OIL MARKET OUTLOOK AND WHAT NEXT FOR THE SOUTH EAST ASIAN OFFSHORE MARKET

VIJAY KRISHNAN
Rystad Energy is an independent databases and consulting services firm, started in 2004, headquartered in Oslo, Norway.

- Provides a range of upstream E&P and oilfield service business intelligence data solutions built from a bottom up perspective across every single asset.
- A leading advisor within strategy, market analysis and business development.
- Publishing standard and customized research reports on high impact industry topics.
- Insight and deliveries based on proprietary, fundamental research from primary sources.
UCUBE - THE CORE OF WHAT WE DO

Core content:
- 65,000 assets globally
- 100% of Global Supply
- Asset Level Economic Model
- Monthly Global Update
- 3,200 companies
- Time span 1900-2100
- Production & Reserves
- Costs & Tax models
- Breakeven prices
- Asset factsheets
- M&A data

Core benefits:
- Complete
- Consistent
- Micro to Macro
- Best in class GUI

Core usage:
- Market/company/asset analysis
- Benchmarking
- BD & target screening
- Valuation
INSIGHT THROUGH BUSINESS DATA SOLUTIONS
BUILT ON SAME, CONSISTENT DATA STRUCTURE AND PLATFORM

Complete and consistent E&P business intelligence data from macro to micro level with global coverage

Global oil services market analysis data by industry segments, geography and supplier companies

North America shale analysis package with volumes, economics, well data and maps for all key plays and players

Regional strategy & business development tool kit incl. regional E&P database, license activity atlas, asset reports and economical modelling spreadsheets
SERVING ALL OIL & GAS CLIENT SEGMENTS

- Governments/Organizations
- NOCs Majors E&Ps
- Investment banks
- Investors
- Consulting firms
- Oilfield service

Rystad Energy Oil & gas knowledge house
Work more on colour coding here and use company specific colours

Julia Weiss, 30/11/2016
How we got here: The generic commodity cycle

- Higher reinvestment increases production
- Production outpaces demand
- Prices drop, hurting cash flow and returns
- Cash flow declines, spending cuts, layoffs
- Low reinvestment hurts production
- Demand outpaces production
- Higher prices improve cash flows
- Increased investment, capacity issues

A commodity market with no “price maker” endlessly repeats this cycle.
The cycle begins: in 2014, a large imbalance between supply and demand was looming.

Source: Rystad Energy research and analysis, UCube, IEA
WE HAVE NOW WITNESSED THE BIGGEST DROP IN GLOBAL E&P INVESTMENTS...EVER

Source: Rystad Energy DCube
Supply impact affecting the medium term? Sanctioning of new fields has collapsed to historic lows...

Source: Rystad Energy UCube
SUPPLY: SOME IMPACT NOW, BUT 2020+ THERE ARE ~3 MMBBLS/DAY MISSING DUE TO RECENT UNDERINVESTMENT

Source: Rystad Energy UCube
Stocks draw in 2017 on cuts, in medium term still tight market due to lack of sanctioning

- Global liquids supply and demand
- Million bbl/d

Source: Rystad Energy research and analysis
KSA prepared to force compliance and we expect production to be cut below target in 1H 17

- KSA base case crude production, monthly
- Million bbl/d

* This is the scenario called «Full 2017 Cuts + Natural Decline» in the OPEC scenarios on slide 4.
* Source: Rystad Energy research and analysis
Full compliance through maintenance, while Iran increases production through Aug-17

- Selected OPEC countries crude production base case vs. OPEC agreement 30-Nov target production
- Million bbl/d

Source: Rystad Energy research and analysis
Six OPEC members struggle to maintain production regardless of the OPEC agreement

- Selected OPEC countries crude production base case vs. OPEC agreement 30-Nov target production
- Million bbl/d

Venezuela

*Rest OPEC = Qatar, Ecuador and Gabon.
Source: Rystad Energy research and analysis
Production to drop by 260 kbbl/d in 1H 17 against the reference level, mostly through declines

