

# 26<sup>th</sup> World Gas Conference

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## *Thematic Session 1.2*

Natural gas available everywhere? An assessment of global resources.

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# Conventional Resources

[trillion cubic feet]

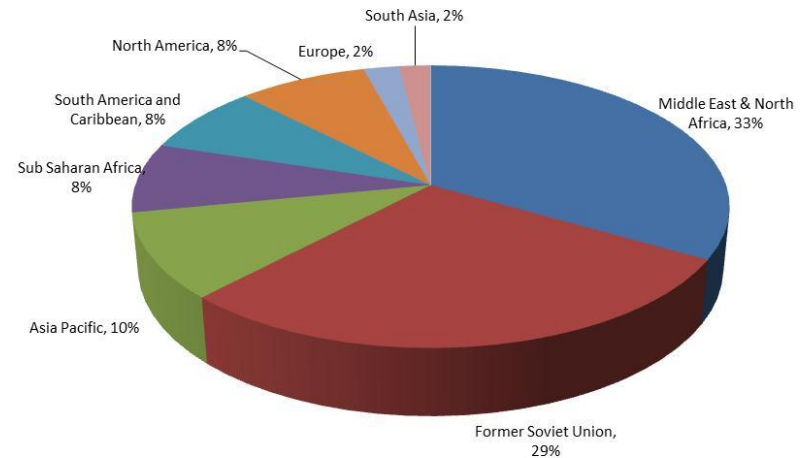
	Proven Reserves
Middle East & North Africa	3,114
Former Soviet Union	1,875
Asia Pacific	456
Sub Saharan Africa	223
South America and Caribbean	271
North America	414
Europe	125
South Asia	81
<b>Total</b>	<b>6,558</b>



55 years



47 years



# Conventional Resources – Frontier Exploration Areas

## Arctic

- USGS: ~30% of undiscovered gas could be found in the Arctic
- Highest potential areas:
  - Norway, in Barents Sea (e.g.: Snohvit)
  - Russia's main arctic gas potential in Barents and Kara seas (e.g.: Shtokman). Under explored areas in east Siberia, Laptev and Chukchi seas could also hold gas.
  - North America, experience in Prudhoe Bay but rest mostly unexplored.
  - Greenland is believed to be a promising area, but harsh environmental conditions and lack of infrastructure will probe to be costly.

## Other areas

Holding relevant discoveries, but where exploration potential is still high and significant geological risk and technical challenges are present include:

- Middle East
- Australia Offshore
- Central Asia
- East Africa

# Unconventional Resources

## Shale Gas

[trillion cubic feet]

	<b>Risked Technically Recoverable</b>
North America	2,279
Asia	1,840
South America	1,431
Africa	1,361
Europe	883
FSU	445
<b>Total</b>	<b>8,240</b>

US/Canada already proved concept. Mexico's reform potential.  
China and Australia with highest resources.  
Argentina holds 802 Tcf, concentrated in Neuquen.  
Algeria and South Africa taking initial exploratory steps.  
Poland and France with high resources. Regulatory limitations.  
Western Siberia leading activity.

 **70 years**

## Coal Bed Methane

- Resources estimated at 2,980 – 9,260 tcf (25 – 78 years of consumption).
- Russia, China, Australia and North America show highest potential.

## Gas Hydrates

- Estimated resources ranging 10,000 – 100,000 tcf
- Technology to be proven, several research projects underway (Japan/US)

# Conclusions

- Natural gas reserves are abundant, plenty of years of supply from proven reserves and known plays.
- Vast amounts of additional resources are available, albeit under more challenging conditions.
- Geographical distribution of resources will become a challenge as largest endowments (Russia / Middle East) at large distance from consumption areas (India / China / Europe)
- Natural Gas has the potential to play key role in energy markets, increasing share leveraged by its abundance and lower environmental impact vs. other fossil fuels.



*Thank You*