



International Gas Union



IGU Overview and Natural Gas in a Climate Change Perspective

Mr Erik Gonder
Senior Advisor, IGU Secretariat

14-th International Oil & Gas Forum
Oil & Gas 2010
Kiev, Ukraine



Tellus and Climate Mitigation



IGU represent 95% of global gas sales



News, Views
and knowledge
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■ IGU Members

75 Charter members
36 Associate members



IGU COUNCIL



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Mr Jérôme Ferrier
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Immediate Past President
CC Chairman, CC Vice Chairman
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Immediate Past President
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Chairman
Mr Ho Sook Wah
MALAYSIA



Senior Advisor
Mr Hans Riddervold
NORWAY



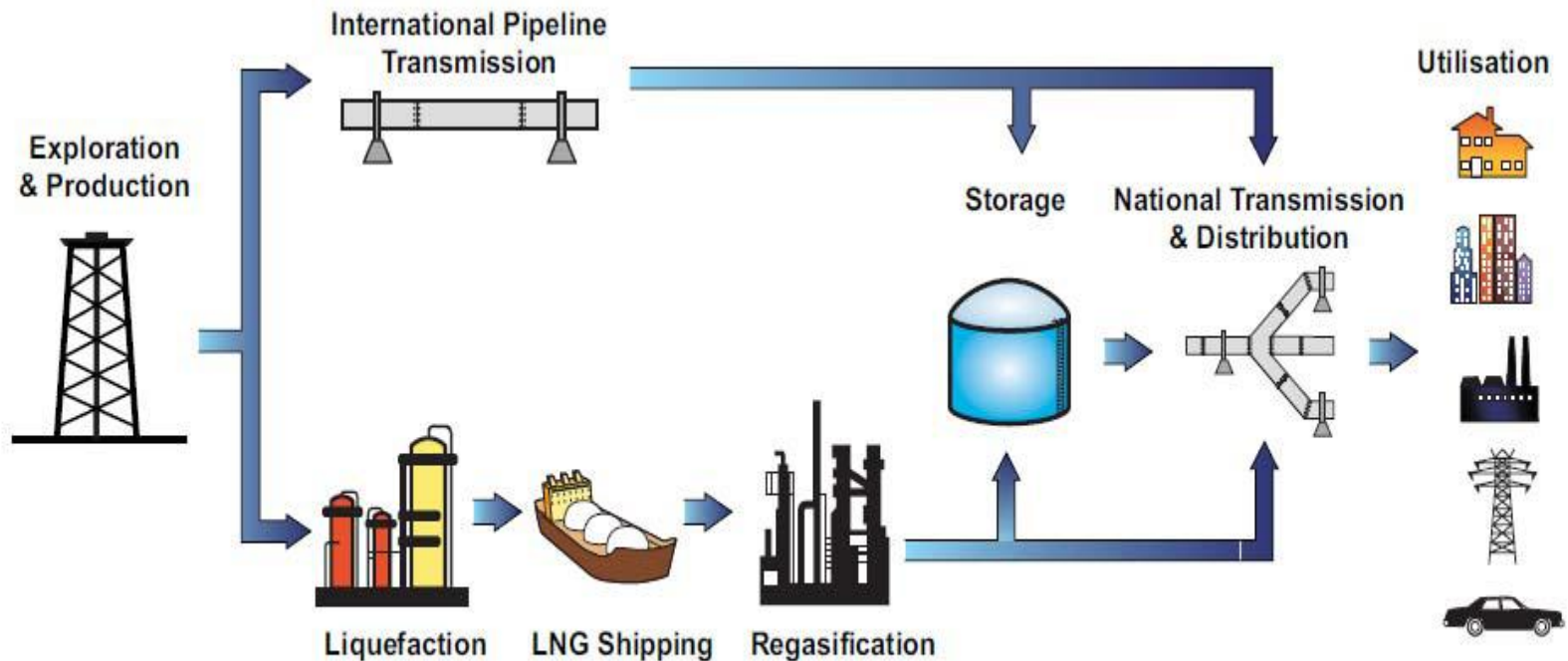
Advisor
Mr Erik Gonder
NORWAY



Secretary
Ms Ungku Ainon Ungku Tahir
