

“Entering the Era of Gas Innovation”

By:

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12th May 2011

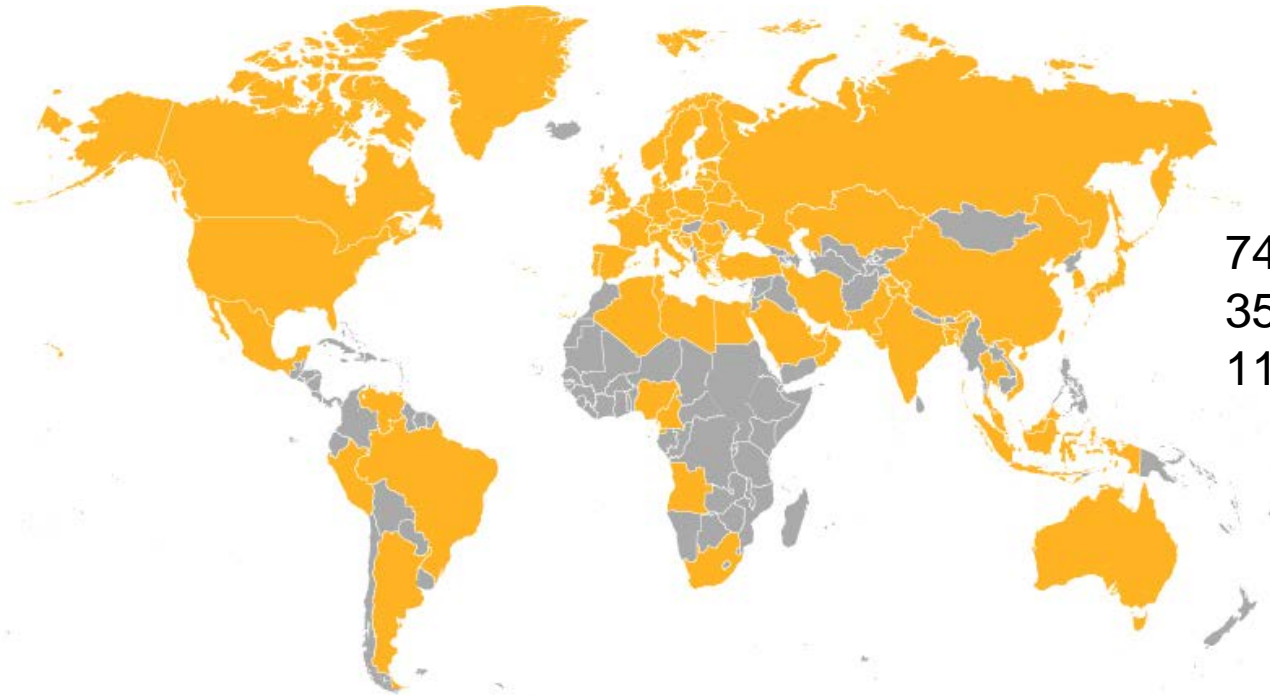
Hotel Scandic, Copenhagen, Denmark



- Worldwide and non-profit organisation established in 1931
- Promotes technical and economic progress of the gas industry
- Emphasising sound environmental performance worldwide
- Increased focus on strategic and policy issues
- Cooperation with IEA, United Nations, World Bank, IEF and others



IGU members responsible for 95% of Global Gas Sales



74 Charter members
35 Associate members
11 Affiliated members

 IGU Members

As of April 2011



IGU Organisation Chart for the 2009 – 2012 Malaysian Triennium



What is the world concern about?



