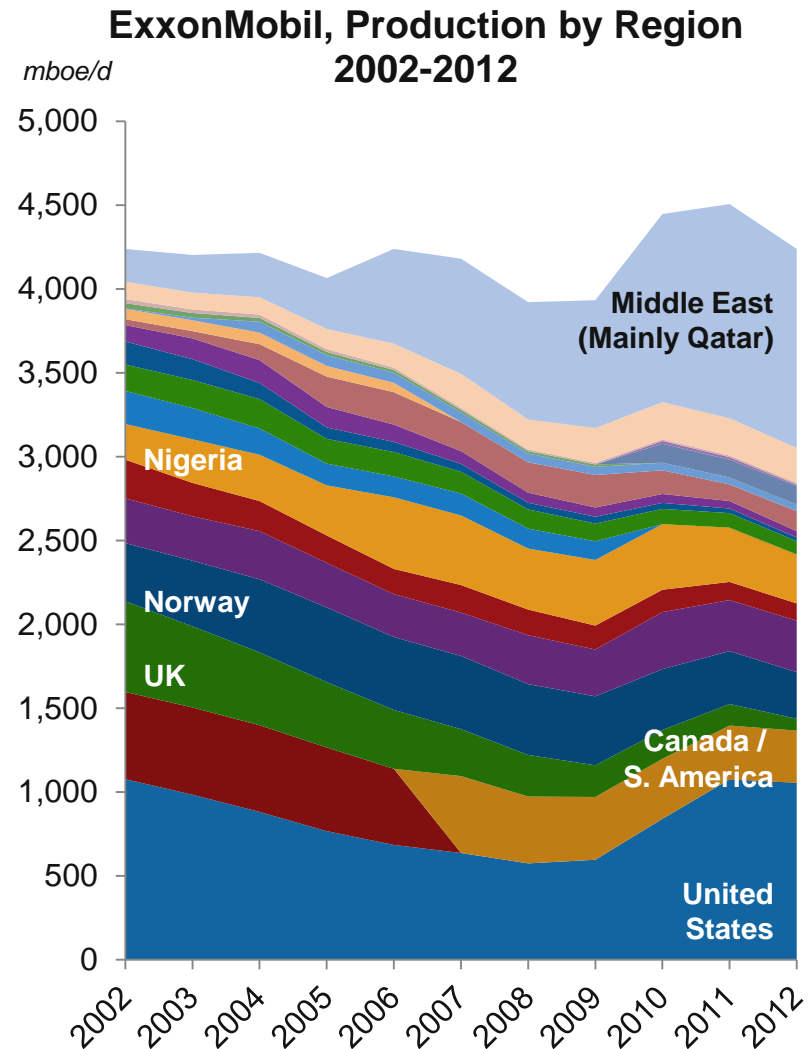
- Industrial logic
 - Develop large, higher-risk, challenging projects in global portfolio
 - Integrated upstream to downstream to chemicals
- High returns, cash generation paradigm key to value proposition
 - Requires core assets / portfolios with sufficient scale
- Largely low / no-growth companies
- Core challenges
 - Finding reinvestment opportunities
 - Generate scale efficiencies (North America?)
 - Controlling costs