MALAYSIA



IGU covers the Gas Industry Value Chain



Source: IGU.
90813-5

Working Committees Programme Committees Task Forces





IGU Cornerstone events



Networking - Knowledge - Dialogue

- **The IGU Research Conference**
IGRC 2011 in Seoul, Korea, October 2011



- **The IGU World Gas Conference**
Kuala Lumpur 2012
Paris 2015

KUALA LUMPUR
2012
WORLD GAS CONFERENCE



- **Co-sponsor of LNG Conferences**
LNG 17 in Houston, USA, April 2013

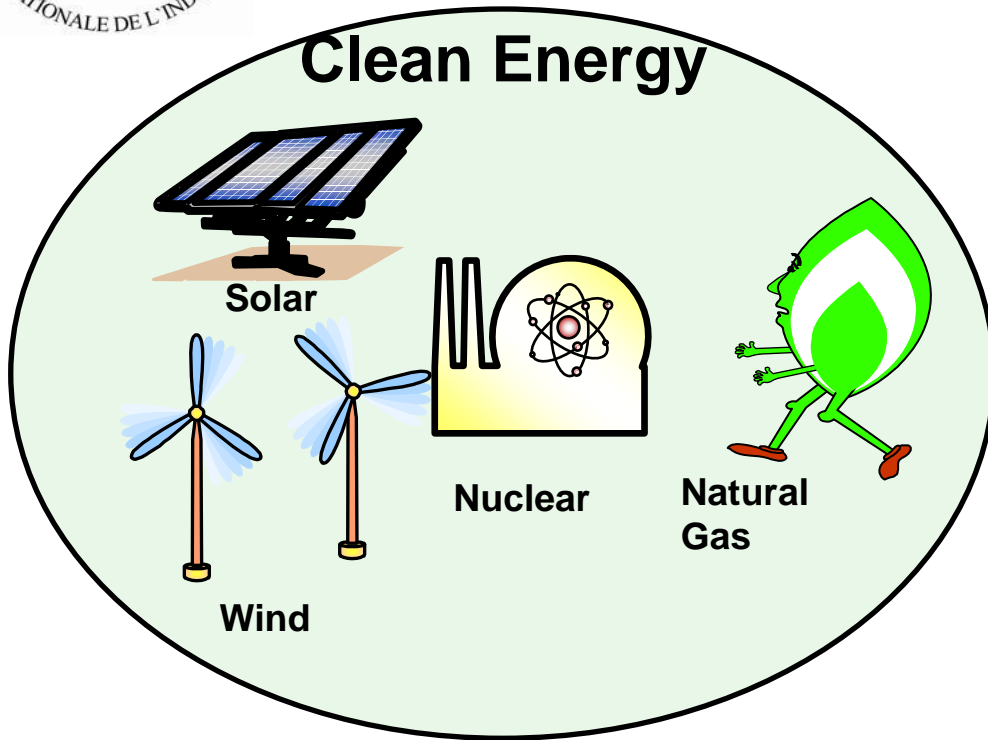


- **Rising population – from 7 to 9 billion in 2050**
- **Human strive for a better life**
- **Technological progress**
- **Climate change concerns**

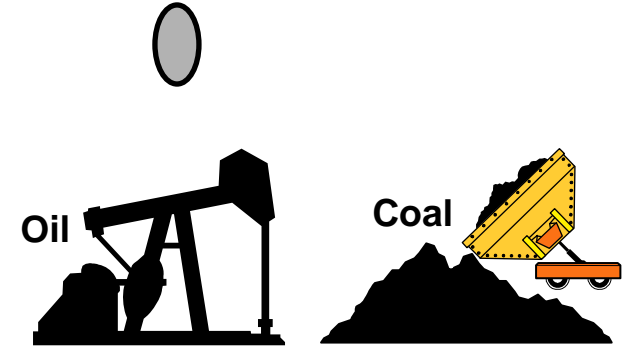




Public and policy perceptions



Fossil Fuels



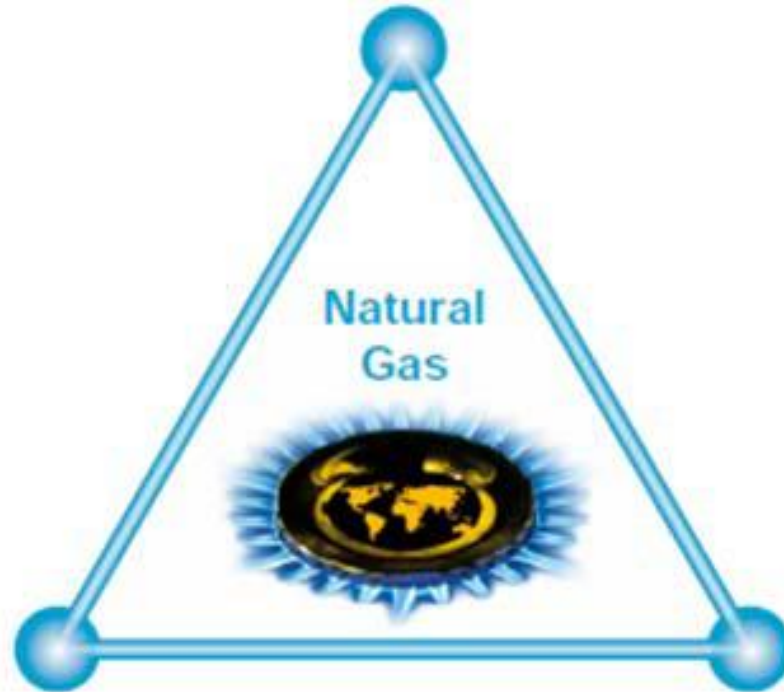


A-A-A



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ACCEPTABLE

AFFORDABLE





ABUNDANT:

Plenty of reserves. and more to come



In addition:

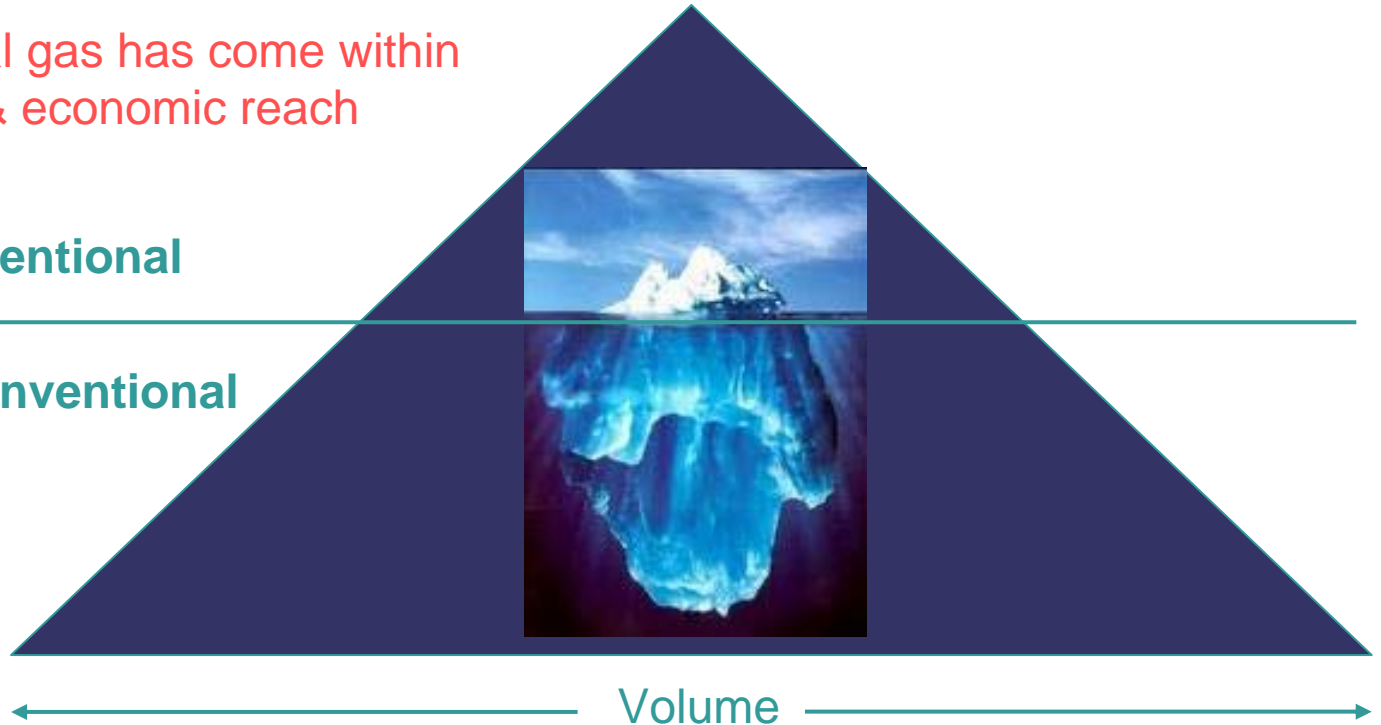
Proven conventional reserves* are growing

Unconventional gas has come within technological & economic reach



Conventional

Unconventional



The total long-term recoverable gas resource base is more than 850 tcm, only 66 tcm has already been produced.

