The Petroleum Industry:  
New Realities Ahead?  

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Conventional resource base is sufficient

- Resources are plentiful…but prices can affect estimates
- Technology blurs distinction between conventional and non-conventional oil
- Resource base likely to continue to grow …particularly with non-conventional oil
- Broad agreement among international agencies on this idea

USGS estimates for oil resources

Cumulative production
Fossil fuels will continue to provide >90% of commercial energy needs
Oil continues to have the greatest share
**Outlook for global oil demand (Reference case)**

- **Word demand rises by an annual rate of 1.4 per cent**
- **Developing countries’ consumption doubles, accounts for 86% of global increase**
- **Key sector: transportation**
OPEC crude production capacity is increasing
## Outlook for global supply (reference case)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
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<tbody>
<tr>
<td>Non-OPEC</td>
<td>49.0</td>
<td>54.1</td>
<td>56.3</td>
<td>57.8</td>
<td>58.5</td>
<td>58.8</td>
</tr>
<tr>
<td>of which: non-conventional</td>
<td>2.2</td>
<td>4.1</td>
<td>5.8</td>
<td>7.4</td>
<td>8.9</td>
<td>10.2</td>
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<tr>
<td>OPEC (incl. NGLs)</td>
<td>35.1</td>
<td>35.9</td>
<td>40.6</td>
<td>46.0</td>
<td>52.3</td>
<td>59.1</td>
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<tr>
<td>OPEC NGLs/non-conv.</td>
<td>4.1</td>
<td>5.7</td>
<td>6.8</td>
<td>7.8</td>
<td>8.8</td>
<td>9.8</td>
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<tr>
<td>OPEC crude</td>
<td>31.1</td>
<td>30.2</td>
<td>33.8</td>
<td>38.2</td>
<td>43.5</td>
<td>49.3</td>
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<tr>
<td>World</td>
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<td>89.7</td>
<td>96.5</td>
<td>103.5</td>
<td>110.4</td>
<td>117.6</td>
</tr>
</tbody>
</table>

- Non-OPEC crude supply rises 5 mb/d, stabilizes then falls
- But non-conventional crude increase by 8 mb/d to reach 10 mb/d by 2030
- Strong rise in OPEC NGLs
- Little room for additional OPEC crude oil until after 2010, when there is a marked increase
- By 2030, OPEC crude supply reaches 49.3 mb/d up by 18 mb/d from 2005
But there are major uncertainties…

…concerning required OPEC crude volumes…

…and OPEC investment needs
Alternative transport fuels use in USA: the impact of the new EPA proposed targets

EPA targets based on Alternative Fuels Standard Programme (March 2007 proposal)

OPEC reference case:
- Biofuels
- CTL

mb/d

Cumulative distillation capacity additions vs. incremental refinery runs

Downside risks on projected incremental crude runs are increasing

- range of cumulative incremental refinery crude runs
- cumulative distillation capacity additions

mb/d

Upstream costs have been soaring…

IHS/CERA Upstream capital costs index

Q3–2005: 126
Q1–2006: 148
Q3–2006: 167

Source: Cambridge Energy Research Associates
How quickly views change…

March 1999
Price $10
Too Much Oil

October 2003
Price $45
Running out of Oil

August 2005
Price $65
Addicted to Oil

Source: Dr. Majid Al-Moneef
Addressing the environment

- A global challenge
- The oil industry has a long history of continually improving its environmental credentials
- OPEC MCs have invested billions of dollars to reduce gas flaring
- OPEC actively involved in all climate change meetings
- Focus required on the three pillars of sustainable development: economic development; social development; and environmental protection
CO2 capture and storage: a win-win technology

- CCS has enormous potential to reduce CO₂ emissions
- CCS offers a relatively low-cost mitigation option, without costly dislocation of the current energy system
- Need for large-scale demonstration projects
  - provide data and experience in modelling storage mechanisms and leak remediation technologies
  - further reduce costs through RD&D
  - improve public acceptance
- CCS projects should be eligible for financial support, including CDM
Energy interdependence

- Interdependency is a two-way street and points to the need for cooperation
- OPEC continues to expand dialogues as the way forward with regard to security of supply and demand
- Formal energy dialogues exist between OPEC and the EU, China, Russia, other non-OPEC producers, and the IEA
- OPEC is broadening its talks:
  - ASEAN
  - Japan
It’s all about balance…

Balancing act between
- Interests of producers and consumers
- Security of supply and security of demand
- Technologies – old and new
- NOCs and IOCs
- The various energy types
- Three pillars of Sustainable Development

⇒ Natural lead of interdependency: broader and more effective cooperation with all major parties on board