- Energy security & environmental issues

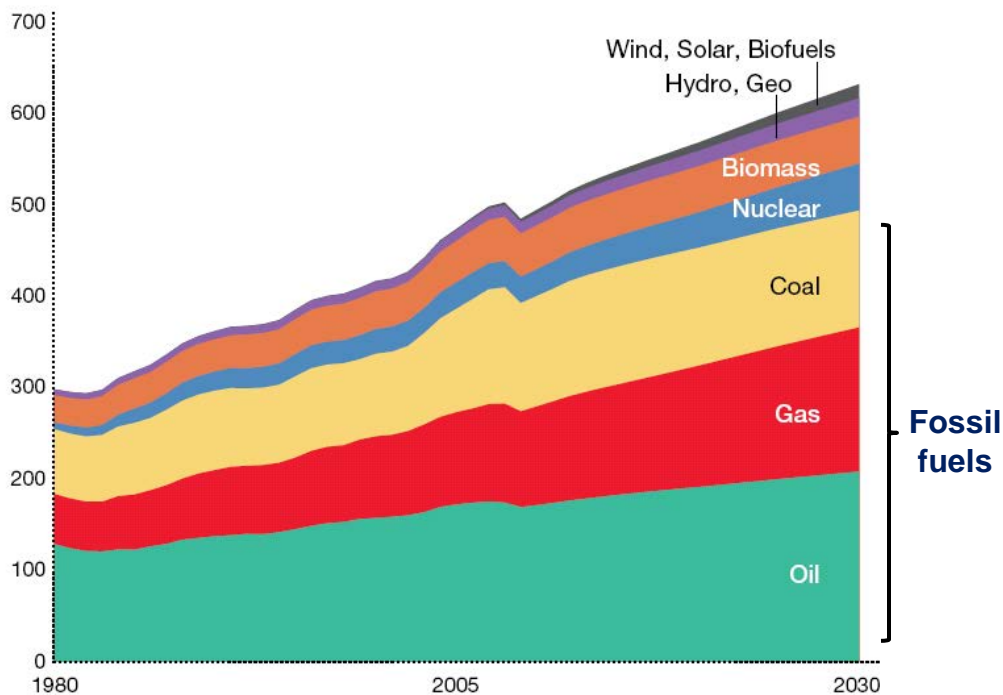


Where is gas in the energy mix?



by energy type

Quadrillion BTUs



CAGR of Fuel Consumption 2010-2030

Liquids	1.3%
Natural Gas	2.0%
Coal	2.1%
Nuclear	1.7%
Other	3.0%

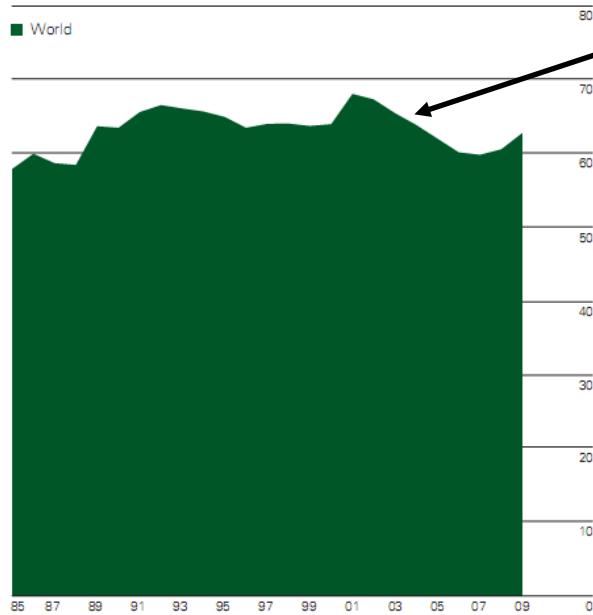
% of natural gas from total energy mix 1990-2030

1990	22%
2005	23%
2010	23%
2030	?

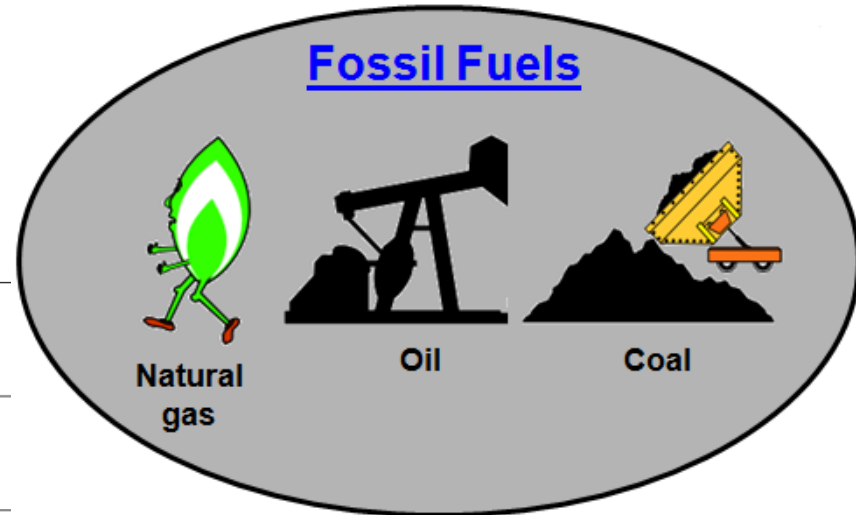
- About 1/4. Will it be same in the future?