- IEA-WEO2009 -



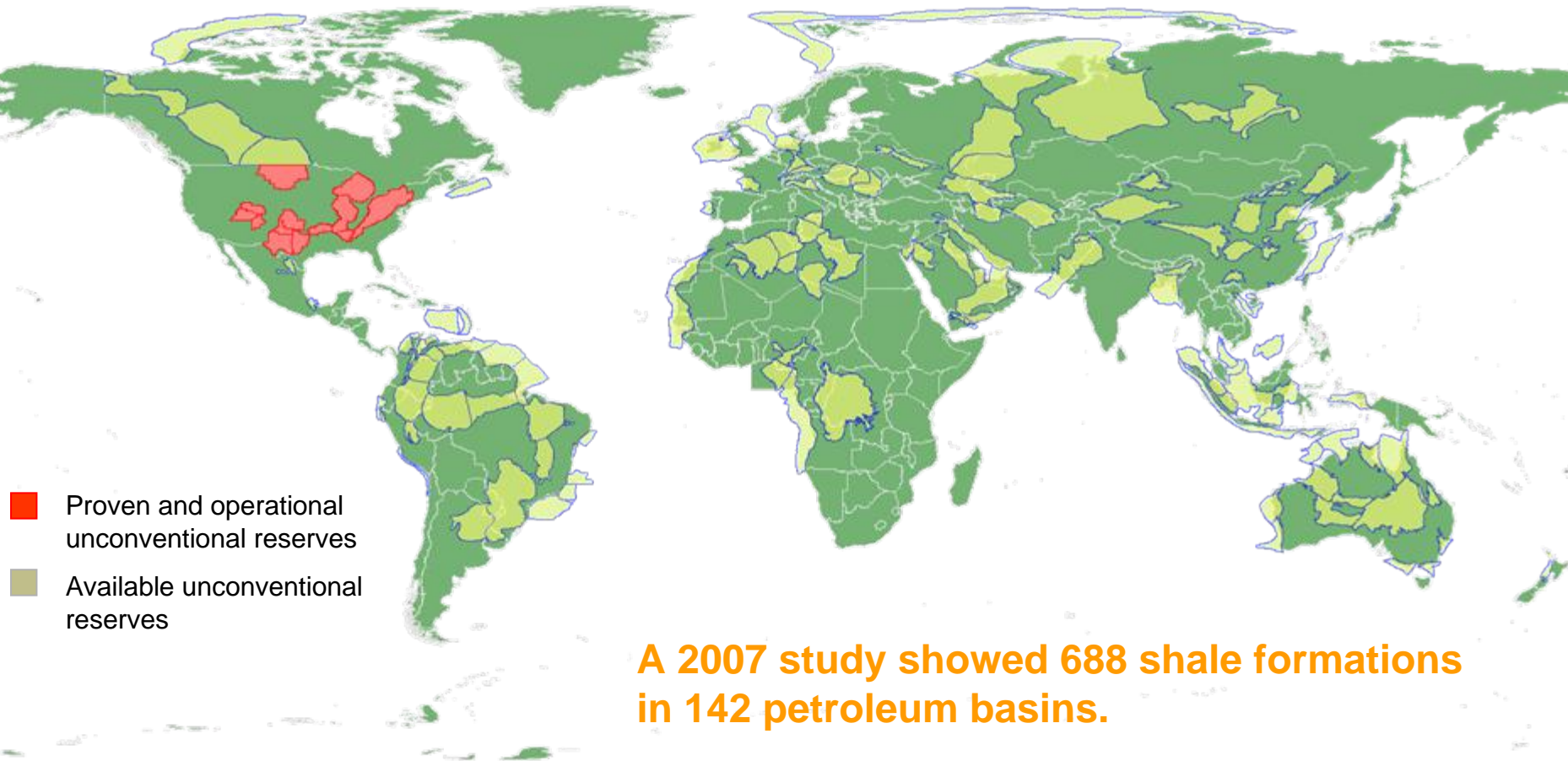
* 185 tcm in 2008



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Worldwide shale potential



A 2007 study showed 688 shale formations in 142 petroleum basins.

