

Gas market regulation: the role of LNG

Incentives for the utilization and development of LNG infrastructures

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Agenda

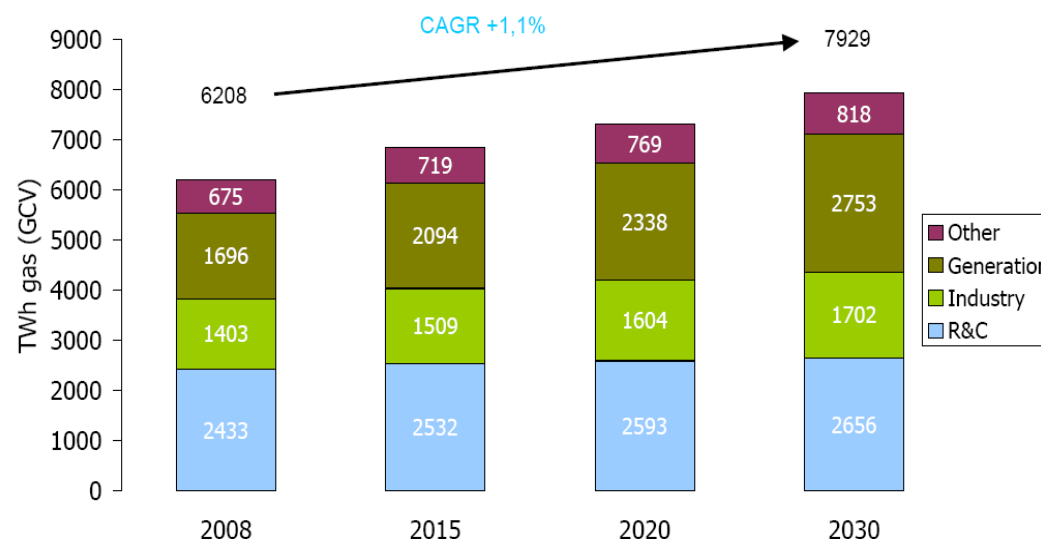
- *The increasing importance of LNG in Europe*
- Regulatory incentive on construction and utilization of LNG terminals
- Conclusions

European gas demand

The natural gas demand in Europe can be forecasted at CAGR +1.1% over the 2008-2030 period*

- Although scenarios for power generation are constantly revised downwards, this sector still appears to be the main driver for gas demand in Europe.
- Depending upon CO₂ and nuclear policies, natural gas may face strong competition towards alternative sources of electricity production (coal, nuclear, RES...)
- A deep recession could lead to a demand reduced by 13% in 2010
- (Source: Global Insight European Gas Demand & Supply Outlook – December 2008).

Natural gas demand by sector in EU31



Source: B3G - DS - SEV - Economic Studies, Prices and Markets based on Global Insight 2008 datas