What was the situation a few years ago?

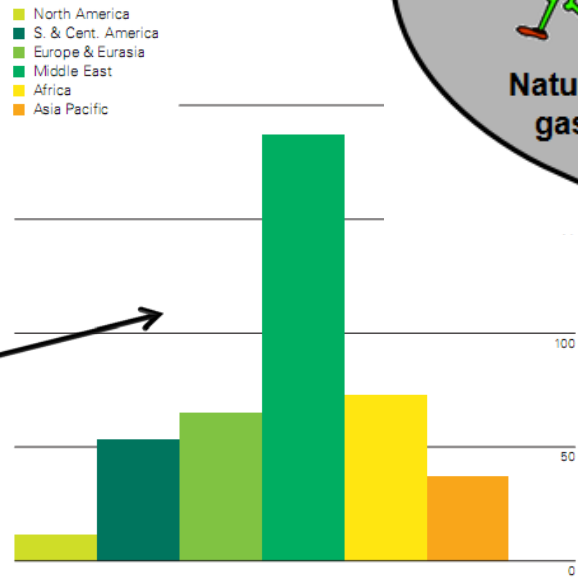


R/P ratio: > 60 remaining years



Waning image of natural gas

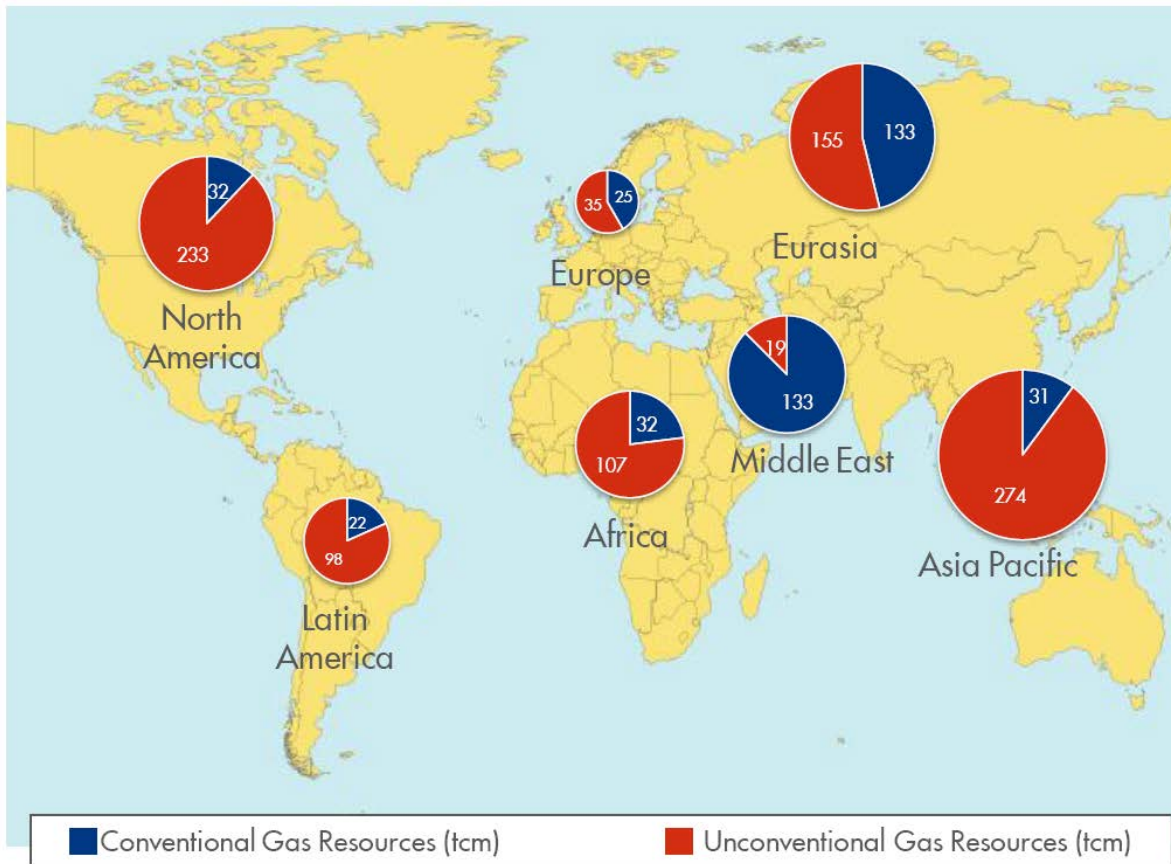
3/4 of the world's proven natural gas reserves are within Middle East and Eurasia



