LNG: Demand opportunities and supply challenges

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Executive Vice-President, Global LNG
Shell Gas & Power

EIA 2008 Energy Conference
Washington D.C., 7th April 2008
The energy challenge

1. RISING DEMAND
   - Population growth
   - Economic growth
   - More affluent society

2. SECURITY OF SUPPLY
   - End of ‘easy oil’
   - Resource nationalism
   - More unconventionals

3. ENVIRONMENT & SOCIETY
   - Hydrocarbons remain dominant
   - CO2 consequences
Major economies are climbing the energy ladder

Source: Data to 2003, Oxford Economics, Shell International BV
The growing role of LNG

Global market developments

<table>
<thead>
<tr>
<th># Countries</th>
<th>TODAY</th>
<th>2012</th>
<th>% increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG importers</td>
<td>17</td>
<td>29</td>
<td>70.6%</td>
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</tbody>
</table>

Shell analysis
Supply challenges

1. DOMESTIC DEMAND
   - Growing energy demand
   - Natural gas exporting countries
   - Competition with exports

2. HIGH EPC COSTS
   - Skyrocketed costs
   - Construction delays

3. PEOPLE AND SKILLS
   - More complex projects
   - Large integrated projects
   - Technical and project management challenges
Energy sector inflation

INDEX (2000 = 100)

CERA Upstream Capital Cost Index (UCCI)
People and skills to deliver complex projects

Construction of Pearl GTL at Ras Laffan Industrial City in Qatar
Global market developments

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<th># Countries</th>
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<tr>
<td>LNG importers</td>
<td>17</td>
<td>29</td>
<td>70.5%</td>
</tr>
<tr>
<td>LNG exporters</td>
<td>15</td>
<td>18</td>
<td>20%</td>
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LNG importers

LNG exporters

Shell analysis
Nigeria LNG: Rapidly growing capacity

PLANT CAPACITY (YEAR END 100%, MTPA)

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity</th>
</tr>
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<tbody>
<tr>
<td>1999</td>
<td>5</td>
</tr>
<tr>
<td>2001</td>
<td>10</td>
</tr>
<tr>
<td>2003</td>
<td>15</td>
</tr>
<tr>
<td>2005</td>
<td>15</td>
</tr>
<tr>
<td>2007</td>
<td>25</td>
</tr>
</tbody>
</table>
Sakhalin II: World’s largest integrated oil and gas project
Floating LNG (FLNG)

- Unlocking stranded offshore gas accumulations
- Small environmental footprint
  - No pipeline or dredging
  - Limited onshore support base
- Cyclone tolerant
- Redeployable
Shell’s global LNG portfolio
Leading position … and 5 new trains under construction

<table>
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<tr>
<th>LNG SUPPLY:</th>
<th>OPERATION</th>
<th>CONSTRUCTION</th>
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<tbody>
<tr>
<td>IMPORT CAPACITY:</td>
<td>▲</td>
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NLNG T6
Start up 2008

Qatargas 4
Start up 2010+

Sakhalin T1 & 2
Start up 2008-09

NWS T5
Start up 2008

Pluto
Start up 2010+