4TH IEA IEF OPEC SYMPOSIUM

SUSTAINABLE PETROCHEMICAL & CHEMICALS GROWTH OUTLOOKS

EurIng. Henry K. H. Wang
KSA & GCC Petrochemical Growths Strong

GCC Petrochemicals Capacity 2012
Total GCC Capacity = 127.8 Million Tonnes

- Saudi Arabia: 68%
- UAE: 5%
- Kuwait: 6%
- Qatar: 13%
- Oman: 7%
- Bahrain: 1%

2020 Forecasted Capacity Share
Total Capacity Estimate = 191 Million Tonnes

- Saudi Arabia: 65%
- UAE: 8%
- Kuwait: 6%
- Oman: 5%
- Bahrain: 1%
- Qatar: 15%

- Saudi Arabia holds the No.1 leadership position in the petrochemical and chemicals sector in the GCC.
- In 2012, Saudi Arabia held around two-third of GCC petrochemical total market capacity of about 128 million tonnes.

Source: Global Investment House – 2013, GPCA Supply Chain, Zawya
China has set strong capacity addition targets for refining, fertilizers, and petrochemical products for 2015 as a part of the China 12th Five-Year Plan.

- **China Refining Capacity – MMTPA**
- **China Fertilizers Capacity – MMTPA**
- **China Ethylene Capacity – MMTPA**
- **China Polymer* Capacity – MMTPA**

*Polymer include capacities of HDPE, LDPE, LLDPE, PP, and PVC only*
KSA & GCC are the largest supplier of crude oil to China

Total Crude Imports by China in 2011 and 2012 (Kbbl/d)

- KSA supplied 20% of China’s crude oil imports in 2011 and 2012.
- GCC supplied over 35% of China’s crude oil imports in 2012.

Source: International Trade Centre
China & KSA bilateral trade strong, in addition to Oil & Gas

**China Exports to KSA**

<table>
<thead>
<tr>
<th>Year</th>
<th>Machinery, nuclear reactors, boilers</th>
<th>Electrical/Electronic equipment</th>
<th>Articles of iron or steel</th>
<th>Organic chemicals and plastics</th>
<th>Other products</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.9</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.1</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.6</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.8</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.9</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.6</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.3</td>
</tr>
</tbody>
</table>

**China Imports from KSA (excluding oil & gas)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Organic chemicals and plastics</th>
<th>Copper and associated products</th>
<th>Salt, sulphur, earth, stone, plaster, lime and cement</th>
<th>Other products</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.4</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.9</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.1</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.5</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.3</td>
</tr>
</tbody>
</table>

Source: International Trade Centre
China & GCC bilateral trade strong, in addition to Oil & Gas

China Exports to GCC

China Imports from GCC (excluding crude oil)

Source: International Trade Centre
China Arab Cooperations wide & strong, in addition to trading

<table>
<thead>
<tr>
<th>Areas of Cooperation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>JVs in Petrochemical &amp; Downstream</td>
<td>- SSTPC JV (SABIC &amp; Sinopec in China)</td>
</tr>
<tr>
<td></td>
<td>- YASREF JV (Saudi Aramco &amp; Sinopec in KSA) etc</td>
</tr>
<tr>
<td>Construction &amp; Infrastructure</td>
<td>- Railways, Housing, etc.</td>
</tr>
<tr>
<td>Project Contracting</td>
<td>- Refineries, Petrochemical Complexes, etc.</td>
</tr>
<tr>
<td>Upstream Cooperation</td>
<td>- Oil &amp; Gas</td>
</tr>
<tr>
<td>Financial Sector</td>
<td>- Banking, Investments, etc.</td>
</tr>
<tr>
<td>Culture &amp; Tourism</td>
<td></td>
</tr>
</tbody>
</table>

- Significant Future Growth Potential Opportunities in Petrochemicals Value Chains and Downstream Industrial Sectors
KSA Petrochemical Value Chain Cooperation Opportunities

Priority Industrial Clusters
- Minerals & Metals
- Automotive
- Plastics & Packaging
- Home Appliances
- Solar Energy

Chemicals Value Chains
- Ethoxylates and Amines Chains
- Synthetic Rubber Chains
- Polyurethane Chains
- Thermoset Chains
- Acrylic Chains
- POM Chains
- MMA Chains
- PMMA Chain
- LAO Chains
- Polyamide Chains
- Carbon Fiber Chains
- Aluminum Chains
- Phosphate chains
- EPC Construction
- Equipment Supplies
- Industrial services
- Spare parts supply
Downstream Industrial Cooperation Opportunities

- Machinery Equipments
- Auto Parts
- Electrical & Electronics Manufacturing
- Tyres & Rubber Products
- Industrial Services
- EPC Construction
- SMEs Growth & Support
- Knowledge & Technology Transfer

Supply & Manufacturing in KSA
Good Strategic Partners for Future Growth

- Promising Outlooks
- Potential Future Cooperations
- Good Strategic Growth Opportunities
- Petrochemical & Downstream
- Win-Win Partnerships
- Strengthen Bilateral Relationship
- Promote Mutual Developments
Successful Business Dealings and Management with China Oil, Gas and Chemical Giants

By EurIng. Henry K. H. Wang

This book focuses on doing businesses successfully with China oil, gas and chemicals companies with real business cases on business management and contract negotiations all under one theme. Drawing on the author’s extensive experiences and knowledge of the China oil, gas and chemicals industries, the book presents a comprehensive and practical guide to the China oil industry structure and major Chinese oil companies. It analyses China’s oil, gas and chemicals markets and its growth into the largest oil consumption market in the world. It also examines energy security concerns and mitigation strategies to diversify crude import sources.

The book also analyses the key domestic and international players in China including the largest state, multinational and national oil companies. It looks at the largest China oil, gas and chemical companies and analyses their profile, business, strategies, leaders with relevant case studies. It then examines successful engagement, negotiation and management with the China giants. The book illustrates with business case studies on successfully negotiating and managing business relations to foster trust and promote cooperation, as well as, the risks and rewards.

Business leaders, universities, business schools and government agencies will appreciate the book with its in-depth knowledge and analysis of the China oil, gas and chemical industries together with relevant business cases.

HB: 978-0-415-66956-6, For more information on this title, visit http://www.routledge.com/9780415669566/
Published Globally: December 2013
Series: Routledge Studies in the Modern World Economy


CHEMISTRY THAT MATTERS™