PURSUING COOPERATIVE PARADIGM ON ENERGY, ENVIRONMENT AND ECONOMY

By

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Recognising that natural gas has an important part to play in satisfying the global need for an environment-friendly energy source, IGU will be the most influential, effective and independent non-profit organisation, while serving as the spokesman for the gas industry world-wide.
IGU represents around 95% of global gas market

Special Message:
IGU invites Gas Associations of Papua New Guinea, the Philippines and New Zealand to join IGU as new Charter Members

IGU Members:
- 75 Charter Members from 74 countries
- 35 Associate Members

N.B.: IGU established in 1931
2. IGU PURSUING INTERNATIONAL COOPERATION

IGU Pursuing International Cooperation in Energy, Environment and Economy

IEF-IGU Ministerial Gas Forums

- 1st IEF – IGU Ministerial Gas Forum, 24th Nov. 2008, Vienna, Austria
- 2nd IEF – IGU Ministerial Gas Forum, 30th Nov. 2010, Doha, Qatar

UNFCCC– COP Meetings

- COP 15, Dec. 2009, Copenhagen, Denmark
- COP 16, Dec. 2010, Cancun, Mexico

The IGU Research Conference

- IGRC 2008, Paris, France
- IGRC 2011, Seoul, Republic of Korea
IGU World Gas Conferences (WGCs)

- 25th WGC - Kuala Lumpur, Malaysia, 4-8 June, 2012
- 26th WGC - Paris, France, 2015

Co-sponsor LNG Conferences

- LNG 16 - Oran, Algeria, April 2010
- LNG 17 – Houston, USA, 15-19 April 2013
3. NATURAL GAS AND LNG INDUSTRY LANDSCAPE

70% of world’s proven gas reserves are located in Russia/FSU and Middle East. Asia Pacific has a share of 8.7%.

**World proven conventional gas reserves as at end 2009 = 187.5 Tcm**

<table>
<thead>
<tr>
<th>Region</th>
<th>Reserves (Tcm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>44.38</td>
</tr>
<tr>
<td>Iran</td>
<td>29.61</td>
</tr>
<tr>
<td>Qatar</td>
<td>25.37</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>8.10</td>
</tr>
<tr>
<td>S. Arabia</td>
<td>7.92</td>
</tr>
<tr>
<td>US</td>
<td>6.93</td>
</tr>
<tr>
<td>UAE</td>
<td>6.43</td>
</tr>
<tr>
<td>Venezuela</td>
<td>5.67</td>
</tr>
<tr>
<td>Nigeria</td>
<td>5.25</td>
</tr>
<tr>
<td>Algeria</td>
<td>4.50</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.18</td>
</tr>
<tr>
<td>Iraq</td>
<td>3.17</td>
</tr>
<tr>
<td>Australia</td>
<td>3.08</td>
</tr>
<tr>
<td>China</td>
<td>2.46</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2.38</td>
</tr>
<tr>
<td>Egypt</td>
<td>2.19</td>
</tr>
<tr>
<td>Norway</td>
<td>2.05</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>1.82</td>
</tr>
<tr>
<td>Kuwait</td>
<td>1.78</td>
</tr>
<tr>
<td>Canada</td>
<td>1.75</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>1.68</td>
</tr>
<tr>
<td>Libya</td>
<td>1.54</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>1.31</td>
</tr>
<tr>
<td>India</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Source: BP Statistical Review of World Energy June 2010
IGU and GASEX Members to provide wider access for it to become a global commodity
G-to-G and B-to-B Cooperation essential to facilitate cross-border gas pipeline inter-connections

- Turkmenistan-Afghanistan - Pakistan_India Gas Pipeline
- Turkmenistan-Central Asia-China Gas Pipeline

Exporting Countries
- Existing
- Under construction
- Planned
- Speculative

Importing Countries
- Existing
- Under construction
- Planned
- Speculative
Key challenge is to secure, reliable, affordable energy services with minimal adverse environmental impacts so as to promote sustainable socio-economic development and to enhance the quality of life.
IEA forecasted growing energy and gas demand in the future

- Fossil fuels projected by IEA to dominate next decades.
- Population growth from about 6.7 billion in 2010 to about 9 billion in 2050.
- Urbanisation continues.
- Increased level of global prosperity.

Source: OECD/IEA - 2007
Images of Oil Spills in the Gulf of Mexico

Courtesy of Los Angeles Times, USA.
Images of Coal Mine Accidents

- West Virginia Mine Explosion, 25 Dead
- Coal Mine Accident in China
- Coal Mine Accident in Chile
- Coal Mine Accident in China
- Coal Mine Accident in Russia
Attributes of Gas

- Clean, efficient, versatile and environmentally friendly for more sustainable development and socio-economic growth;

- Abundant and available in large quantities with the technological breakthrough to commercialise unconventional gas resources; and

- Play an important and increasing share and role in global energy demand.
5. KEY CHALLENGES AND OPPORTUNITIES

Pursue innovation and achieve technological breakthrough

Exploiting Unconventional Gas Resources:

- Huge resources of >30,000 Tcf, reserves around 6,952 Tcf*.
- 5 out of top 10 largest M&As in 2008 were unconventional gas deals (valued at US$21.3b).

Source: CERA, WoodMac and OGJ
Highly Capital Intensive Nature of the Gas Industry
Cooperative paradigm at G-to-G and B-to-B levels to jointly explore and develop oil and gas resources in many of the disputed areas would be essential to realise joint benefits.

Successful co-operative paradigm include Malaysia-Thailand Joint Development Area & PM3 Commercial Arrangement Malaysia - Vietnam.
Leveraging science and technology to create technological breakthrough and innovation to harness new and renewables

Unconventional Fossils
- Gasification (inc. hydrogen & Coal to liquids)
- Gas to Liquids (GTL)
- Heavy Oil Conversion
- Shale Oil Development
- Tar Sands Production

New and Renewable
- Biomass
- Ethanol & Biodiesel
- Geothermal
- Solar Electric
- Wind Power
- Hydro/Wave

END USE
- Advance Technology Vehicles
- Fuel Cells
- Flex Fuel
- Cogeneration (CHP)
6. CLOSING REMARKS

IGU – Malaysian Presidency (2009-2012) with 3 Special Studies

President
Datuk (Dr.) Abd. Rahim Hj. Hashim
Malaysia

Vice President
Jérôme Ferrier
France

CC Chairman
Ho Sook Wah
Malaysia

CC Vice Chairman
Georges Liens
France

Secretary General
Torstein Indrebø
Norway

CC Secretary
Ungku Ainon
Ungku Tahir
Malaysia

Special Studies
1. Building strategic human capital
2. Nurturing future generations
3. Geopolitics of Natural Gas
Relentless pursuits to reduce carbon emission and the need to address issues on climate change calls for greater collective efforts to pursue cooperative paradigm within and between IGU and GASEX Members to promote wider use of this relatively clean, efficient, versatile and environmental friendly fuel while efforts in commercializing renewable energy is still being actively pursued.
You should not miss our Malaysian Hospitality

You should not miss to exhibit and show cases your products and services during this 25th World Gas Conference.
THANK YOU FOR YOUR KIND ATTENTION!

Welcome to
25th World Gas Conference
and Exhibition

4-8 June 2012
Kuala Lumpur, Malaysia

http://www.igu.org/
http://www.wgc2012.com/