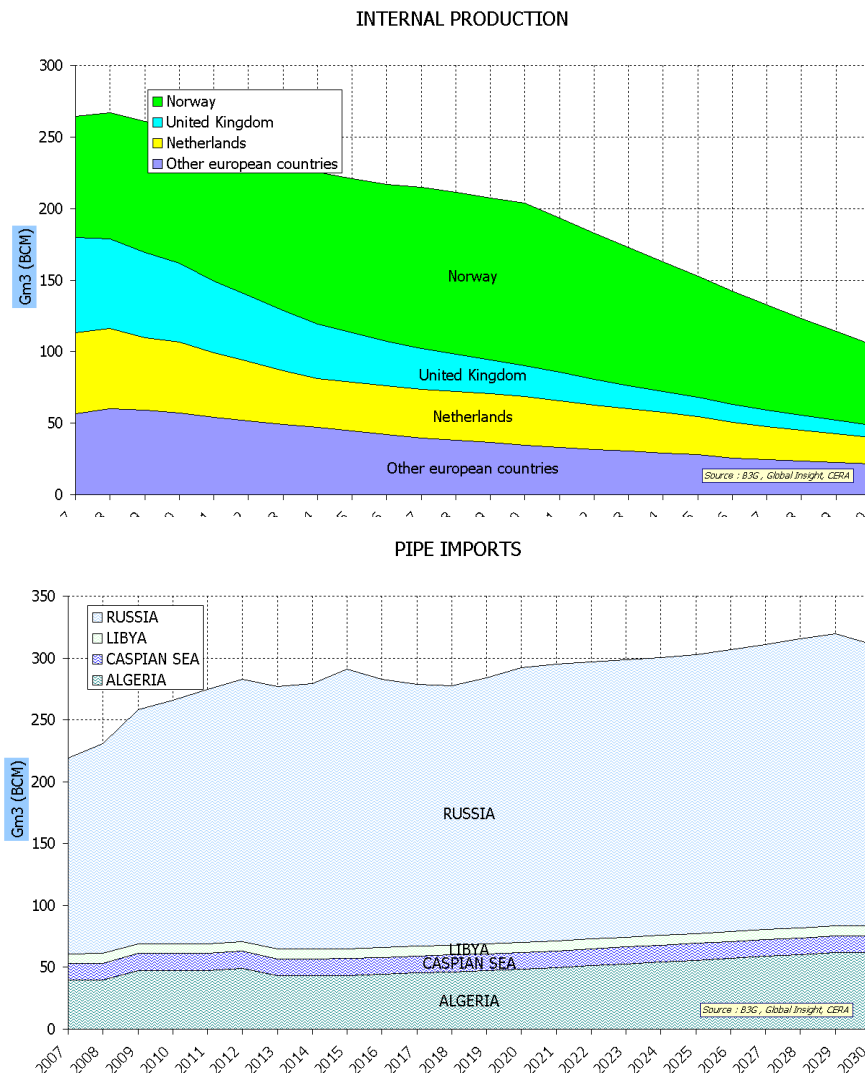
On the long term, growth is expected despite some uncertainties

European gas supply

Europe is increasingly depending on imports for natural gas, due to the declining domestic production.

European pipe imports face uncertainties:

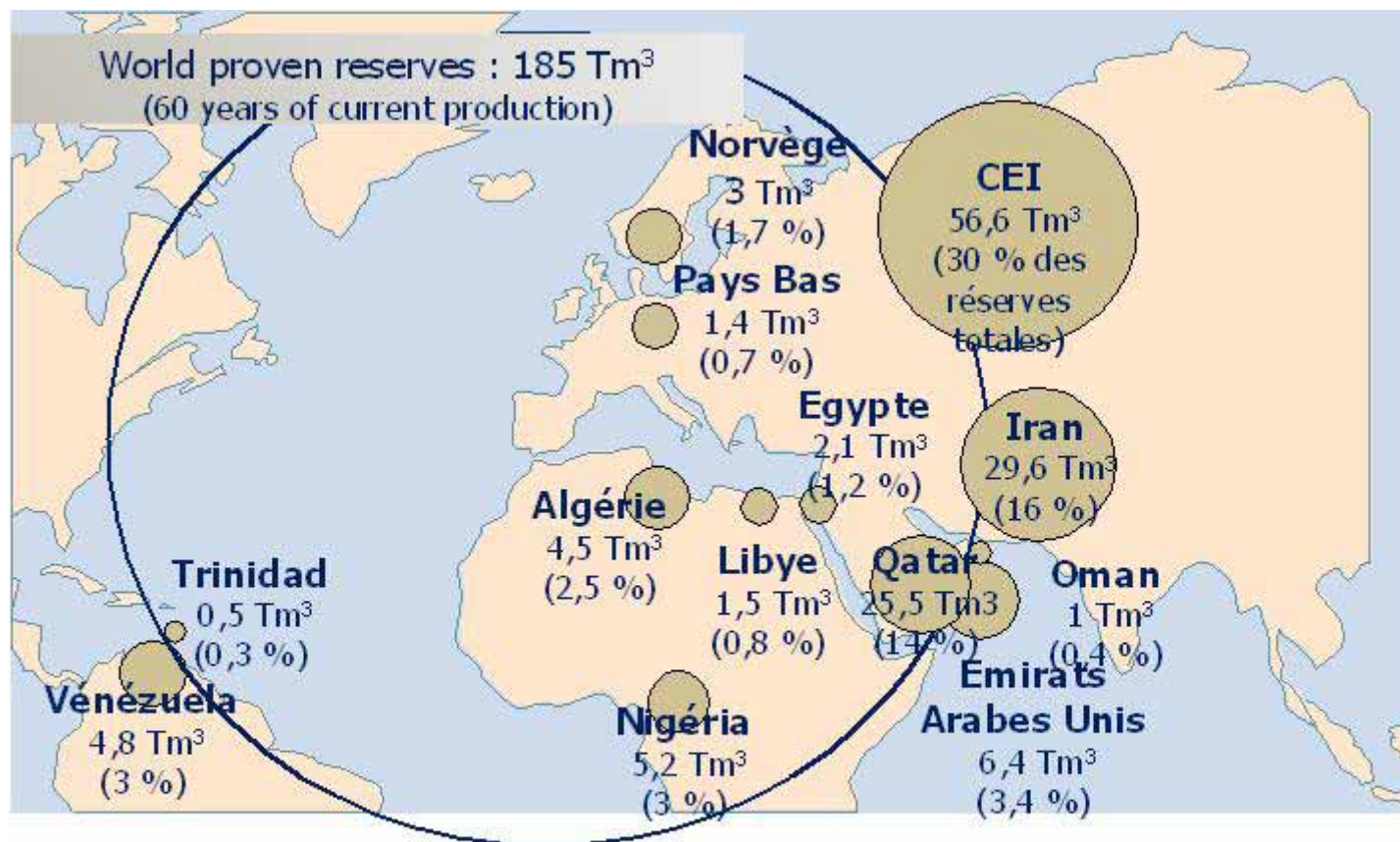
- From Russia:
 - Growth of domestic demand in Russia despite implementation of energy efficiency improvements
 - Capacity for Russia to finance new infrastructures to export its production (Yamal 2012, Shtokman 2018) and to stimulate the independent producers?
 - Imports from Central Asia subject to infrastructure development
 - Disputes with Ukraine
 - Development of supply route to Asia?
- From Algeria:
 - Uncertainties in gross production profile
 - Internal demand increase subject to economic development and political choices
- From the Caspian Sea:
 - Important reserves and export potential, subject to infrastructure and geopolitical choices