Reserve-to-production ratio, image



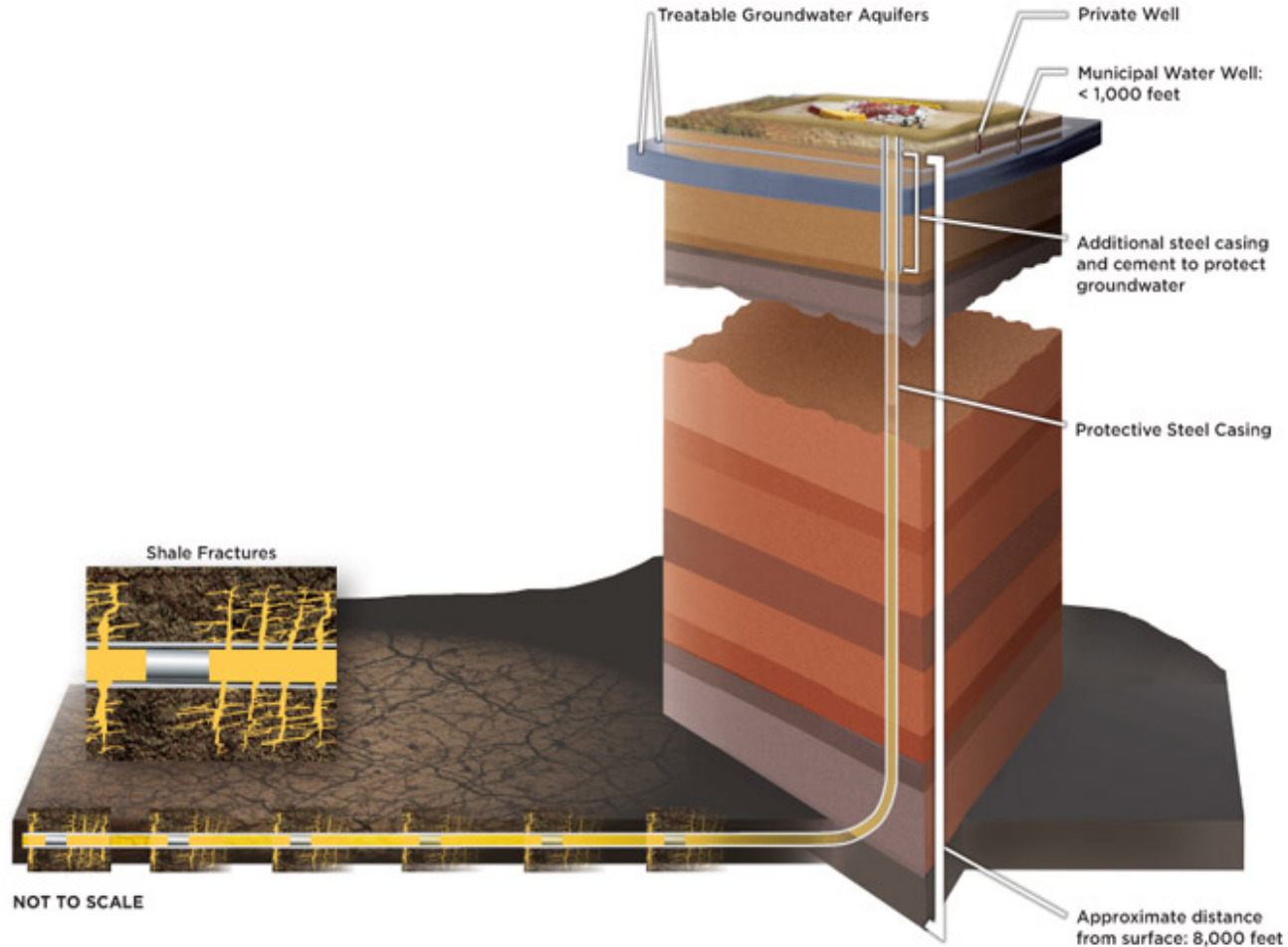
What is it now & why?