- Liquids production profile for non-OPEC countries
- Million bbl/d

Source: Rystad Energy research and analysis
Recent rally in rig counts positions start-up activity for a steep recovery in 2017

- US shale start-up activity scenarios
- Number of new wells per month

Source: Rystad Energy research and analysis, Rystad Energy NASWellCube Premium
**Significant growth is inevitable, base production is too mature given current activity levels**

- US shale oil production scenarios
- Thousand bbl/d

Source: Rystad Energy research and analysis, Rystad Energy NASWellCube Premium
Weaker 1Q and stronger remainder of the year demand result in overall higher 2017 growth

- World liquids demand growth y/y
- Million bbl/d

Source: Rystad Energy research and analysis
ICE Brent crude historical front month price, latest five year futures curve and UCube base case

Source: Bloomberg, Rystad Energy research and analysis
E&P COMPANIES TO KEEP INVESTMENT FLAT IN 2017 WITH SOME POSITIVE UPSIDE RISK

Source: Rystad Energy DCube
In the November 2016 release of DCube we see some downward revision of the short and long term service market. This is reflected in the average purchase of oilfield services from 2015-2017, which is now at -9.5%, down from -8.8%. Long term, we still see an average growth of 10%.

Source: Rystad Energy DCube

Average 62 USD/bbl oil price in 2017 suggests broadly flat growth for the OFS market.

Purchases of oilfield services
USD Billion

- CAGR -9.5%
- CAGR 10.0%
- 2014-2016: 54, 47, 62
- 2018-2020: 75, 88, 97, 105

Source: Rystad Energy DCube
Floater fixture volumes and rig rates have been trending downwards.
The same situation for jackups but lower activity

Jackup construction and retirement
Number of units

- Construction
- Retired

*As of 22.09.2016
Source: RigCube September 2016

20 units retired in 2016*
19 units retired in 2015

Rystad Energy
As of 22.09.2016
Source: RigCube September 2016

22 units retired in 2016

28 units retired in 2015
Utilization will start to recover during 2018 assuming no further retirements

- Global supply* and demand for floating drilling rigs
- Number of rigs

* Total supply is gross supply for the fleet and includes all rigs, including ready stacked and cold stacked.
Source: RigCube September 2016
Recovery from 2018 for all segments

- Purchases of oilfield services
- Annual change

Source: DCube November 2016
But the rebound varies across regions and segments in 2017

Source: DCube
Drilling Contractors

Unit prices
Currency gains

2016

80
45

Source: Rystad Energy Research and Analysis
Shallow water investments drive the decline in Southeast Asia, but also the rebound...

Offshore purchases from investments by supply segment
USD billions

Source: Rystad Energy DCube
**Southeast Asian growth will come from new developments and Brownfield investment**

Source: Rystad Energy DCube
Although lower volumes, there are still exciting opportunities around the world!

- **North Sea:** Johan Castberg, Wisting, Alta/Gotha, Culzean
- **Mediterranean:** Leviathan, Zohr
- **Brazil:** Libra Pilot, Sepia, Buzios, Marlim revitalization
- **GoM:** Appomattox, Mad Dog Phase 2, Shenandoah
- **West Africa:** Bonga SW, Zabazaba/Etan
- **Mozambique:** Coral FLNG, Area 1 LNG, Area 4 LNG
- **Indonesia:** Abadi FLNG/onshore, Gendalo-Gehem
- **Australia:** Browse FLNG
- **India:** KG-DWN-98/2
- **Europe:** Johan Castberg, Wisting, Alta/Gotha, Culzean
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- **India:** KG-DWN-98/2

Source: Rystad Energy research and analysis, DCube
Petronas, Shell, Chevron and Total are the biggest spenders during the recovery.

Source: Rystad Energy DCube
Investment in greenfield projects favors large fields.

Source: Rystad Energy DCube
LARGE GROWTH IN FIXED FACILITIES

SE Asia greenfield purchases by facility
USD Billion

Source: Rystad Energy DCube
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