Europe will need new LNG infrastructure to compensate its domestic production decline

Gas supply : increased role of LNG

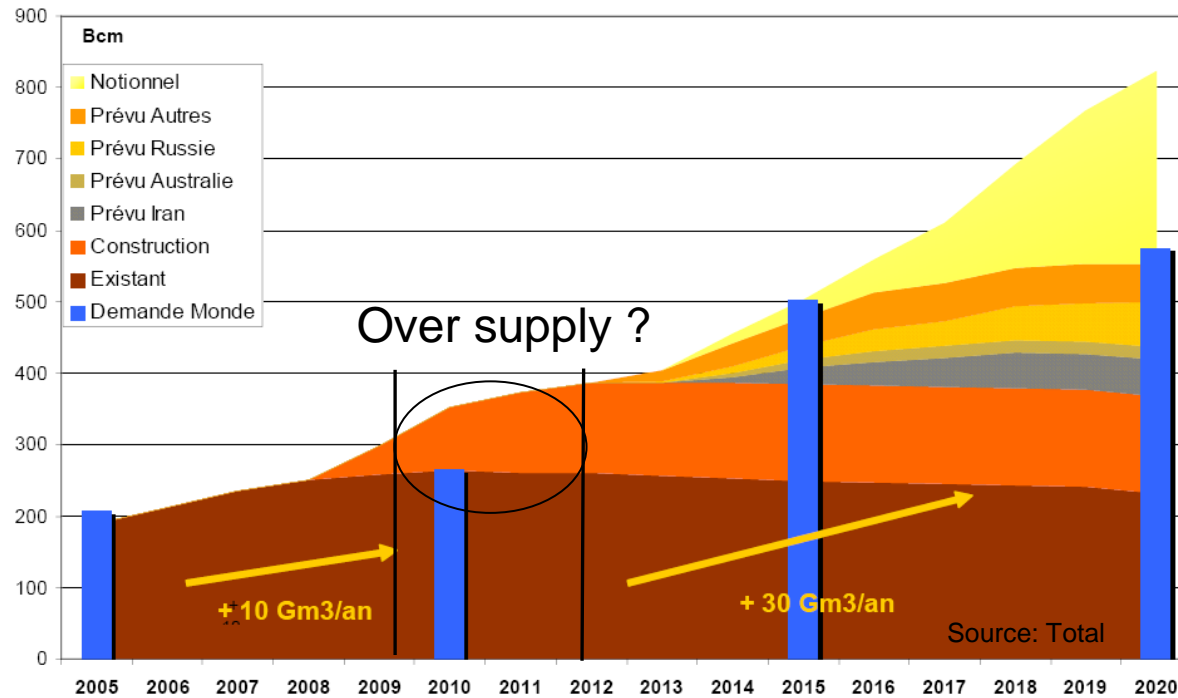
Economically accessible reserves to Europe