ExxonMobil

Merger of Exxon and Mobil: 1999

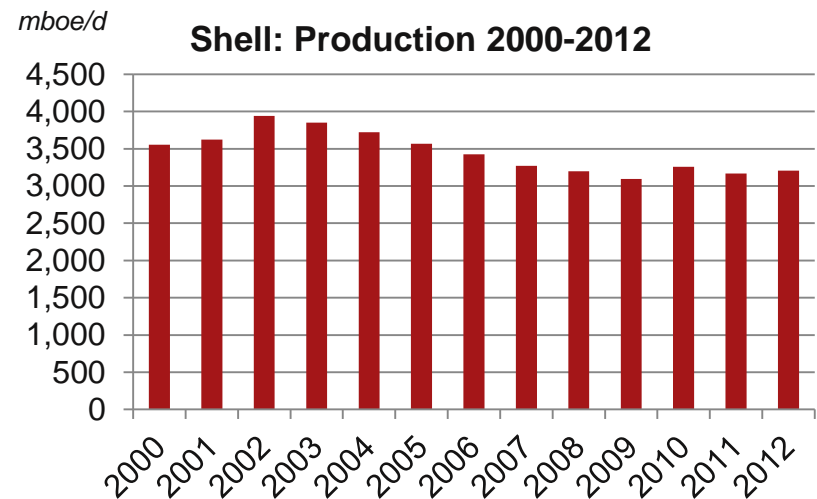
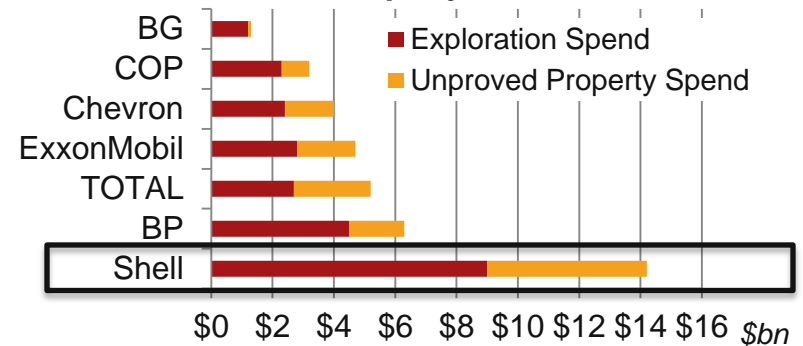
- 2012 production: 4.2 mmb/d
- Huge production and cash flow
- No clear reinvestment opportunities of sufficient size and scale
 - Declining ROCE
 - Mobil / Qatari projects are complete
 - North America (XTO) has performed poorly
 - Russia uncertain long term
 - Iraq is a volatile position, low return
 - Re-enter Brazil?
- River of money with limited attractive investment opportunities



Royal Dutch Shell

- 2012 production: 3.2 mboe/d
- Most global organic growth
 - Gassiest portfolio
- Creating long-term portfolio, but sufficient returns in the medium term?
- Project queue:
 - Long life, capital intensive, low return
 - Technologically advanced
 - Execution risk
- Large exploration budget with little to show
- Low forecasted margins lead to question of whether Shell is practically becoming a utility

