World Oil Outlook
A Perspective from OPEC

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Fossil fuels will continue to provide >90% of commercial energy needs
Oil continues to have the greatest share
### World oil demand in the reference case, mb/d

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OECD</strong></td>
<td>49.6</td>
<td>50.3</td>
<td>51.3</td>
<td>52.2</td>
<td>52.9</td>
<td>53.4</td>
</tr>
<tr>
<td><strong>DCs</strong></td>
<td>29.0</td>
<td>34.5</td>
<td>40.0</td>
<td>45.9</td>
<td>52.0</td>
<td>58.5</td>
</tr>
<tr>
<td><em>of which in Asia</em></td>
<td>14.0</td>
<td>17.8</td>
<td>21.5</td>
<td>25.5</td>
<td>29.6</td>
<td>34.0</td>
</tr>
<tr>
<td><strong>Transition economies</strong></td>
<td>4.7</td>
<td>4.9</td>
<td>5.2</td>
<td>5.4</td>
<td>5.5</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td>83.3</td>
<td>89.7</td>
<td>96.5</td>
<td>103.5</td>
<td>110.4</td>
<td>117.6</td>
</tr>
</tbody>
</table>

- Oil demand grows by 1.4 mb/d annually, and by 34 mb/d 2005-2030
- Developing countries’ consumption doubles, accounts for 86% of global increase
- 2030 per capita oil use: DCs – 3.2 b/cap; OECD – 15.2 b/cap; World – 5.2 b/cap

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Transportation remains the key sector
### World oil supply in the reference case, mb/d

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<tr>
<td><strong>Non-OPEC crude</strong></td>
<td>49</td>
<td>54.1</td>
<td>56.3</td>
<td>57.8</td>
<td>58.5</td>
<td>58.8</td>
</tr>
<tr>
<td><strong>Non-conventional/biofuels</strong></td>
<td>44.9</td>
<td>47.8</td>
<td>48.1</td>
<td>47.6</td>
<td>46.6</td>
<td>45.4</td>
</tr>
<tr>
<td><strong>processing gains</strong></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>
</tr>
<tr>
<td><strong>OPEC</strong></td>
<td>35.1</td>
<td>35.9</td>
<td>40.6</td>
<td>46</td>
<td>52.3</td>
<td>59.1</td>
</tr>
<tr>
<td><strong>NGLs/non-conv. crude</strong></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>
</tr>
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- Non-OPEC crude supply plateaus at 48 mb/d then falls
- Non-conventional oil and biofuels increase by 8 mb/d by 2030
- Strong rise in OPEC NGLs
- Little room for additional OPEC crude oil until after 2010
- By 2030, OPEC crude supply increases by 18 mb/d
OPEC crude oil production: Response to strong demand growth

- OPEC production:
  - 2002: 21 mb/d
  - 2003: 27 mb/d
  - 2004: 29 mb/d
  - 2005: 31 mb/d

- OPEC cumulative change (since 2002):
  - 2005: 4 mb/d
OPEC crude production capacity is increasing
Major uncertainties concerning required OPEC crude volumes

- High case
- Reference case
- Low case

mb/d

2005 2010 2015 2020
This translates into uncertainties over OPEC investment needs.
Average automotive diesel price and tax in Europe*

• Weighted by road transport consumption for Germany, France, Italy, Spain and UK.
• Weights for 2005 and 2006 are estimated.
Biofuels supply evolution in two scenarios

Reference case
Higher scenario

2005 2010 2015 2020 2025 2030

mb/d
Distillation capacity additions* 2007 - 2012

* Existing projects only, excl. capacity creep
Cumulative distillation capacity additions vs. incremental refinery runs

- Downside risks on projected incremental crude runs are increasing
Global demand by product

- Ethane
- LPG
- Naphtha
- Gasoline
- Jet/Kero
- Gasoil/Diesel
- Resid Fuel*
- Other **

* Includes refinery fuel oil.
** Includes bitumen, lubricants, waxes, still gas, coke, sulphur, direct use of crude oil
Additional desulphurization capacity requirements 2020 vs 2006

- **USA/Canada**:
  - VGO/Resid: 0.5 mb/d
  - Gasoline: 2.5 mb/d
  - Distillates: 2.0 mb/d

- **Latin America**:
  - VGO/Resid: 0.1 mb/d
  - Gasoline: 0.9 mb/d
  - Distillates: 1.0 mb/d

- **Africa**:
  - VGO/Resid: 0.1 mb/d
  - Gasoline: 0.1 mb/d
  - Distillates: 0.1 mb/d

- **Europe**:
  - VGO/Resid: 0.2 mb/d
  - Gasoline: 0.3 mb/d
  - Distillates: 2.5 mb/d

- **FSU**:
  - VGO/Resid: 0.1 mb/d
  - Gasoline: 0.2 mb/d
  - Distillates: 0.5 mb/d

- **Middle East**:
  - VGO/Resid: 0.1 mb/d
  - Gasoline: 0.4 mb/d
  - Distillates: 0.7 mb/d

- **Asia/Pacific**:
  - VGO/Resid: 0.1 mb/d
  - Gasoline: 0.4 mb/d
  - Distillates: 2.0 mb/d
Refinery investments 2006-2020

- USA/Canada: Maintenance/capacity replacement - 140 billion US$ (2005), Additions required over existing projects - 120 billion US$, Additions through existing projects - 60 billion US$
- Latin America: Maintenance/capacity replacement - 40 billion US$, Additions required over existing projects - 20 billion US$, Additions through existing projects - 10 billion US$
- Africa: Maintenance/capacity replacement - 10 billion US$, Additions required over existing projects - 5 billion US$, Additions through existing projects - 5 billion US$
- Europe: Maintenance/capacity replacement - 60 billion US$, Additions required over existing projects - 40 billion US$, Additions through existing projects - 20 billion US$
- FSU: Maintenance/capacity replacement - 20 billion US$, Additions required over existing projects - 10 billion US$, Additions through existing projects - 10 billion US$
- Middle East: Maintenance/capacity replacement - 60 billion US$, Additions required over existing projects - 40 billion US$, Additions through existing projects - 20 billion US$
- Asia/Pacific: Maintenance/capacity replacement - 120 billion US$, Additions required over existing projects - 60 billion US$, Additions through existing projects - 60 billion US$
Concluding remarks

- Oil will continue to be the leading source in the global energy mix
- OPEC continues to offer adequate levels of spare capacity and invest in the downstream
- Security of demand and security of supply
- Investments in idle capacity waste precious financial resources
- OPEC’s attitude and actions are influenced by the search for the right balance
- Balance needs to be pursued on all fronts
Thank you