With LNG nearly 80% of proven reserves are accessible to Europe (radius of 7000 km)

Source: DSDD, BP, Statistical Review 2009

Future gap between LNG supply and demand

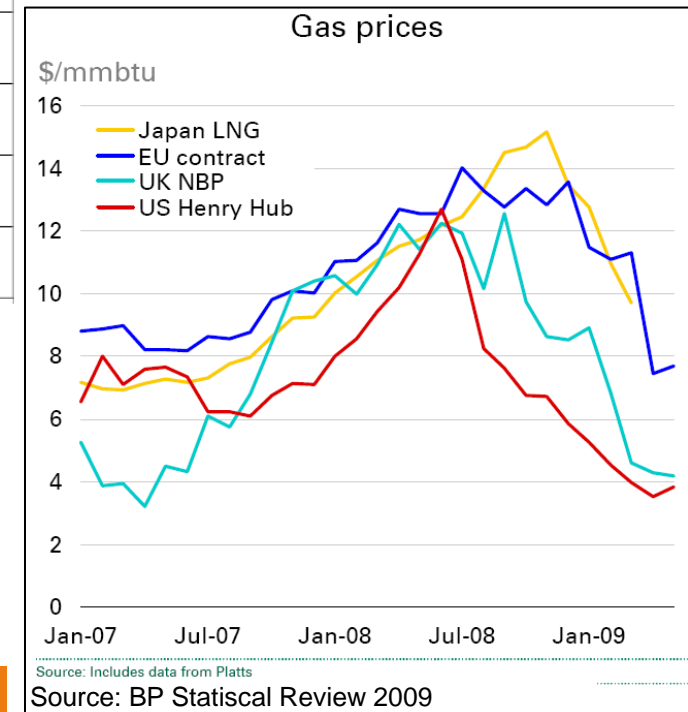


- New liquefaction capacity to come online in 2009-2010, so an oversupply is expected

However

- Few projects in the years after, credit crunch may hinder new projects
- Growing LNG demand possibly not to be met from 2013 and onwards

LNG prices could plummet further in case of over supply





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Regulation objectives for attracting LNG in Europe

Europe needs to import more gas and wish to diversify its supply
LNG is key for Europe

