Global Subsea Market Outlook from an Asia Pacific Perspective

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Established 1990
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Activity & Service Lines
- Business strategy & consulting
- Commercial due-diligence
- Market research & analysis
- Published market studies

Large, Diversified Client Base
- 1000 projects, 600 clients, 80 countries
- Leading global corporates
- Energy majors and their suppliers
- Investment banks & PE firms
- Government agencies
Transaction Support:

- Mergers & Acquisitions (M&A and LBOs)
- Financing Facilities (inc. MBOs)
- Initial Public Offerings (IPOs)
Macro-Economic Environment
Offshore Market Outlook
Subsea Market Review
Conclusions
• Primary energy demand is the principle indicator for all oil & gas related expenditure.
• Global demand is expected to grow by 41% between 2012 & 2035.
• Population growth projected at 24% for the same period.
• Energy intensity per capita is growing...
Asian population and economic the major driver behind projected global energy demand surge.

- Asia will account for 47% of global demand by 2035 compared to 22% in 1990.
- However, Asia is major importer of oil & gas, in particular oil which has a regional import/export balance of -71%. China’s oil imbalance is currently estimated at -58%.
- Major global economies such as Japan and S.Korea are almost exclusively reliant on external oil & gas.
• The combination of increased energy efficiency throughout OECD states and growing economies in Asia is driving demand for power generation at the expense of transportation.

• Natural gas is becoming an increasingly popular fuel for power generation offering a relatively safe (compared to nuclear); cheap (compared to oil); and clean (compared to coal) energy source.

• Demand for natural gas to increase by 55% over the next 20 years...
- DW expects oil prices to straddle the $90-$100/bbl mark for the next five years.
- The majority of major projects will be viable at these levels.
- Only arctic and some shale projects will be threatened.

**Approval threshold**
Based on anticipated oil price levels

- Europe Brent Spot Price FOB (Dollars per Barrel)
- EIA High Case
- EIA Low Case
- Breakeven Price ($/bbl)
Gas Supply Outlook Prices & Sanctioning

- Unlike oil the gas market has a more regional pricing structure due to historical geographical supply limitations.

- Up to 2008 regional prices typically trended together however the flooding of US shale gas between 2009-11 and rapid demand growth in North Asia post Fukushima have created massive price disparity globally.

- With the US poised to become a major exporter of natural gas via LNG over the next ten years most analysts expect a gradual convergence of regional pricing.

- Significant short-mid term arbitrage opportunities for North American gas producers.

- Influx of US exports is creating uncertainty in project sanctioning for gas projects in exporting nations such as Australia (see Browse).
• Upstream capital costs have increased by over 200% since 2000.
• Whilst costs rose rapidly in line with oil prices during 2005-08 they remained high during the oil price crash of 2009-10.
• High industry costs are an increasing concern for oil & gas companies and the profitability of their new projects.
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Conclusions
• Offshore and natural gas becoming increasingly important to global hydrocarbon supply over the next ten years.
• $211.9 billion spent in 2011 – unprecedented levels of expenditure. An additional $1.4 trillion to be spent over the next five years at a CAGR of 7.7%.

• 76% of anticipated expenditure to be associated with shallow water over 2014-18.
Offshore E&P Spend by Segment

- Life of Field: 46%
- Subsea: 17%
- EPCI: 17%
- Drilling: 16%
- OSVs: 4%

$1.4 trillion

Offshore E&P Expenditure 2014-18 by Segment
Offshore E&P Spend Regional Breakout

North America 20%

Western Europe 19%

South-East Asia 17%

Africa 14%

Rest of Asia 7%

Australasia 3%

Latin America 13%

Middle East 5%

Others 2%

Others 2%

$1.4 trillion

Offshore E&P Expenditure 2014-18 by Region
- APAC is a large, mature and predominantly shallow water area controlled by NOCs.
- 58% of demand accounted for by three largest countries (India, China & Malaysia).
- The region will account for 30% of fixed platform expenditure – more than any other.
The Middle East is a mature, shallow water market.

Activity is concentrated in the Persian Gulf, particularly throughout Saudi Arabia and the UAE.

Despite limited growth in E&P expenditure strong drilling growth will drive demand for OSVs.
The Latin American E&P landscape is dominated by NOCs such as Petrobras in Brazil and Pemex in Mexico.

Deepwater rig requirements are expected to grow at a CAGR of 14.8% over the next five years to support ultra-deep pre-salt developments offshore Brazil.
- The US Gulf of Mexico is the world’s largest shallow water basin by installed infrastructure.
- Over the next five years both shallow and deepwater drilling are expected to pick up with Jack-ups experiencing a CAGR of 3.2%.
- The deepwater industry is dominated by major IOCs whereas the shallow water market is highly fragmented.
- Given the maturity of the basin, shallow water drilling is expected to decline at a compound rate of 4.6%.
- Increased exploration in deeper areas will drive floating rig demand at a CAGR of 2.8%
- These deepwater campaigns will be dominated by larger oil companies such as Statoil, BP and Shell.
2013 usher in a stepchange in subsea expenditure - **$213 bn** of investment over the next five years compared to **$122 bn** over the previous period.

- This change is largely driven by the increasing reliance on deepwater developments.
- Subsea hardware is expected to account for **55%** while vessel operations account for the remaining **45%**.
Strong growth in subsea hardware spend

- Worldwide expenditure to total $117bn over the 2014-2018 period. (83% growth on the previous five years)
  - 49% Subsea production hardware
  - 36% SURF (subsea umbilicals, risers & flowlines)
  - 15% Trunk pipelines
- **Africa**: $21bn
- **S America**: $19bn
- **N America**: $17bn
- **UK & Norway**: $24bn
- **Asia**: $16bn

- 40% Subsea production hardware
- 32% SURF (subsea umbilicals, risers & flowlines)
- 26% Trunk pipelines
• The build cycle is undoubtedly cooling off now
• Strong demand demand for larger, technically advanced vessels
• Potential orderbook of $5-6 billion over the next few years
• Global market to see a CAGR of 10% to exceed $22 billion by 2018.
• Largest growth from vessels supporting deepwater developments.
• L. America to grow from 27% & Africa to 38% of demand between now & 2018.
Regional Subsea Profiles Asia

- Asian subsea expenditure to total $32bn over the next five years – 15% of global demand.

- Investment is trending away from conventional shallow water infrastructure and towards subsea and deep waters.

- The future of the subsea industry is top-heavy with 65% of forecast demand accounted for by the top five E&P co’s.

- Subsea Hardware accounts for 52%, vessel operations for 48%

- Major investment in manufacturing capacity already occurring in the Asian region to ready for growing deepwater demand.
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Macro-economic Environment:
1. Long term fundamentals of the oil & gas industry remain highly robust.
2. Key industry risks include rising costs and manpower.

Offshore Market
1. $1.4 trillion of anticipated spend on the offshore E&P industry over the next five years.
2. Continued trends towards deepwater developments, while shallow water continue to account for the majority of expenditure.

Subsea Market:
1. Long-term growth potential, particularly in Africa, Asia-Pacific and Brazil.
2. At a price, and as a result our study shows the sector has become a very sizable opportunity for the oilfield service and equipment community.