World Oil Outlook
2007

Press Conference

OPEC Secretariat
Vienna
13th September, 2007
Main take-aways from the WOO

- Energy and oil demand are set to grow
- Oil use per capita in developing countries will remain well below that of OECD countries
- Resource base is sufficient
- Both OPEC crude and other sources of oil will rise
- However, there are considerable uncertainties that might affect the demand for OPEC oil
- The downstream is also important for market stability
- Increased fossil fuel use compatible with environmental protection through cleaner technologies
- Increasing energy and economic interdependence
Energy and oil demand is set to grow

### Energy demand by fuel type

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>39.2</td>
<td>38.4</td>
<td>37.5</td>
<td>36.5</td>
</tr>
<tr>
<td>Solids</td>
<td>27.6</td>
<td>28.0</td>
<td>27.8</td>
<td>26.8</td>
</tr>
<tr>
<td>Gas</td>
<td>23.0</td>
<td>23.6</td>
<td>25.1</td>
<td>27.4</td>
</tr>
<tr>
<td>Hydro/nuclear/renewables</td>
<td>10.2</td>
<td>9.9</td>
<td>9.6</td>
<td>9.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
World oil demand outlook in the reference case

mb/d

2005 | 2030 | 2005 | 2030
---|---|---|---
**OECD & transition economies** | **Developing countries** | **OECD & transition economies** | **Developing countries**
North America | others | Western Europe | others
others | North America | others | other Asia
Western Europe | China | China | China

Organization of the Petroleum Exporting Countries
Oil use per capita in DCs will remain much lower than in developed countries

Oil use per capita in 2030

barrels

North America
OECD Pacific
Western Europe
Other Europe
Southeast Asia
FSU
OPEC
Latin America
China
Middle East & Africa
South Asia
Transportation sector: main source of oil demand growth

Average annual global growth in oil demand by sector

$mboe/d$

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Household/Commercial/Ag</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Industry</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Electricity Generation</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Transportation</td>
<td>0.6</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Organization of the Petroleum Exporting Countries
Both OPEC crude and other sources of oil supply will rise

World oil supply, 2005-2030

$mb/d$

Other sources of oil

OPEC crude
Non-OPEC non-conventional oil and biofuel supply outlook in the reference case

Over 10 mb/d non-conventional oil plus biofuels by 2030

Biofuel sustainability issues:
- Land-use changes
- Competition with food supply
- Impacts upon biodiversity
- Competition for water resources
- Effects upon air quality

GHG mitigation costs of biofuels are very high
Demand uncertainties translate into large uncertainties for required OPEC oil

Required OPEC crude oil in three scenarios

*Risks to demand are skewed towards the downside*
... and amplify investment risks for OPEC Member Countries

Cumulative OPEC upstream investment requirements

- Possible waste of precious resources
- Possible negative effects upon future investments
- Security of demand is equally important as security of supply
Refinery tightness likely to remain for several years

Cumulative distillation capacity additions vs incremental crude runs

*mb/d*

- range of cumulative incremental refinery crude runs
- cumulative capacity expansion
  - *cost-driven delayed* scenario, including creep
  - *reference case*, including creep

![Graph showing cumulative distillation capacity additions vs incremental crude runs from 2007 to 2015. The graph includes bars for each year and a diagonal line representing the cumulative capacity expansion.](image-url)
OPEC Member Countries are investing

Despite...
- Rising costs
- Shortage in skilled labour and experienced professionals
- Demand outlook uncertainties

...OPEC Member Countries investing in upstream and downstream

Upstream
- Over 120 projects in development or planning stage
- Cumulative investments in new capacity of more than $120 billion
- OPEC crude capacity expected to increase by more than 5 mb/d by end 2012 from current levels

Downstream
- Main responsibility lying with consuming countries
- More than 3 mb/d of additional distillation capacity from OPEC Member Countries expected on stream by 2012
- More than $60 billion of refining investments
Environmental protection: one of the pillars of sustainable development

The oil industry has a long history of success in developing and introducing cleaner oil technologies, cleaner products, reduced flaring, etc.

- More stringent fuel quality standards in the future

At the global level, expected increases in $\text{CO}_2$ emissions give rise to concerns over possible impacts upon the climate

- Need to develop, deploy and transfer cleaner fossil fuel technologies
- Carbon capture and storage has a large potential for reducing net GHG emissions at relatively low cost
- Developed countries should take the lead
Concluding remarks

- Increasing interdependence between nations
- Support for carbon capture and storage technologies
- Sustainable development
  - Overriding priority is poverty eradication
  - The role of the OPEC Fund for International Development (OFID)
- OPEC is committed to supporting market stability as reaffirmed in its Long-Term Strategy
- The importance of dialogue with all parties