Asia-Middle East Energy Trade and Investment Trends

Mikkal Herberg
“The New Silk Road: The Growing Asia-Middle East Energy Nexus”
Washington, D.C.
May 18, 2009

The New Energy Silk Road

- Rapidly rising oil and gas demand in developing Asia and rising Asian dependence on Middle East oil and gas exports
- Asian NOC growing investments in oil and gas production in the Gulf
- Growing cross-investments by Gulf producer NOCs downstream in Asia
- The shifting global geopolitical and economic context: rise of China, end of US geopolitical primacy
China Crude Oil Imports 2006

China’s Long-Term Oil Balance

India’s Oil Import Sources

Oil Imports, 2004-2005


India’s Long-Term Oil Balance

Production and Demand for Oil, 1990-2030

Source: IEA, OMR for data 1990-2012, WEO 2007 for 2015 and 2030
Japan’s Oil Imports

Oil Imports, 2006

Crude, NGLs and feedstocks
- Oceania 81%
- Middle East 16%
- FSU 4%
- OECD 0.1%
- Others 0.1%

4,109 kbd

Oil products
- Asia 16%
- Africa 4.2%
- Others 48.9%
- FSU 21.4%
- OECD 0.6%
- Middle East 0.3%

1,186 kbd

Japan Middle East Oil Imports

Middle East Crude Oil (Including NGL and Feedstocks) Imports, 2006

- Saudi Arabia 34.9%
- United Arab Emirates 26.4%
- Iraq 12.9%
- Iran 12.0%
- Qatar 11.5%
- Kuwait 9.2%
- Oman 1.1%
- Yemen 0.2%

3,746 kbd
Korea’s Oil Imports

ASEAN Oil Import Demand Growth
ASEAN 8 Oil Balances

## Oil Statistics, 2006

<table>
<thead>
<tr>
<th>Country</th>
<th>Production kbd/t</th>
<th>Demand kbd/t</th>
<th>Net Imports kbd/t</th>
<th>Refining capacity kbd/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei Darussalam</td>
<td>220.2</td>
<td>13.7</td>
<td>-</td>
<td>8.6</td>
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<tr>
<td>Cambodia</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1 041.0</td>
<td>1 211.4</td>
<td>162.4</td>
<td>002.7</td>
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<tr>
<td>Lao PDR</td>
<td>740.0</td>
<td>520.0</td>
<td>-</td>
<td>544.0</td>
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<td>Malaysia</td>
<td>340.0</td>
<td>520.0</td>
<td>-</td>
<td>570.0</td>
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<td>Myanmar</td>
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<td>42.0</td>
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<td>The Philippines</td>
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<td>343.3</td>
<td>318.3</td>
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<td>Singapore</td>
<td>1 020.0</td>
<td>920.0</td>
<td>920.0</td>
<td>1 336.0</td>
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<tr>
<td>Thailand</td>
<td>314.2</td>
<td>932.0</td>
<td>611.8</td>
<td>529.1</td>
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<tr>
<td>Viet Nam</td>
<td>367.4</td>
<td>280.9</td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>ASEAN</strong></td>
<td><strong>2 750.5</strong></td>
<td><strong>4 267.3</strong></td>
<td><strong>1 506.8</strong></td>
<td><strong>4 001.9</strong></td>
</tr>
</tbody>
</table>

## Oil Statistics, 1990-2010

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<tr>
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</thead>
<tbody>
<tr>
<td>Production (kbd/t)1</td>
<td>2 451.5</td>
<td>2 808.2</td>
<td>2 848.4</td>
<td>2 783.6</td>
<td>2 760.5</td>
<td>1 952.4</td>
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<tr>
<td>Demand (kbd/t)2</td>
<td>2 091.4</td>
<td>2 980.7</td>
<td>3 514.6</td>
<td>4 291.3</td>
<td>4 367.3</td>
<td>4 817.2</td>
</tr>
<tr>
<td>Net imports (kbd/t)</td>
<td>-360.9</td>
<td>172.4</td>
<td>666.9</td>
<td>1 507.7</td>
<td>1 526.8</td>
<td>2 358.8</td>
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<tr>
<td>Import dependency (%)</td>
<td>15.8</td>
<td>19.9</td>
<td>35.1</td>
<td>35.2</td>
<td>29.4</td>
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Refining capacity kbd/t3

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<tr>
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<td>1 952.4</td>
</tr>
</tbody>
</table>

1/ Brunei, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Viet Nam.
2/ Lao PDR and Cambodia.
3/ ASEAN minus Laos PDR and Cambodia.

ASEAN Oil Demand Growth

**ASEAN 8 Oil Demand, 1990-2010**

*ASEAN 8 Countries excludes Cambodia and Lao PDR.*
**Energy Investment and Trade**

*Follow Demand*

- Growing scale of crude supply contracts from Saudi, Iran, UAE, Iraq
- Large LNG contracts and investments by Japan, Korea (Qatar, UAE, Oman, Yemen); with China, India as new fastest growing potential customers (Qatar, Iran)
- Japan and Korea NOCs have long pursued upstream oil investments in the Middle East with very limited success
- China’s NOCs rapid emergence, new efforts by Indian NOCs have intensified the competitive upstream oil investment environment
- Caught between rising dependence, extremely limited access to ME resources
- All trying to diversify imports away from Gulf, but resource base will dictate growing importance of Gulf supplies

*Source: Mitchell & Lahn, Chatham House 2007*
What are the Geopolitical Implications of the growing Asia-Middle East Energy Nexus?

- US long-term role as energy and strategic superpower in the Gulf?
- Global oil markets, resource access?
- The US-Saudi strategic alliance?
- Western policy toward Iran?
- China’s rising global power, influence?
- India’s regional role?
- US-China relations?
- Key Asian rivalries?
  - China-Japan
  - China-India

Japan and Korea

- Japan: raise Japan controlled oil from 15% to 40%
  - Strengthen energy diplomacy: aid, technical assistance, JBIC loans, etc.
  - Qatar, UAE account for 25% of LNG imports
- Korea: raise Korean controlled oil from 4% to 15%
  - Strengthen energy diplomacy: aid, technical assistance, loans, etc.
  - Qatar, Oman account for 45% of LNG imports
India’s national oil companies investments span 19 countries on five continents.

Source: Booz Allen Hamilton
China’s Oil Supply Demand Balance and Imports

Oil Statistics, 1990-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (kta/d)</th>
<th>Demand (kta/d)</th>
<th>Net Imports (kta/d)</th>
<th>Import dependency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>2,168.1</td>
<td>2,918.5</td>
<td>-750.4</td>
<td>*</td>
</tr>
<tr>
<td>1995</td>
<td>2,780.3</td>
<td>3,875.0</td>
<td>-1,094.7</td>
<td>29.0</td>
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<tr>
<td>2000</td>
<td>3,016.5</td>
<td>4,654.2</td>
<td>-1,637.7</td>
<td>46.0</td>
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<tr>
<td>2005</td>
<td>3,417.3</td>
<td>5,067.0</td>
<td>-1,649.7</td>
<td>48.7</td>
</tr>
<tr>
<td>2010</td>
<td>3,809.1</td>
<td>5,317.9</td>
<td>-1,508.8</td>
<td>54.6</td>
</tr>
</tbody>
</table>

Refining capacity kta/d: 2,847.0

Crude Oil Imports, 2006

- Middle East: 45.3%
- Africa: 29.4%
- FSU: 15.9%
- Latin America: 6.5%
- Other countries: 0.1%

Sources: China Oil, Gas and Petrochemicals.