Offshore Prospects

A Long-term View

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published information sources used:

• World Offshore Oil & Gas Forecasts
• World Oil Supply Report
• World Gas Supply Report
• World LNG & GTL Report
• World Floating Production Report
• Energyfiles world oil & gas charts

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Looking onto the future
information on firm projects quickly falls away

So what will happen long-term?
The story so far

- Developing countries driving world oil demand growth
- And tightening supplies have caused price increases
- E&P expenditure is increasing
- Offshore shallow water decline pushes capex into deepwater
- Strong offshore opex growth trend underway
- Attention also focussed onto Russia & Middle East onshore
- Can the Middle East can supply oil demand?
- If not............
- Then recent oil prices are just a practice for the real thing
China is the main driver of recent growth in oil demand

- Chinese oil consumption up 90% in a decade
- Other developing countries such as India will follow

Source: BP
The implications of Chinese economic growth

- Chinese oil consumption up 90% in a decade
- Is likely to more than double in the next decade
- = another 6 million barrels / day
- + India, other SE Asia, Latin America, FSU, etc,

The average US citizen uses $12.5 \times$ more oil than the average Chinese.
But there are a lot more Chinese........
Dramatic increases in oil prices
A major increase in oil company spending is underway

- 2003 – oil companies global spend $148 bn
- 2004 – forecast spend grows to $159 bn (+7.5%)
- 2005 – initial indications of 8% to 10% growth

"Nearly all respondents reviewing 2004 spending plans are considering increases"

- Based on oil price assumptions of $28.85
- Current prices are >$50, so spend should increase further

Source: June ’04 E&P Spend Survey of 218 Oil & Gas companies
But shallow-water production is declining (UKCS oil)

Source: Douglas-Westwood analysis of DTI data
• Oil industry denominated in $

• In 2004 dollar down 20% on 1999/2000 values

• Eurozone companies now effectively working for 20% less!
Will oil continue to be priced in US$?

Average annual oil prices

- **US$**
- **Euro**

- Since 2000, in Euro terms oil prices are down 4%!
High oil prices + falling reserves = higher spend (eventually!)

• Exxon
  2000 – Capex $5/bbl
  2005 – Capex $8.5/bbl?

• Major’s overall replacement ratios are falling
  2003 – 100%
  2004 – 75%

• In 2004 – Shell replaced 30-40% of its reserves, Exxon 83%, BP 89%, ConocoPhillips 60-65% (or 206% incl. Lukoil), ChevronTexaco 18% (SEC measures)

• Why? Industry global exploration spend as a % of E&D total
  1998 = 27%
  2003 = 19%

• Getting the industry back into balance will mean spending more

1. Financial Times p21 31 Jan 05
2. Wall Street Journal Europe pA4 22 Feb 05
3. Financial Times 1 Mar 05
4. Offshore Engineer Jan 05
Supplier issues

• Market presently operating in oil company’s favour
• Subsea suppliers m/f capacity significantly exceeds forecast demand
• Main constraints have been deepwater installation vessels
• Main challenges:
  • Financing R&D and persuading oil co’s to use new technology
  • Political uncertainties (local content, project delays, etc)
  • Contracting – managing risk
  • Standardisation of components
  • Cost of tendering
  • Availability of personnel – engineer shortage looming
  • Profitability issues
  • Manufacturing costs
The story so far

Future oil supplies – miracle or mirage?

Offshore oil & gas

Offshore renewable energy

Conclusions
Can the Middle East supply future oil demand?

• **Major producers (ME5)**
  – Iran
  – Iraq
  – Kuwait
  – Saudi Arabia
  – United Arab Emirates

• **Minor producers**
  – Qatar
  – Bahrain
  – Oman
  – Syria
  – Yemen
  – Turkey
GLOBAL: Oil production to present

Thousands of barrels of oil per day

Year

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ME5: Oil production

Thousands of barrels of oil per day

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ME5 (to satisfy 1.5% per annum global growth)
**ME5: Oil production forecast**

- **ME5 (to satisfy 2.5% per annum global growth)**
- **Year**

Thousands of barrels of oil per day

- **2010**

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ME5: Oil production forecast

Of course there are other views on ME5 production capacity (to satisfy 1.5% per annum global growth)

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• You can argue for ever about the merits of Middle East reserves estimates and growth forecasts.