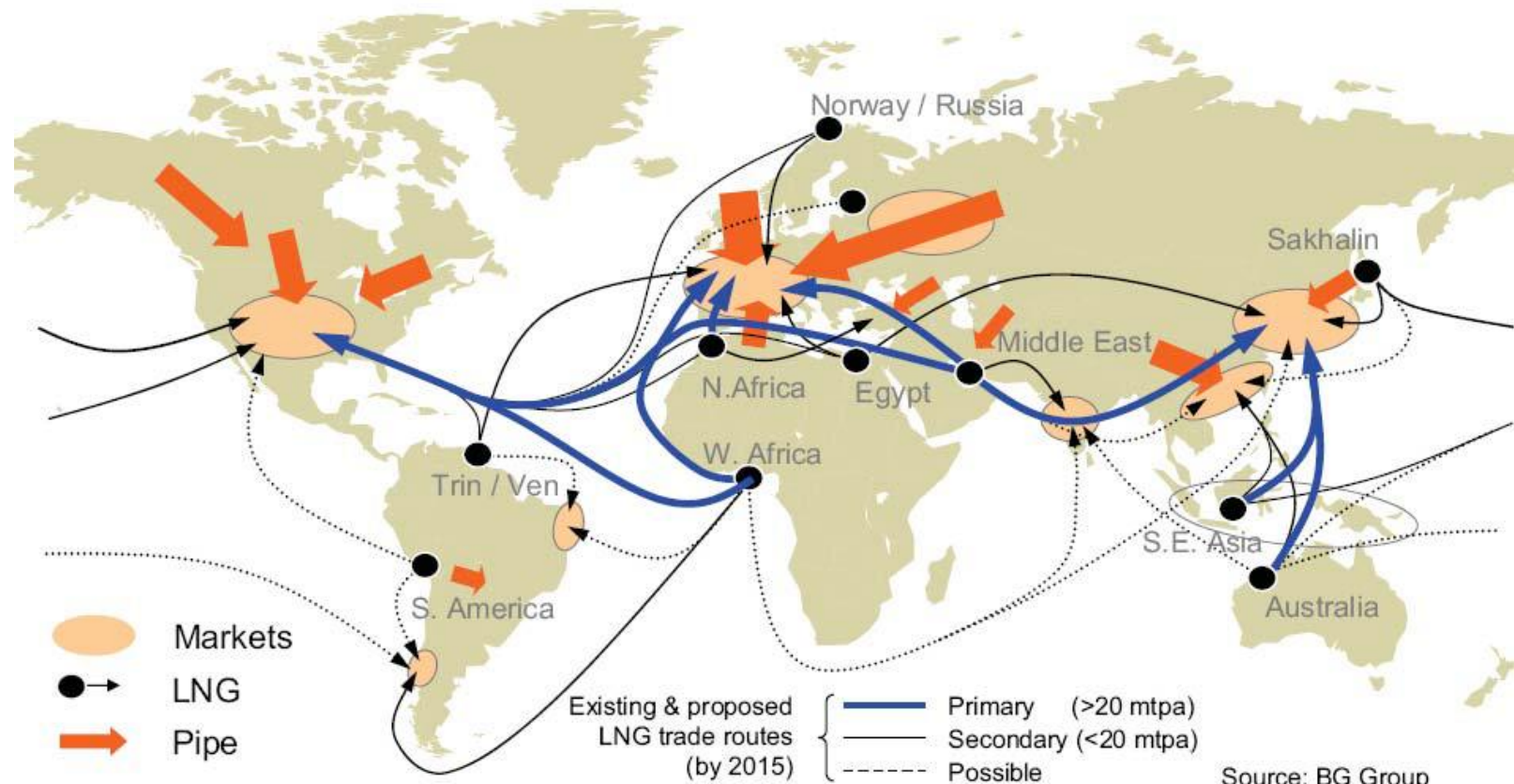
Source: Schlumberger





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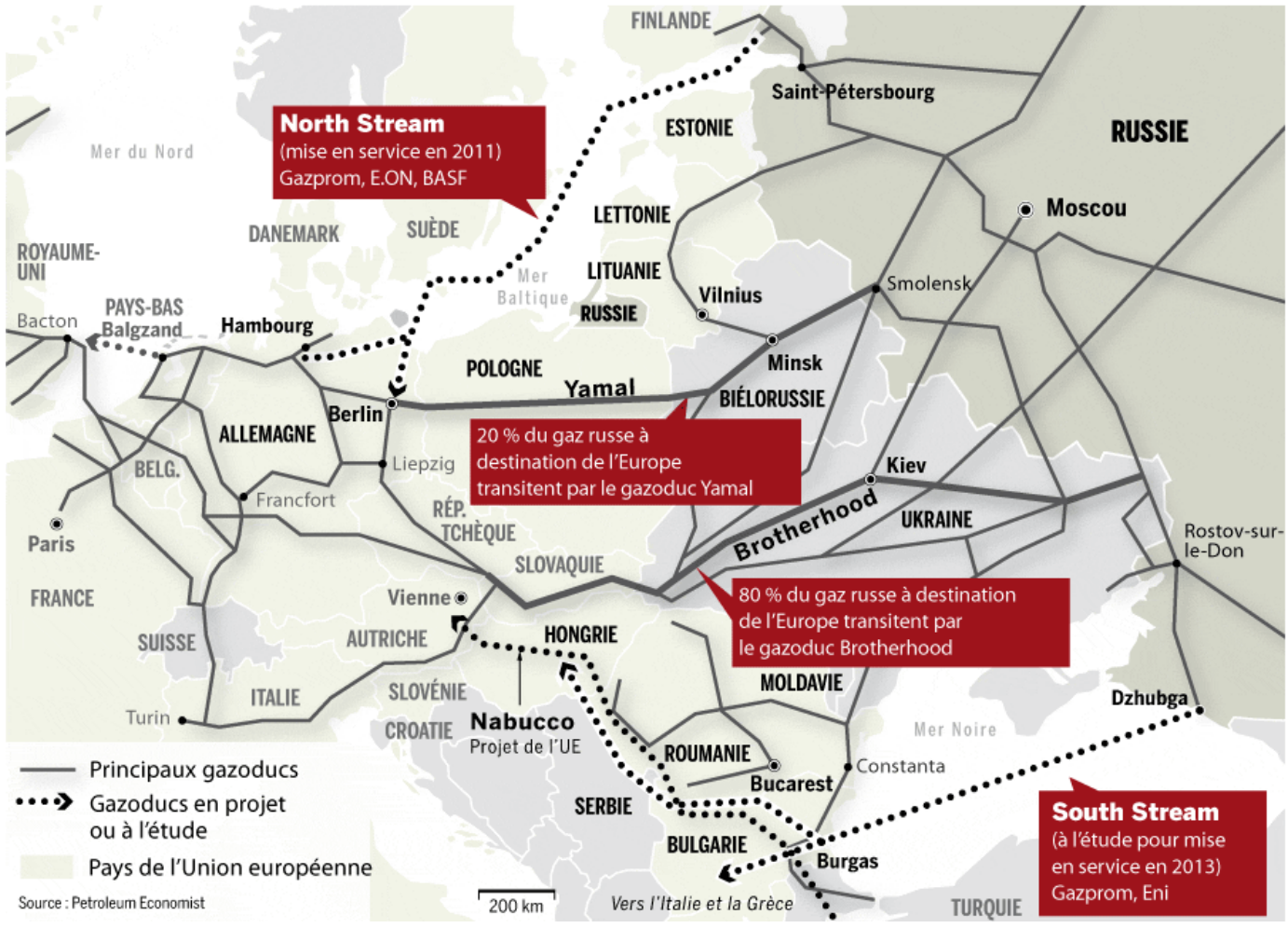
Global gas trade enhancing also energy security