- Availability: 60 years to 250 years
- Abundant global gas reserves



What is the cause of it?



- Technology – hydraulic fracturing



Is it a game changer & revolution?



- **Certainly!**



What is the issue with the future?



- Sustainability

What does it mean?



- Ensuring present resources for our children's children without damaging the environment

How do we ensure that it works?

- Resources, manpower & innovation



Why EGATEC?



EGATEC2011
European Gas Technology Conference

Gas Innovation for a Greener Europe
Copenhagen, 12-13 May 2011






Main sponsors:





Co-sponsors:










Organizers:



Technical Association of the European Natural Gas Industry



The European Gas Research Group

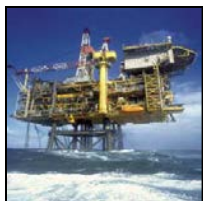


Danish Gas Technology Centre

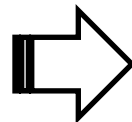
- Timely as we face the twin challenges



Why in particular technology?



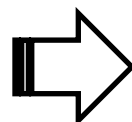
Exploration & Production



Challenges of difficult gas, marginal gas, etc



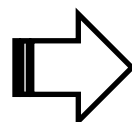
Liquefaction Facilities



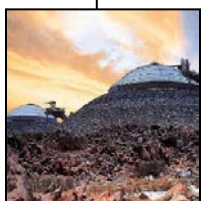
Challenges of higher production cost and marginal fields



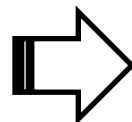
Pipeline transportation



Challenges of higher cost, higher terrain and longer distance



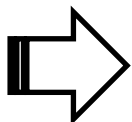
Regasification & Storage



Challenges to meet new markets



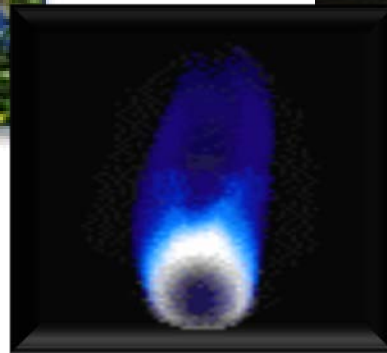
Consumers



Challenges to reduce emissions

■ Covers full value chain



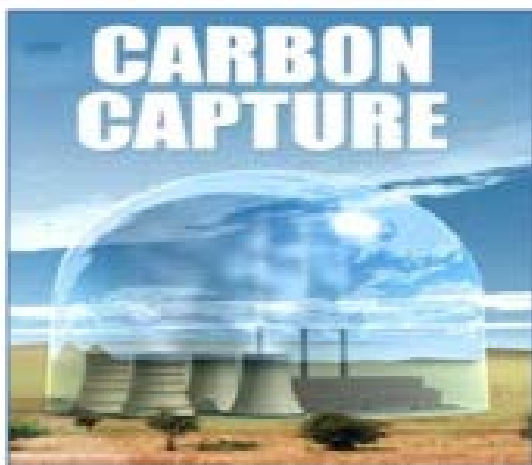


- Energy efficiency & conservation
- Natural gas



What are the long term objectives?

- Make gas green!
 - from biogas, synthetic natural gas (SNG) & landfill gas



- Carbon Capture & Storage (CCS)
- Fuel cells



- Commitment by all



What has the IGU done?



International Gas Union
Research Conference (IGRC)
Paris
8-10 October 2008

“New Technologies;
Increasing Gas
Competitiveness.”



International Gas Union
Research Conference (IGRC)
Seoul, Republic of Korea
19-21 October 2011

“Innovation
is the Key to a
Sustainable Future.”

- Restructure / Reorganise IGRC




What else need to be done?



