Global Vision for Gas
- The Pathway to a Sustainable Energy Future

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Secretary General
The International Gas Union

Baku, Azerbaijan, 29 June 2012
IGU represents more than 95% of the global gas market.

Established in 1931

79 Charter Members
38 Associate Members
The global energy challenges

- Global population – from ca. 7 to 9 billion in 2050
- Human strive for a better life
- Technological progress
- Air quality & climate change concerns
Global energy issues

- Cleaner
- Affordable
- Economic development
- Reliable
- Safe

Need a balanced and realistic approach

Impact of Fukushima
Technology drives gas supply

- **Shale gas**
  - Global potential

- **Liquefied Natural Gas**
  - Supply security and flexibility

Impact on availability and affordability
World loves electricity!

- Convenience
- Multiple uses

Source: ExxonMobil
Gas in the power sector

Gas burns with emissions lower than coal:

- CO₂: 50%
- CO: 81%
- SOₓ: 100% - acid rain
- NOₓ: 80% - air quality
- Particles/soot: 99.99% - air quality
- Hg (Mercury): 100%
Natural gas enables renewable energy

Natural Gas - Wind - Solar

Gas power can provide flexible back-up for variable renewables
Gas for transportation

Natural gas is applicable for most kinds of transportation

Marine

Fleets:
- Trucks
- Buses
- Taxis

Road
Heavy duty vehicles

Less
- Particles/soot
- Noise
- CO2
- NOx - smog

Gas price much lower than oil price
Geographical footprint

Example of 40 TWh of electricity produced from 6 Bcm/yr of natural gas carried in the pipeline. Statkraft 1988).

Source: IGU: "Natural Gas Unlocking the Low-Carbon Future", September 2010
Economics and job creation

- Economic development
- Job creation direct and indirect
- Build on existing energy system
- Gas industry contributes to public finances

Natural Gas - millions of sustainable jobs
Creating Trust for Gas

- Recognition by policymakers
- Balanced and objective
- Dialogue with stakeholders
- Communication

GHG Emissions Spectrum

Image of Gas
Global Vision for Gas: The Pathway towards a Sustainable Energy Future

Among our publications:
- Global Vision for Gas
- Shale Gas
- Geopolitics and gas
- LNG Report

Download possible from:
http://www.igu.org
Vision Pathway highlights various CO₂ abatement options and technology choices

Calculation for 2050

- **CO₂ Emissions (billion tons)**
  - Base Case
  - Reducing Demand
  - Coal to Gas Substitution
  - Oil to Gas Substitution
  - Transport Oil Substitution
  - Renewables and Nuclear
  - Biogas
  - Carbon Capture
  - Pathway

- **Reductions from Greater Gas Use**
- **Reductions from Other Technologies**
- **Reductions from Both Greater Gas Use and Other Technologies**
The Pathway towards a Sustainable Future

Meeting future global energy needs whilst addressing air quality and climate change concerns

Global Emissions Trajectory Base Case

- Other
- Residential and Commercial
- Industrial
- Transport
- Power Generation
- Pathway
A no-regret climate-friendly energy policy

- Energy efficiency & savings
- Increase use of gas in power generation and transportation
- Phase in renewable energy
- Develop Carbon Capture and Storage technology

Gas: Part of the long term energy solution
Thank you for your attention!

Gas – the fuel for today and tomorrow!