G20 Energy Sustainability Working Group

Gas Market Emergency Workshop

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IGU - all G20 countries represented
> 95 % of the global gas market

Founded in 1931
www.igu.org

IGU members
83 Charter members
43 Associate members
Gas – fueling more of the world!

65%

Gas grows faster than any other major fuel source, with demand up 65 percent by 2040.

Source: ExxonMobil 2014
Evolution of gas markets

- Domestic production
- International LNG exports
- International natural gas exports by pipeline

Unit: Billion cubic metres
Source: CEDIGAZ
Global drivers in energy politics - observations

- Job creation and competitiveness
- Health and air quality
- Households - increased energy costs
- Climate change agenda
- Energy poverty - a global challenge

Policies increasingly impacting energy markets
Global gas markets

- **North America** – the shale gas revolution
  - Boosting economy and reducing CO2 emissions

- **Europe** – gas squeezed
  - Renewables subsidies and low coal prices

- **Asia and South America**
  - Gas pricing a key issue

- **Middle East/Africa** – domestic use and export

**Huge regional variations!**
Evolution of global gas prices

Source: IGU World LNG Report – 2013
Diversification of supply routes and suppliers
Europe – LNG & pipeline grid interconnected

Emergency situations can be managed
China’s diversified gas supply sources

China 2012:
Production 107 bcm
Consumption 144 bcm
Source: BP Statistics 2013

Turkmenistan supplies 30 bcm/yr plus

Myanmar supplies 10 bcm/yr plus

Source: SHWE Gas Movement

Source: IHS CERA, various sources.
LNG offers enhanced energy security

Source: IGU World LNG Report 2013
Supply disruptions and responses

• High pressure pipes extremely reliable
  – Underground pipes not exposed to weather

• Gas industry used to variable demand
  – Annual, seasonal, daily

• Portfolio of supply sources

• Market response: use of flexibility and trade routes
  – Information sharing and business relationship

Keep supply and trade routes open!
Prevention planning for supply disruptions

- Gas storage and grid interconnections
- Gas based power – smart grids
- Cross border pipelines and reverse flow
- LNG swap and loan arrangements

*National & regional analysis needed*
Trading arenas offers options for mitigation of interruptions

- Trading hubs for spot volumes, short and medium
- Price exchange, forward market
- Need liquidity and support
- Flexible delivery points - destination clauses
- **US:** Henry Hub, other regional
  **Europe:** NBP, Zeebrugge, TTF

*Risk management instrument*
Policy and regulation to encourage investments

- Investments in gas infrastructure
  - International partnership, risk sharing, long term contacts
- Market-oriented prices and tariffs
- Facilitate transfer of technology
- Financing and tax regime

Enable business to do business!
Impact of new technology...

US oil and gas supply

Billion toe

1.6
1.2
0.8
0.4
0.0


Oil
Gas
New LNG suppliers emerging - facilitates disruption management

Source: BP Energy Outlook 2014
Access to sustainable energy & economic development based on gas

UN – World Bank initiative “Sustainable Energy for All”:
IGU/gas industry contributing with competence
Fukushima earthquake - 11 March 2011
LNG replaced nuclear (NBR/METI)

Electricity Generation by Fuel

Source: Compiled by METI based on “Outline of Electric Power Development in FY 2010” etc.
Supply post-Fukushima

- Around 12.5 million tons in 2011 from the Atlantic Basin
  - Cargoes diverted from West Africa and Europe

- Europe – increased pipeline supplies (Russia, Norway)

- LNG demand increase 15 mill tons in 2012 (20 bill cm)

- Qatar, Russia, Malaysia and Indonesia arranged swaps and diverted cargoes.

Successful response by gas industry
Conclusions – strengthening gas markets

• G20 – enhance the energy dialogue
  – Governments, industry, international organisations

• Policies to support infrastructure investments

• Transfer policy competence/experience
  – What works and what does not work?

G20 support for stable regulatory framework
Thank you!

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