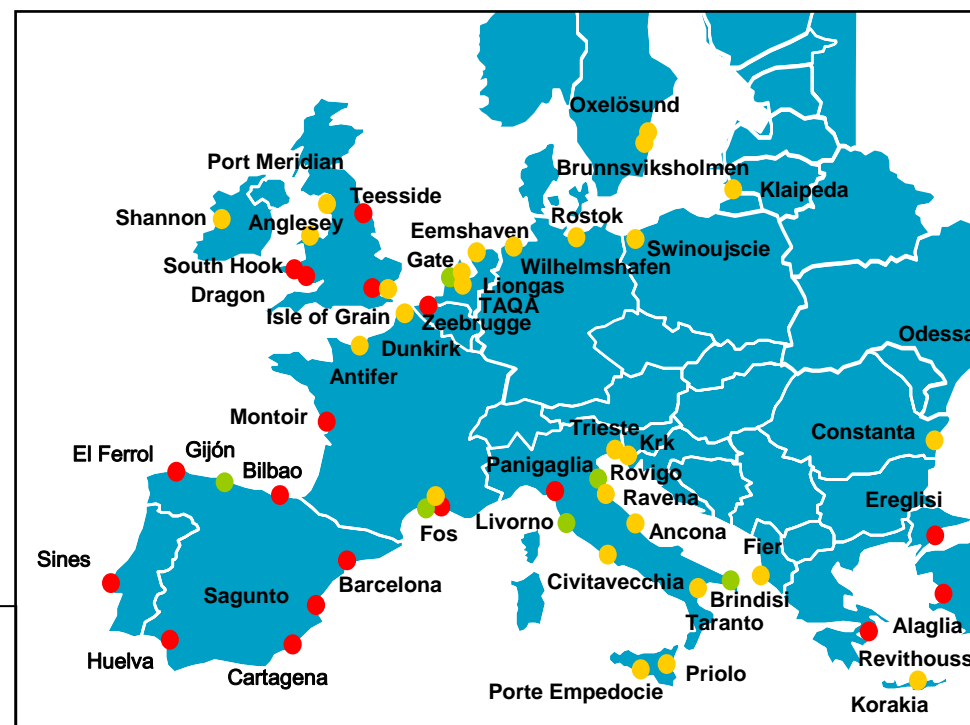
Europe is facing same situation as US some years ago

⇒ After Hackberry decision in 2002, 40 regas projects in the US

An appropriate regulation of infrastructures is needed:

- The basic rule in Europe: LNG re-gas terminals in Europe are regulated
- Exemptions from TPA can be granted (9 projects have been decided under Article 22)

- Regas – existing terminals
- Regas – under construction
- Regas – under study



Source: GLE, July 2009



Working group* on regulation dealing with LNG terminals in France

Members

- Colette Lewiner (Présidente)
- Jean-Marie Abadie (Dideme)
- Philippe Boisseau (Total)
- Walter Boltz (ERGEG)
- Laurent Chabannes (Uniden)
- Jean-François Corallo (Gaz de France)
- François Dumas (Total)
- François Lévêque (Mines de Paris)
- François Morin (Université Toulouse)
- Luc Poyer (Gaz de Normandie)

Objectives for regulatory framework

The regulation of French LNG terminals has to fulfill the following 3 objectives :

- **Enhance security of supply** in France and in Europe by diversifying the sources of supply ;
- **Increase competition** : upstream (supply) and downstream (commercialization) in the gas supply chain ;
- Allow to use geographical and historical assets , by promoting investments in France and in Europe to be able to :
 - Play a key role in futures supplies
 - Increase their part in the LNG world market

The Working group conclusions are exploited by CRE for its coming tariff proposition and exemption decision.

Working Group entrusted by the French Regulator CRE. Dominique Jammes, Florence Dufour and Rosaline Corinthien provided the Group's technical support



The Working Group dealt with two main regulatory issues*

Long term visibility

Investor point of view :

- « *to take an investment decision, I need to be able to establish a business plan over 20 years* ».

⇒ **The tariff must be fixed in advance**

User point of view :

- « *Is easier for me to take a commitment if I know in advance the tariff I must pay to the operator* ».

⇒ **The tariff must be fixed in advance**

But how to establish a tariff when financials and operational conditions are not known ?

TPA exemption

Article 22 of directive 2003/55/EC allows new large-scale gas infrastructures (interconnections between member states, LNG or storage facilities) to obtain exemption from third party access.

Three steps in France :

- CRE Advice ;
- Minister decision ;
- Right of substitution of the European commission.

ERGEG works to define principles for exemptions derogations requests.

At present the European terminals projects derogation requests have been accepted for the whole or for a part of the terminal capacity

*The working group report is available on the following web site: <http://gttm.cre.fr/>



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Conclusions

During the crisis:

- The LNG re-gas investments could be differed or cancelled due to
 - Lack of demand
 - Lack of financing
- The demand will decrease and this will lead to
 - A lower rate of utilization of the infrastructure
 - A lower rate of return for the project
 - Smaller investors/operators could be in difficulties
- A new wave of Mergers and Acquisitions could happen

After the crisis

- Market could face tension again, depending on the share of natural gas, and more specifically of LNG, in the energy mix

If investments don't continue, the wake-up could be difficult.