2012 Exploration Spend
Exploration Spend + Spend on Unproved Property

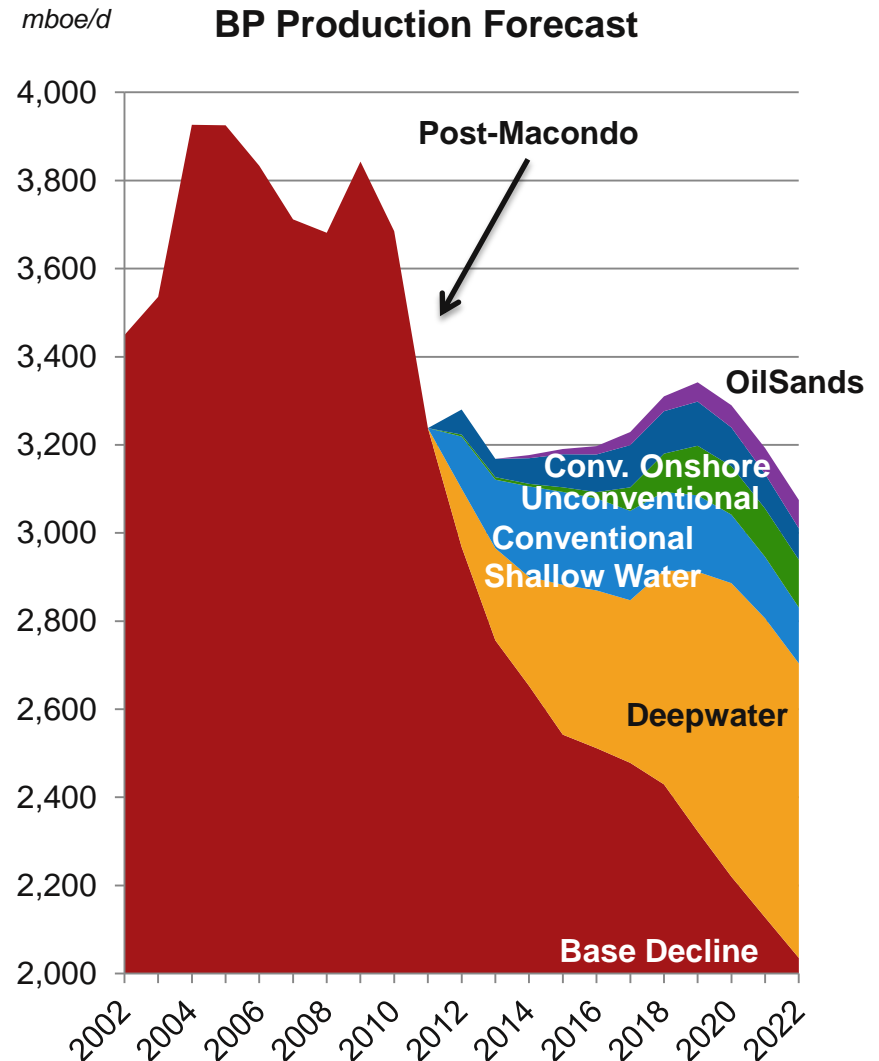


Source: PFC Energy Upstream Competition Service

BP (Post Macondo)

Merger with Amoco in 1998, acquisition of ARCO in 2000

- 2012 production: 3.3 mmb/d
- Key assets:
 - Global deepwater
 - New Russian position: more reserves, less cash, less control
- Sold down assets at excellent prices for a smaller portfolio
- Huge position in US Gulf of Mexico, but ban on new bidding and drilling
- Greater emerging coherence on global portfolio, but problems with timing and control
- Massive threat: trial in New Orleans, uncertain future



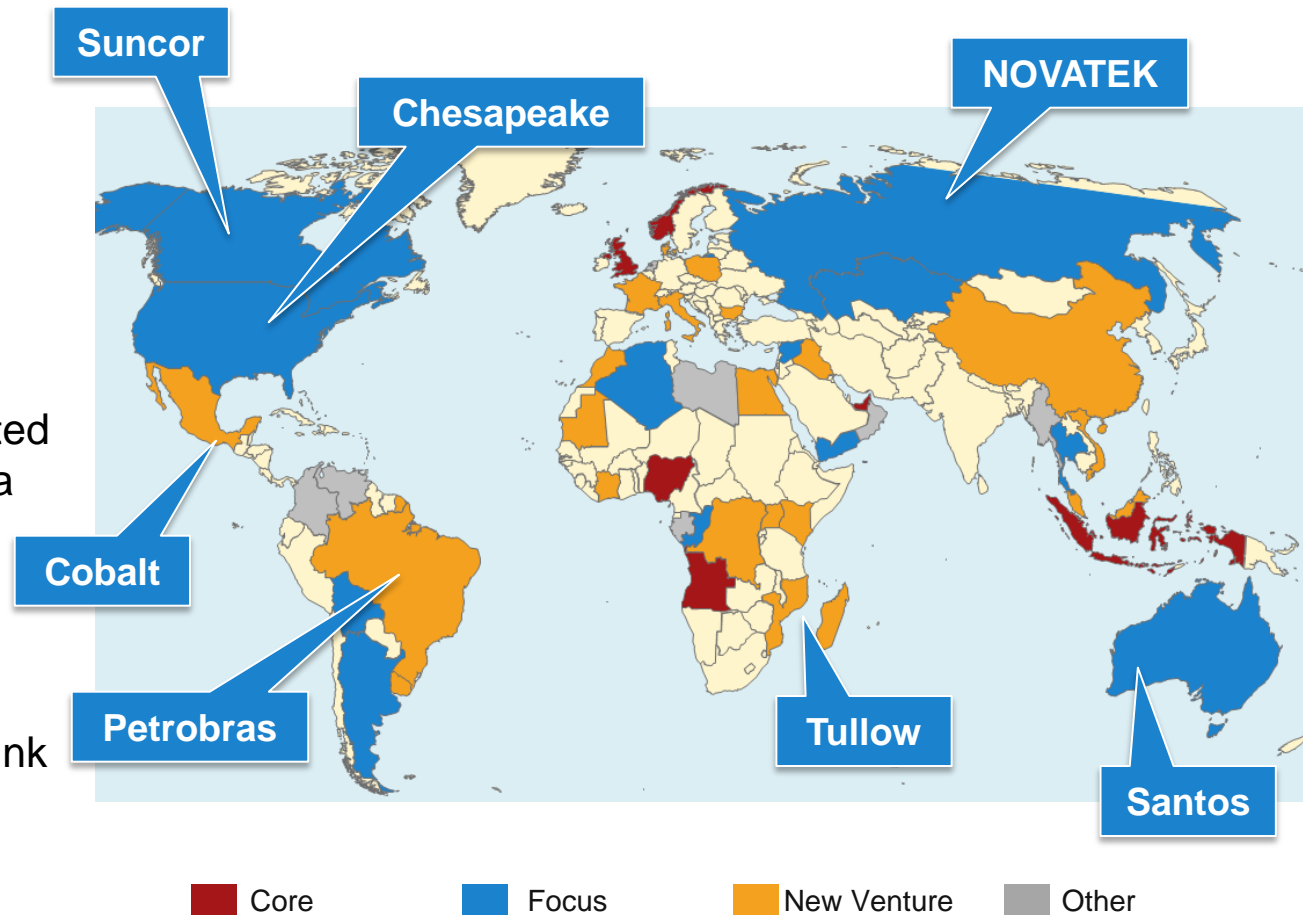
Source: PFC Energy Upstream
Competition Service