**Advocacy Messages
for
the Natural Gas Sector**

November 2010



International Gas Union

**Natural Gas
Facts & Figures**

December 2010

the independent platform for the energy sector

EUROPEAN ENERGY REVIEW

News

European Gas Advocacy Forum says gas is key for Europe

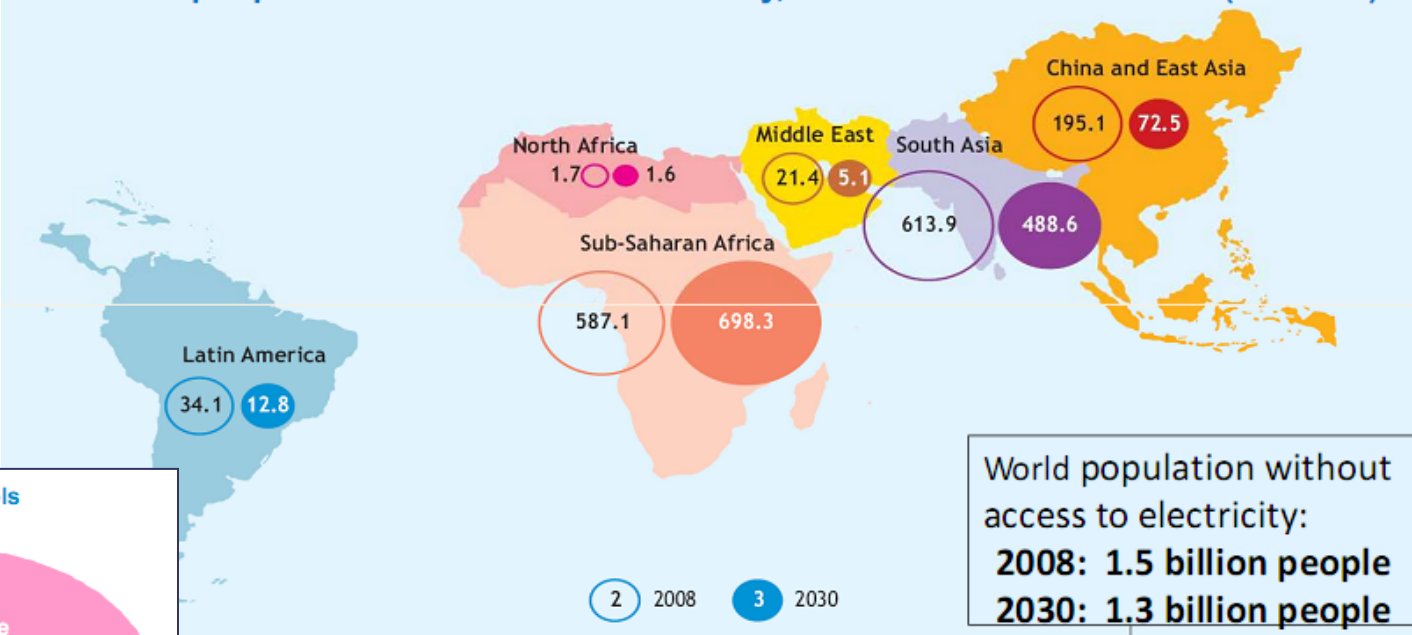
Statoil - 13/12/2010



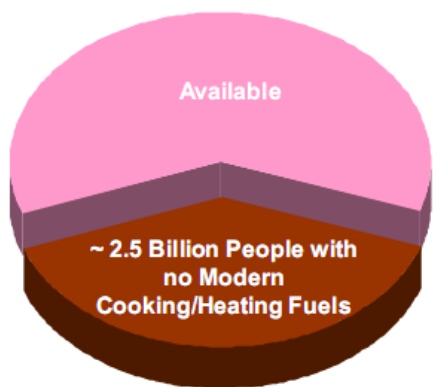
- Advocacy for gas



Number of people without access to electricity, IAEA Reference Scenario (millions)



Modern Cooking/Heating Fuels



By 2030, about 1.3 billion people do not have access to electricity despite more widespread prosperity and more advanced technology

■ Role of gas in overcoming energy poverty



- It is abundant, affordable and acceptable
- Clean, efficient, versatile and environmental friendly fuel
- Continue to play a substantial role in global energy demand
- Basis for a sustainable economic growth



Natural gas
– major part of the long term energy solution



The 25th World Gas Conference (25th WGC)



**“GAS : SUSTAINING FUTURE
GLOBAL GROWTH”**

**Kuala Lumpur Convention Centre
4 to 8 June, 2012**

www.wgc2012.com/, www.igu.org/



THANK YOU FOR YOUR KIND ATTENTION !