Source: BG Group



ABUNDANT: Accessible



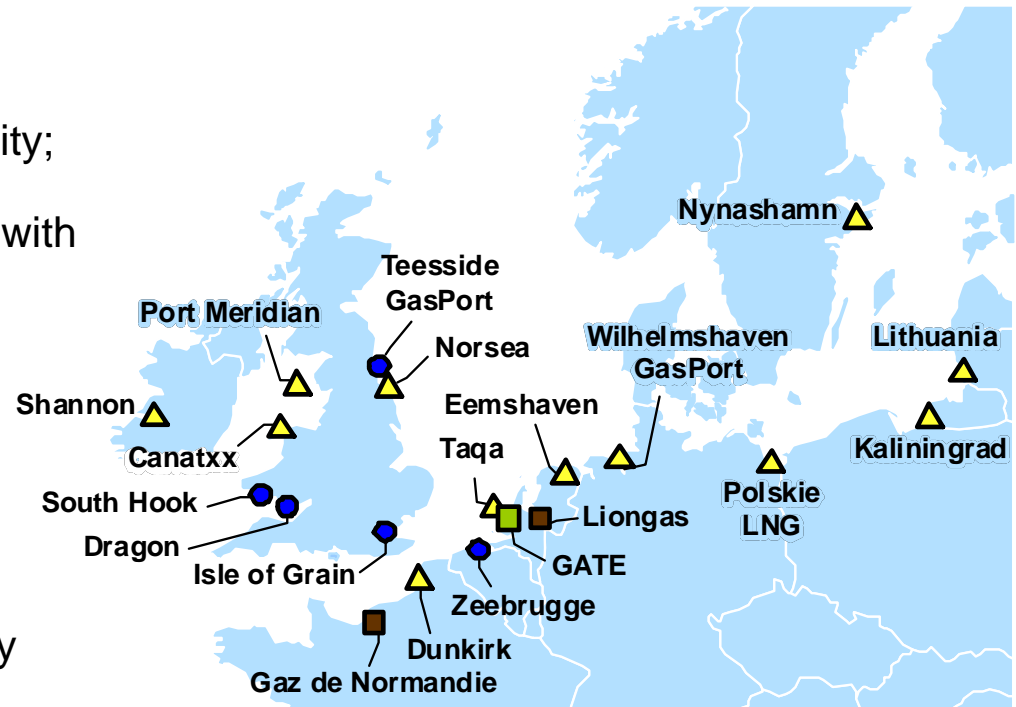


ABUNDANT: Accessible



Main projects: LNG regasification terminals in EU27

- Currently there is 160 bcm/yr of existing LNG regasification capacity; 23 existing plants in 8 countries
- 5 projects are under construction with a total capacity of 30 bcm/yr:
 - “GATE”, The Netherlands
 - due 2011, 12 bcm/yr
 - “Grain 3”, UK
 - due 2010, 7 bcm/yr
 - “Nynäshamns”, Sweden
 - due 2012, 0,3 bcm/yr
 - “OLT Toscana Offshore”, Italy
 - due 2011, 3,8 bcm/yr
 - “Fos Cavaou”, France
 - due 2011, 6,6 bcm/yr



- Existing
- ▲ Planned
- Under Construction
- Deferred/cancelled/rejected





Environmentally ACCEPTABLE



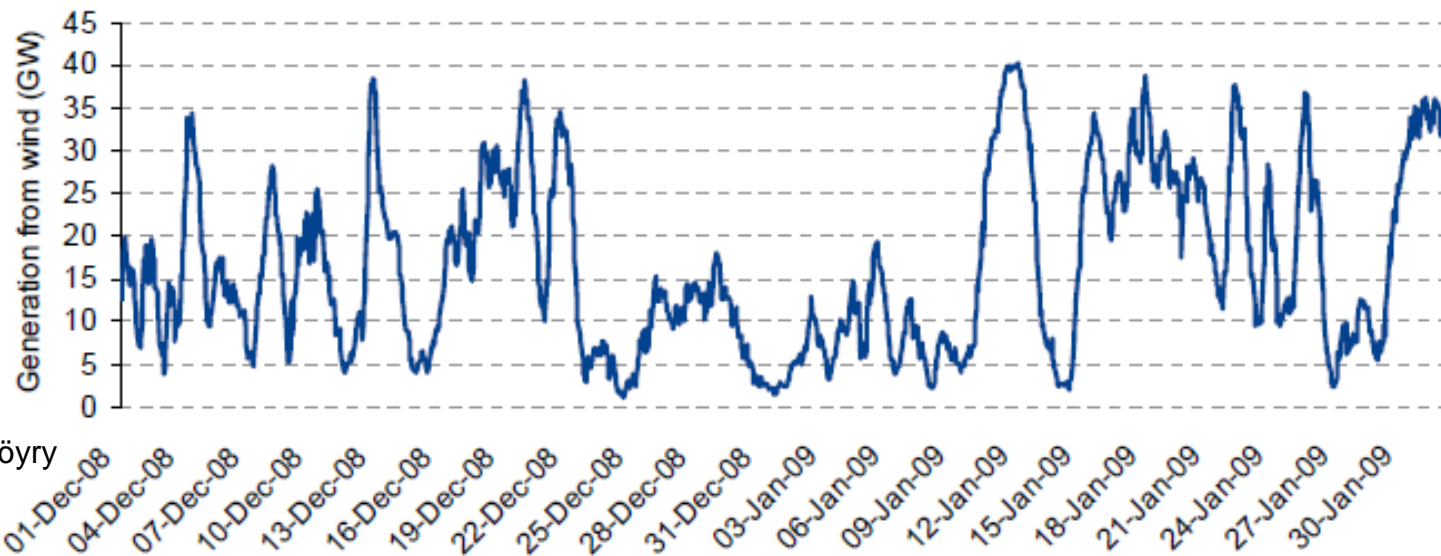
- **Gas is the cleanest-burning fossil fuel**
- **Gas plants emit:**
 - 50% less CO₂ than a modern coal plant
 - 60-70% less CO₂ than an old coal plant
- **There are still hundreds of old coal plants in operation today**



ACCEPTABLE: Complement to renewables



- Wind power is intermittent
- Nuclear cannot match this variability
- Gas is the cheapest and most flexible back-up option for wind power