PFC Energy

TOTAL

Acquired Petrofina in 1999, Elf in 2000

- 2012 production: 2.2 mmboe/d
- Key assets:
 - Africa
 - North Sea
- Unique strategy: created multiple new core area platforms via unique partnerships with independents
- Sees itself as critical link to develop discovered resources
- How does this ultimately translate as a competitive value story?



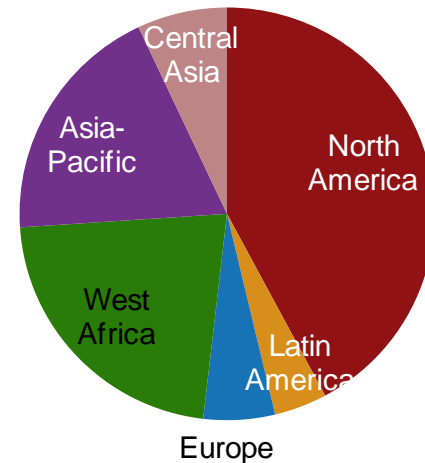
Source: PFC Energy Upstream Competition Service

Chevron

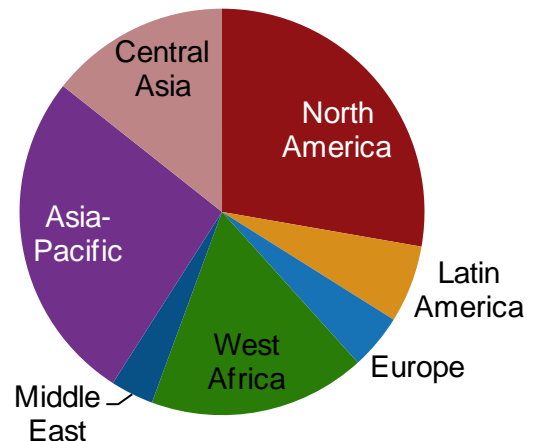
Merger with Texaco in 2000, Unocal in 2005

- 2012 production: 2.6 mmb/d
- Strong project queue
 - Still benefiting from mergers
 - Oily
 - Disciplined capital allocation, avoided mistakes
- Key assets
 - Tengiz, Australia
 - Legacy oil producing assets globally: Venezuela, Indonesia, California, Permian, West Africa
- Portfolio with deep assets, but potential challenges in high-risk countries
- Medium- to long-term plays that start contributing to cash flows 2015+
- Transition from large company with international assets to a truly international company