Thank you for your attention



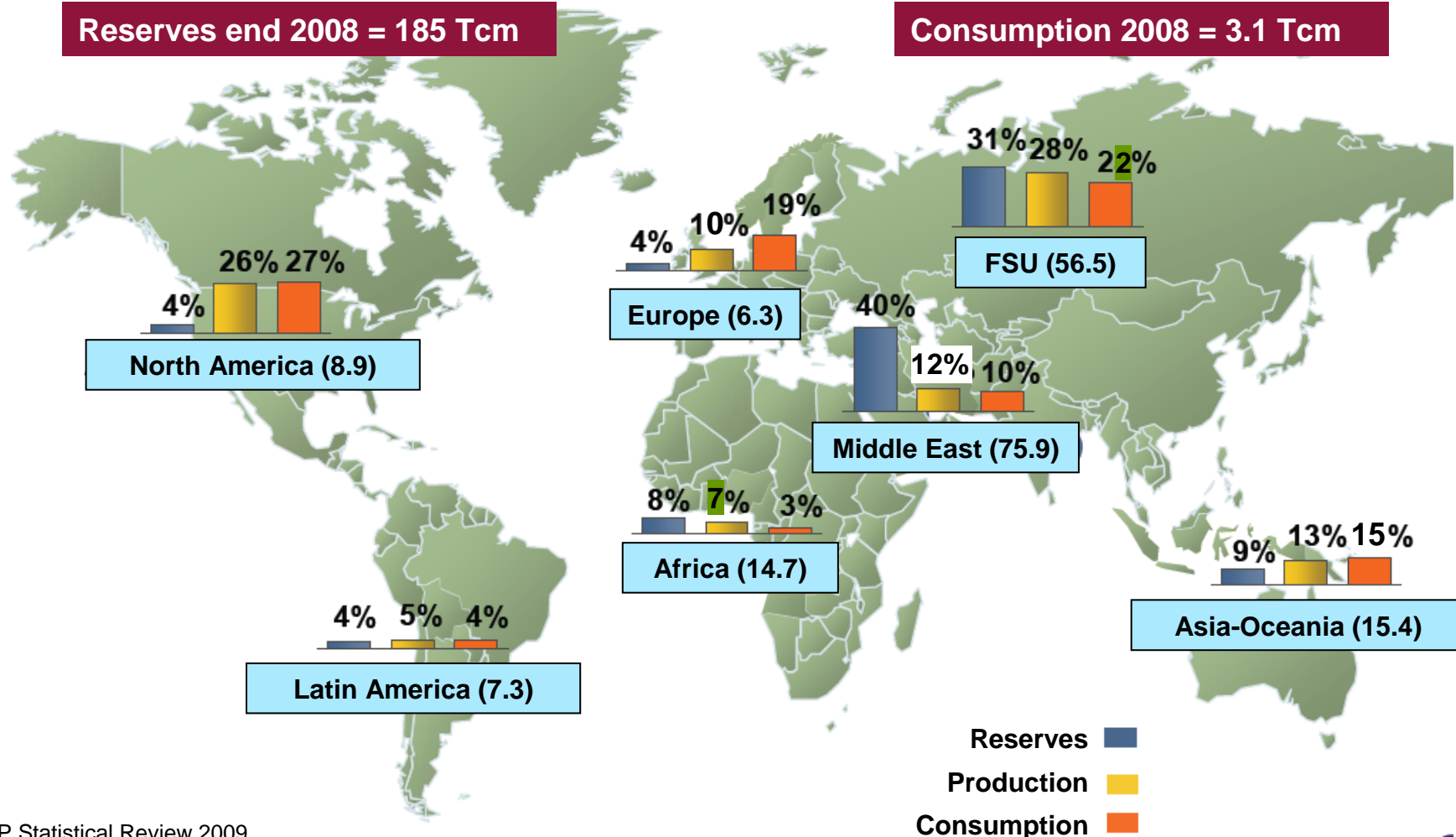
Annexes



Worldwide: geographic dissociation of gas reserves and demand

Reserves end 2008 = 185 Tcm

Consumption 2008 = 3.1 Tcm



Source: BP Statistical Review 2009

Resulting in major gas trade movements in the world (2008)