Source: Shell/ Pöyry





AFFORDABLE: Attractive economics for electricity producers



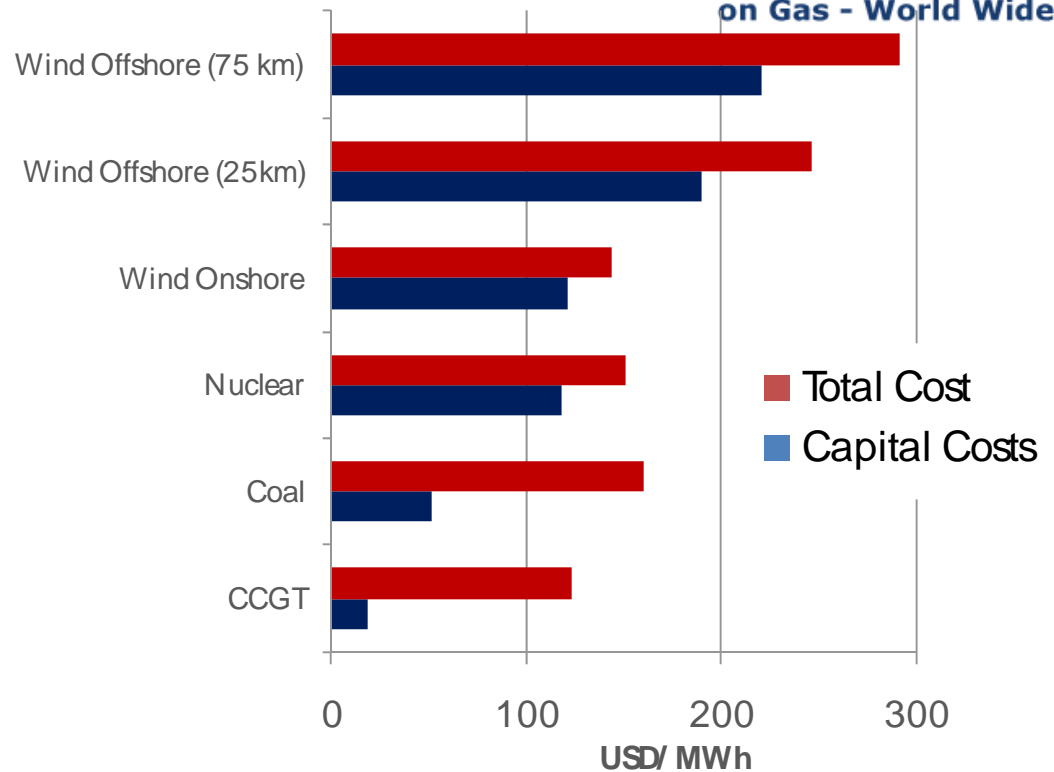
- **Gas plants more energy efficient than coal plants**

- 55-60% vs. 34-42%

- **Gas has much lower capital costs per MW installed:**

- 50% of coal
- 20% of nuclear
- 15% of wind

- **key for cash-strapped economies!**



CCGT: Combined Cycle Gas Turbine
Total Cost = Capital + Fuel + Operating

Source: DECC (Mott MacDonald) June 2010

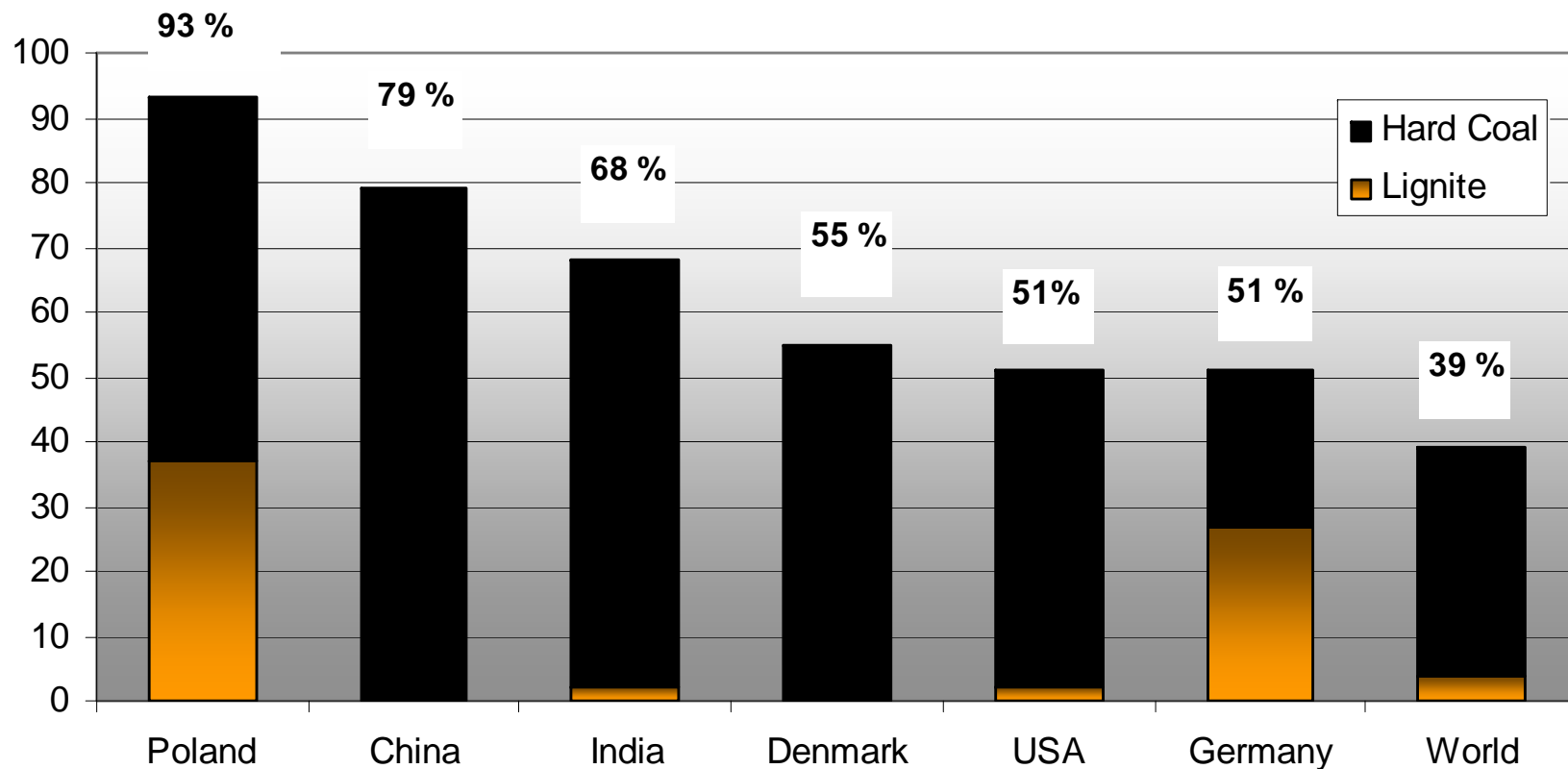




AFFORDABLE: Fuel switching potential



Percentage of lignite and hard coal in power generation





A robust climate-friendly energy strategy



- Enhance energy efficiency and savings
- Increase the use of gas in power generation
 - Gradually replace coal with gas
- Phase in cost effective renewable energy
- Develop Carbon Capture and Storage for gas and coal