Chevron: Production by Region, 2000
Prior to Texaco Acquisition



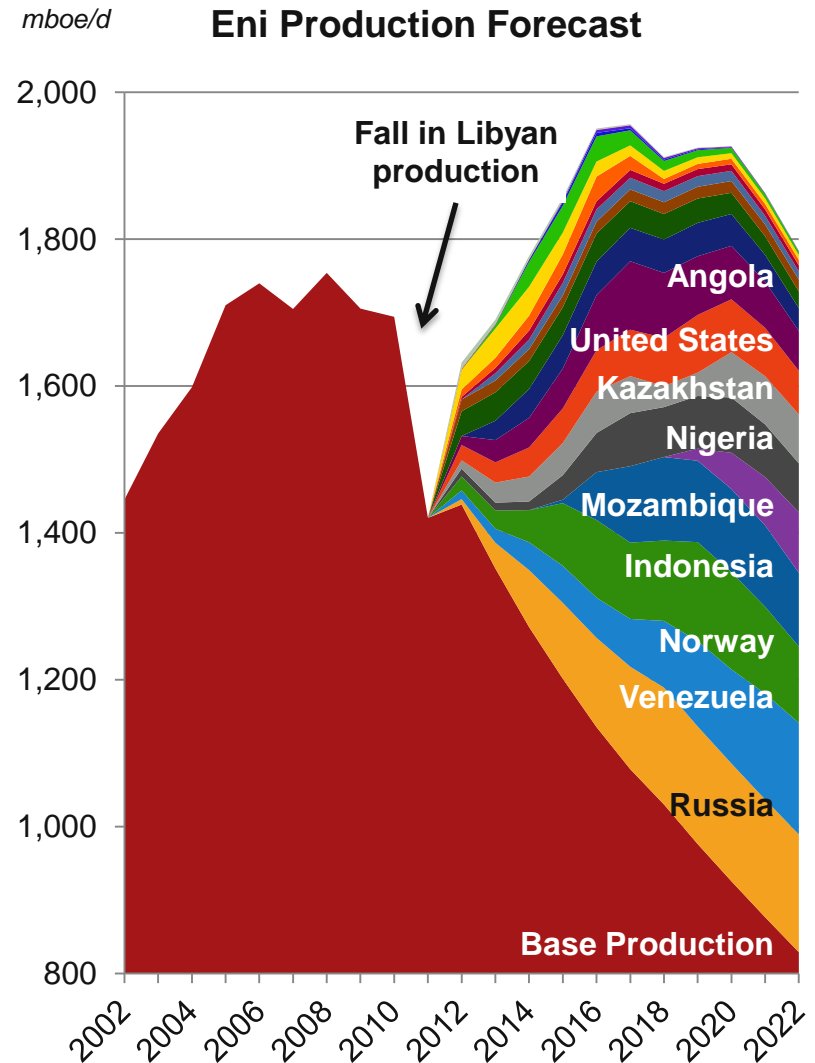
Chevron: Production by Region, 2012



Source: PFC Energy Upstream
Competition Service

Eni – A New Major?

- 2012 production: 1.6 mmboe/d
- Key assets
 - North Africa
 - North Sea
 - Growth positions: Russia, Venezuela, Kazakhstan, East Africa development challenge
- Production will hit 2 million boe/d
- Portfolio unbalanced in high-risk countries
- Challenge
 - Trying to make a major portfolio – but does it have big, deep, long-lived assets?

