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

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.

Energy mix continues to evolve

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 of new technology....

US oil and gas supply

Billion toe


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

SE4All: led by IGU Wise Person dr K. Yumkella
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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