 ***Pick the "low-hanging fruits" first!***





Policy messages needed to build trust in natural gas



- Policy documents to reflect role of natural gas
- Regulations to support infrastructure investments



Gas: Green, abundant, affordable, secure



Gas: Part of the long term energy solution



- **Cleanest fossil fuel**
- **Developed and easily transferable technology**
- **Affordable – No large subsidies required**
- **Mitigate CO2 emissions at low cost**
- **Enables wind and solar**



***Natural Gas - part of the
climate solution***



IGU is creating arenas for sustainable solutions



- **Ministerial Gas Forum**
2nd IEF – IGU Ministerial Gas Forum,
Doha, Qatar, 30 Nov 2010
- **UN Climate Change Conference (COP16), Cancún, Mexico**
 - IGU Worldwatch Gas Symposium, 5 December



COP16

International Gas Union (IGU) and Worldwatch Institute present
"The Role of Natural Gas in a Low-Carbon Economy"
A Symposium at the United Nations' Climate Change Conference in Cancún





The IEF-IGU Ministerial Gas Forum



News, Views
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Second Ministerial Gas Forum

Doha, Qatar - 30 November, 2010

“The Role of Natural Gas in a Sustainable Energy Future”



Natural Gas CARES

C Clean

Natural Gas is clean. Natural gas produces less nitrogen oxide than coal, and more than 50% less CO₂. Gas produces no sulphur and no solid waste

Natural gas promotes sustainable transport. Natural gas vehicles can improve air quality and energy efficiency in large cities.

A Affordable

Natural gas is the affordable choice. Modern gas-fired plants have a capital cost that is half that of coal, one-third the cost of nuclear and one-fifth the cost of onshore wind.

Natural gas does not require subsidies. Unlike heavily subsidized renewable technologies, natural gas use allows countries to affordably reduce their emissions.

R Reliable

Natural gas is available now. Gas is readily available from a variety of sources, both pipeline and LNG. The environmental benefits of gas can be realized immediately.

Natural gas is versatile. Gas can serve as a flexible partner in power generation for intermittent energy sources like wind and solar, facilitating the phase-in of renewables.

for the World

E Efficient

Natural gas is efficient. Modern gas-fired power plants are 40% more efficient than coal plants.

Natural gas saves time. Gas-fired plants require less construction time than nuclear or coal plants.

S Secure

Natural gas is abundant. Global production will increase over the next 20 years, with growing supplies from both conventional and unconventional resources.

Natural gas is safe. The natural gas sector has the best safety record in the industry.

It is time to act. It is time to choose Natural Gas.



International Gas Union

The Voice for the Gas Industry Worldwide

www.igu.org



25th World Gas Conference
"Gas - Sustaining Future Global Growth"
Kuala Lumpur, Malaysia
4-8 June 2012

www.wgc2012.com

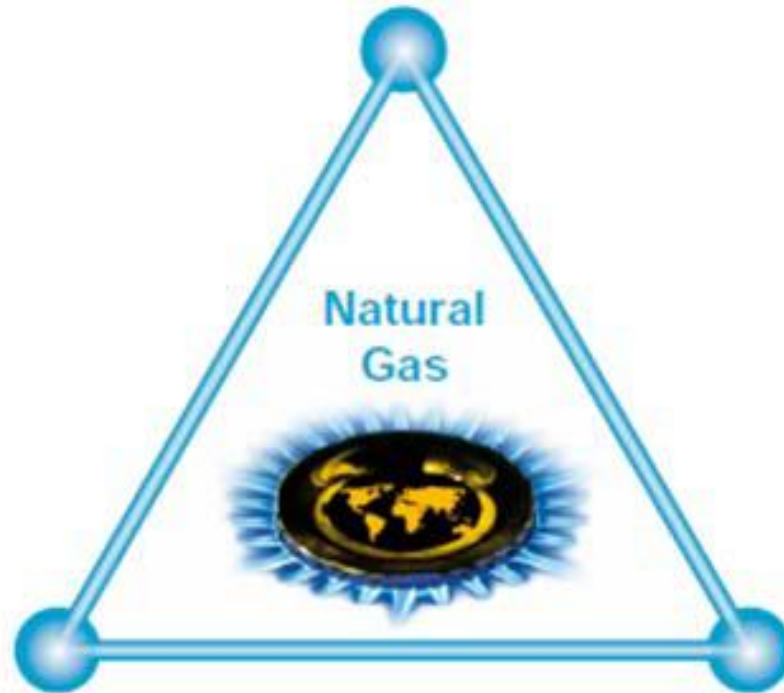


Thank you for your attention!



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ABUNDANT



ACCEPTABLE

AFFORDABLE





25th World Gas Conference KL 2012



Thank you for your attention!



photo:WGC 2012

Selamat Datang!

KUALA LUMPUR
2012
WORLD GAS CONFERENCE



4-8 June 2012
Kuala Lumpur
Malaysia