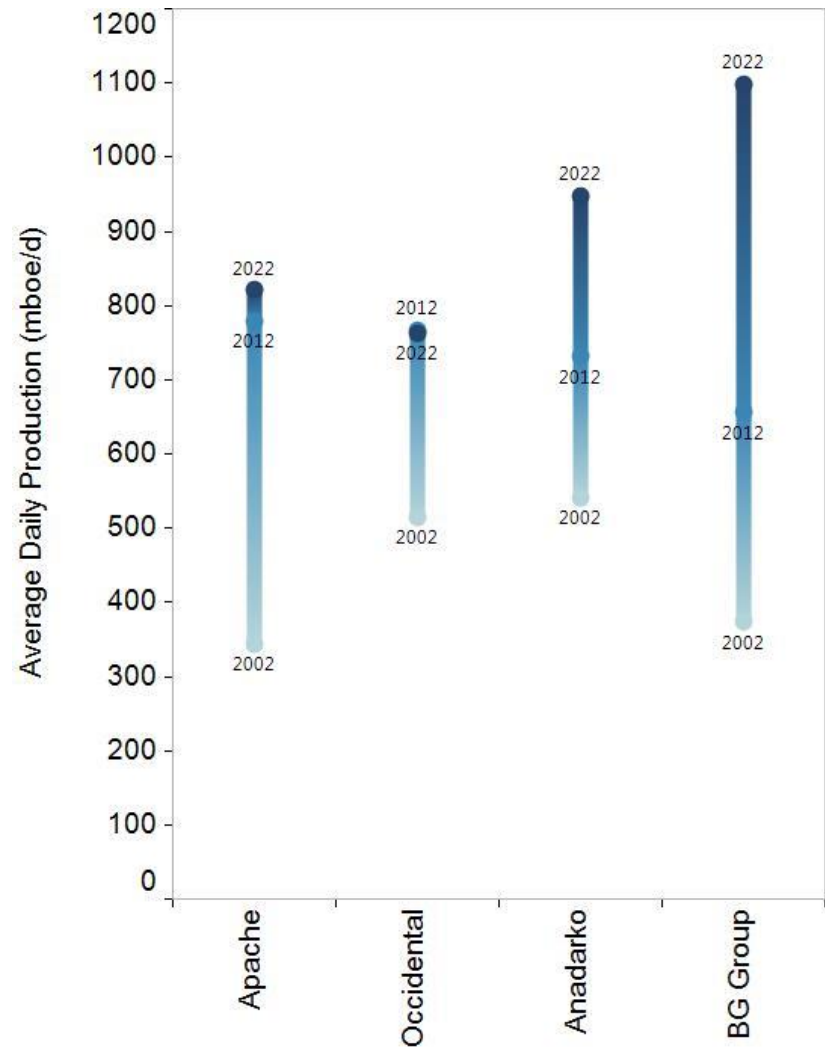


Source: PFC Energy Upstream
Competition Service

“One Million Barrel per Day” Club

Passing the production ceiling test with current strategy and portfolio

- **Anadarko:**
 - Excellent US exploration
 - Must develop international positions to meet growth targets
- **Apache:** acquire / exploit / explore model has met strategic ceiling
 - Lurched toward frontier exploration and now shifting back to US
- **BG:** backing away from 1 mb/d
 - Hit the development wall
 - Focus back on value and cash flow
 - Very strong in LNG
- **Occidental:**
 - Extremely effective in the past
 - Decision-making paralysis impeded effective portfolio management
 - US / Middle East portfolio split?



Source: PFC Energy Upstream Competition Service

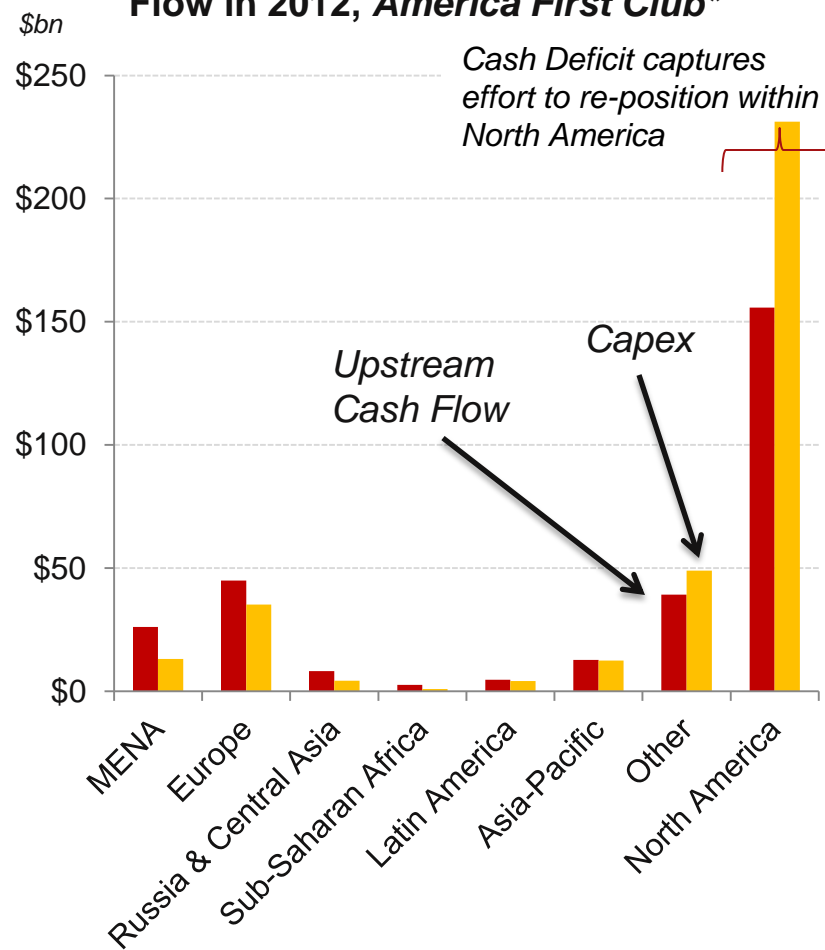
PFC Energy

“America First” Club

Redirected cash flows toward North America

- Challenges:
 - Continuing growth from more narrow asset base over time
 - Value proposition associated with North American positioning
- Apache
- ConocoPhillips
- Devon
- Encana
- Hess
- Marathon
- Murphy
- Occidental
- Suncor
- Talisman