• But even if you take governments’ own ambitious figures, the global oil demand growth that has been typical of the last 30 years cannot be sustained for another decade.

• Oil will not ‘run out’ but prices will rise dramatically

• So what is the world’s plan for this scenario?
The world has no ‘plan B’
The growing importance of gas

- Huge gas reserves – (Qatar) gas accounted for 94% of all of Exxon’s reserve additions in 2004
- Major investments will be made in pipelines, LNG and GTL plant

Sources: The World Oil Supply Report
The World Gas Supply Report
Growing investment in LNG
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Conclusions
Offshore oil 34% in 2004, 39% in 2015

- Most oil production growth in deepwater

Source: The World Offshore Oil & Gas Forecast

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Offshore

- Offshore 34% of global oil production in 2004, 39% in 2015
- Main feature is decline of Western European production
- Shallow water decline focuses capex into deepwater
- By 2010, all offshore oil production *growth* likely to be from deepwater
- By 2015, deepwater will account for 25% of all offshore oil production
- Gas share of offshore production to rise from 24% in 2004 to 40% in 2015
- Strong offshore opex growth trend
• Oil production flattening compensated by gas increase

Source: The World Offshore Oil & Gas Forecast
Regional offshore oil production

- Western Europe to continue its decline

Source: The World Offshore Oil & Gas Forecast
Regional offshore gas production

- The growth continues

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Source: The World Offshore Oil & Gas Forecast
Global offshore Opex to overtake Capex before 2010

- Based on current costs – but will they increase?

Source: The World Offshore Oil & Gas Forecast
Offshore

• High oil prices and reducing large opportunities will increase pressures on oil companies to explore and produce

• Opportunity for a real increase in contractor prices?

• Simmons rig rate assumptions (re 2004) ’05 +28%, ’06 +11%

• Effect of just 2% p.a. real increases would be significant

• Particularly strong prospects for increases from 2010
A probability of a long-term increase in total spend

Source: The World Offshore Oil & Gas Forecast
Importance of deepwater spend

• Based on current costs (but these are likely to increase)
• Floating production, subsea production to grow
• 65% of finds in 2003 were in water depths >1,000m

Source: The World Offshore Oil & Gas Forecast
World floating production capex to reach $10 bn by 2009

The growth is in deepwater

Source: The World Floating Production Database
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Offshore Renewable Energy

• A tiny new industry, but….
• Large growth underway
• 2,258 turbines forecast (7.5 GW)
• 99% windpower, 1% wave & tidal
• Europe 85% – world’s largest market
• UK to develop first
• Then Germany
• Increasing distance & water depth
• Challenge is to reduce costs (5 MW turbines)

A 5 MW turbine has a rotor span as big as two football pitches
Offshore windpower Capex to grow to $4.5 bn

- UK initially the largest market
- Then Germany
- $13 bn spend forecast (2005-09)

Source: The World Offshore Wind Database
Over 2,300 turbines forecast

- Turbine numbers to increase 7 X
- Large Canadian project in 2008?

Source: The World Offshore Wind Database
Installation is a major cost

Seacore jack-up installing piles

A2Sea vessel ‘Ocean Ady’ fully loaded

Sea Stallion 4 cable plough
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Conclusions
• 80% of the world’s known oil & gas lies in the hands of NOCs

• “Russia restricts foreign bids for its assets”

• How can the majors access this?

• Will China and India get there first?
  • China got into Russia by offering a $6bn trade credit
  • India into Iran with long-term gas purchase contracts

• “the majors may have to evolve into oil service companies”

1. Source: Financial Times p1, 11 Feb 04
2. Source: Financial Times editorial, p16, 4 Feb 04
So what can we be reasonably certain of?

• Oil prices will increase dramatically (only question is when)
  (2004 price increases were just a practice run)
• To satisfy world oil & gas demand more money will have to be spent on E&P
  (will contractor capacity be sufficient?)
• For suppliers the future will be a function of choosing the right sectors & countries to work in
• Offshore renewable energy will begin to evolve
• Massive people shortages are certain – being able to recruit, train and retain will be a key to success
The future will **not** be a linear trend on the past

We are sailing into uncharted waters