Natural Gas Supporting Social and Economic Development

Ksenia Gladkova
Senior Advisor
International Gas Union

Ashgabat, Turkmenistan
21 November 2013
International Gas Union
- Supporting the gas industry worldwide

Founded in 1931
www.igu.org

83 Charter members
43 Associate members
IGU – the Global Voice for Gas

- The only global institution focusing solely on gas
- 1000 international experts working in 14 committees
- Unique role of gas in satisfying energy demand and mitigating climate change.
- Range of options, no “single fuel”
- Foundation fuel for current and future energy needs.
The Global Energy Dilemma

- Energy demand to double between 2010 and 2050
- 7 Billion in 2010 → 9 Billion in 2050
- Fastest growth: power generation, transport, industry
- Access to energy is crucial
- GHG emissions’ reduction vs increase in energy consumption.
- Correlation between energy consumption and social indicators (literacy, infant mortality, fertility….)
Gas is available - and widely distributed

200+ years
Based on current demand, the world has over 200 years of natural gas available.

Remaining global natural gas resource
Thousand trillion cubic feet
- Unconventional
- Conventional

Source: IEA
Advantages of Gas – the 5A

Available

- Resources enough for more than 250 years of use

Acceptable

- Gas burns cleanly and efficiently. When used, helps protect public health by reducing emissions and improving air quality. Minimal impact on the landscape.

Accessible

- Gas can be moved over land through pipelines and over seas as LNG

Adaptable

- Gas installations can be adapted to technology developments (CHP, Biogas, Hydrogen).
- Gas is storable and complement variable renewables

Affordable

- Gas is a competitive energy option as an affordable fuel choice and because of its efficient end-use applications.
Natural Gas – competitive & affordable

Comparison of generation cost
(10 eur/T CO2, 10 usd/mmbtu gas, 100 usd/mt coal, cap cost EIA 2013)

Source: ConocoPhillips
Natural gas fueling the global economy – offers a wide range of applications

Fuel for Gas District Cooling
Fuel for Residential
Fuel for Commercial
Fuel for Automotive
Fuel for Industry
Fuel for Power Generation
Fuel for Petrochemical Feedstock
Natural gas partnering with renewables

Society needs energy 24 hours / 7 days

<table>
<thead>
<tr>
<th></th>
<th>Gas</th>
<th>Wind</th>
<th>Solar</th>
<th>Hydro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>90-100%</td>
<td>30-40%</td>
<td>10-25%</td>
<td>Drought</td>
</tr>
<tr>
<td>utilisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Natural gas easy to turn on and off
A robust and sustainable energy policy

- Energy efficiency & savings
- Enhance use of gas in power generation and transportation
- Phase in renewable energy

Gas: The fuel of today and tomorrow!