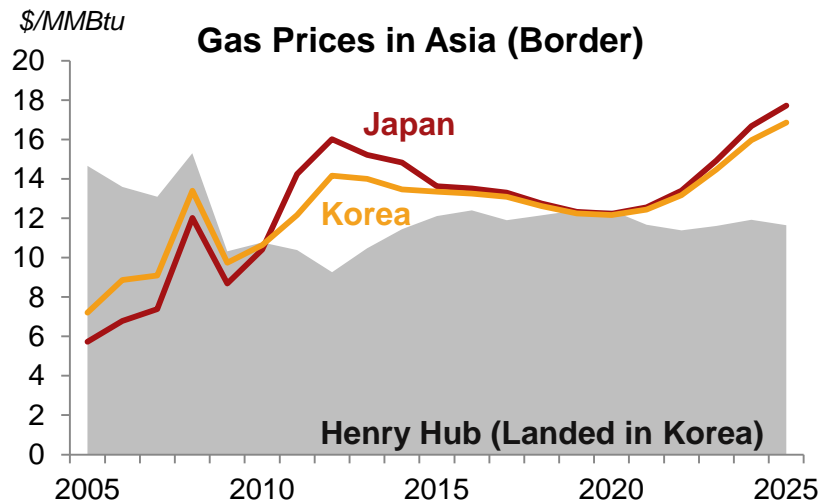
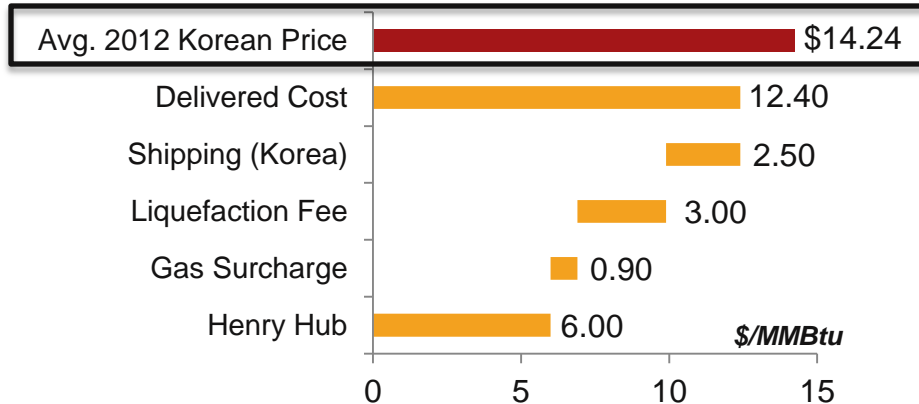
Regional Sources & Uses of Cash Flow in 2012, America First Club*



* Includes Apache, ConocoPhillips, Devon, Encana, Hess, Marathon, Murphy, Occidental, Suncor and Talisman

Impact of North American Gas on LNG Markets

KOGAS Contract with Sabine Pass (\$6/MMBtu Henry Hub)

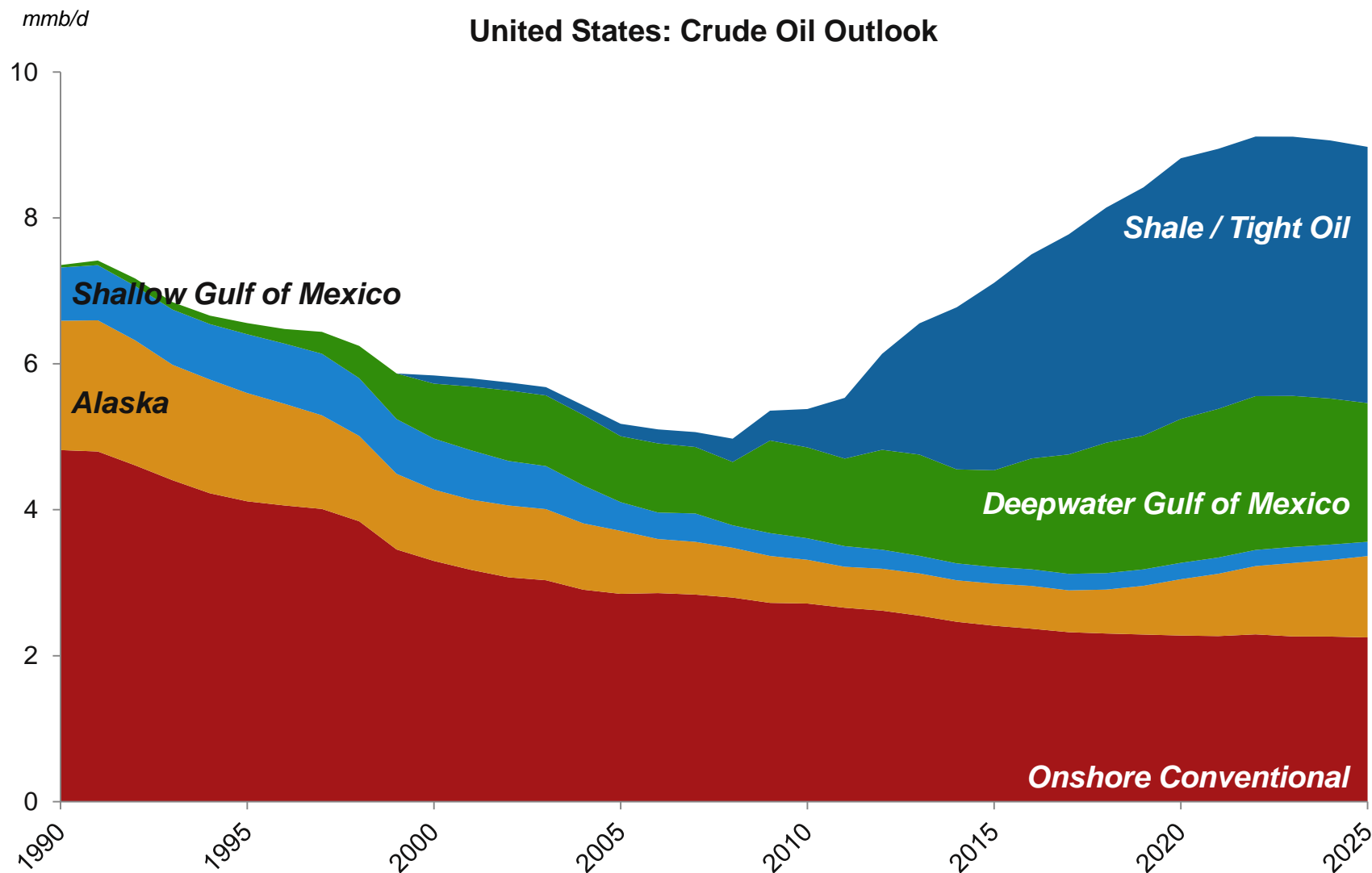


Source: PFC Energy Global LNG Service

- Landed cost from US GOM to Asia *much* higher than Henry Hub
- Eventual impact of supply not as dramatic as politicians or talking heads would lead one to believe
- Still: new capacity forecasted by 2020:
~43 mmtpa from US Gulf of Mexico
~70 mmtpa from Australia
- Both sources offer security of supply

US Unconventional Growth

Character changing and becoming more price sensitive

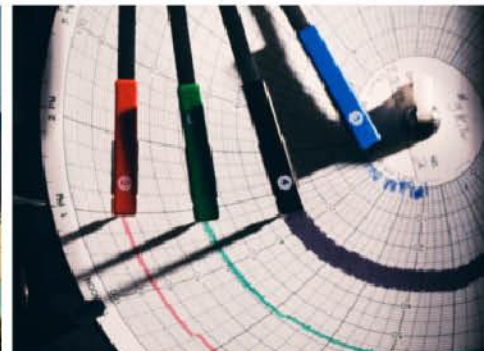


Conclusions

- Challenge for Majors of achieving scale and return
- For many Majors, value of mergers has ended
 - Now pursuing differentiated strategies, success uncertain
 - Chevron has most momentum
- Large independents challenged to sustain growth
 - Challenge of achieving 1 mmboe/d production
 - Strategic shifts required
- “America First” Club
 - Increased capital flowing back to North America
 - New business model required
 - Creates increased competition and may push margins further down
- US LNG exports will be significant, but will not destabilize market
- North American production surge + Canadian oil + GTL + NGLs, Condensates combined with low demand growth might put pressure on crude markets



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has acquired

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