

# 17<sup>th</sup> INTERNATIONAL CONFERENCE & EXHIBITION ON LIQUEFIED NATURAL GAS (LNG 17)



Competition pipeline gas vs LNG in Europe  
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17 April 2013

International Organizers



Host Association



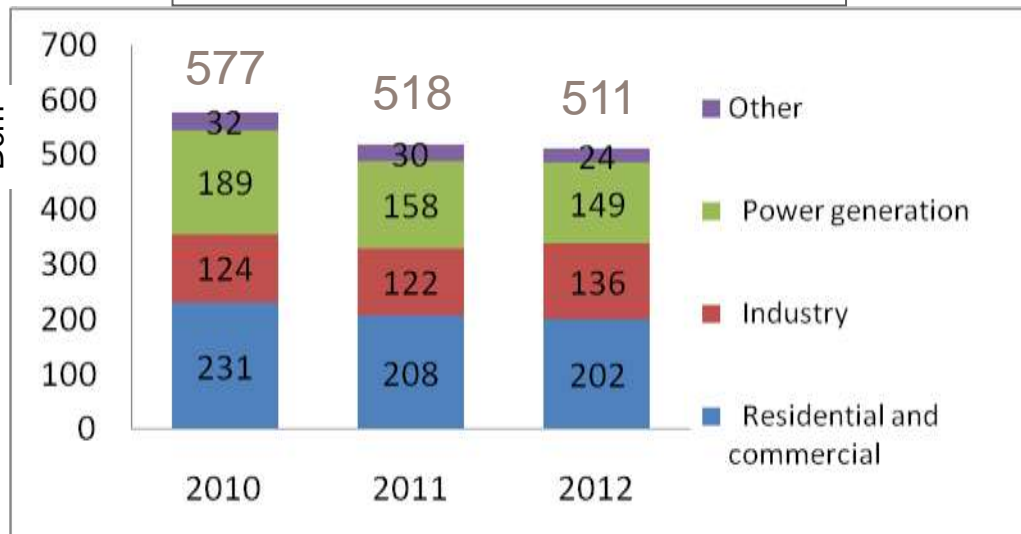
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# European Natural Gas and LNG markets – Current Situation

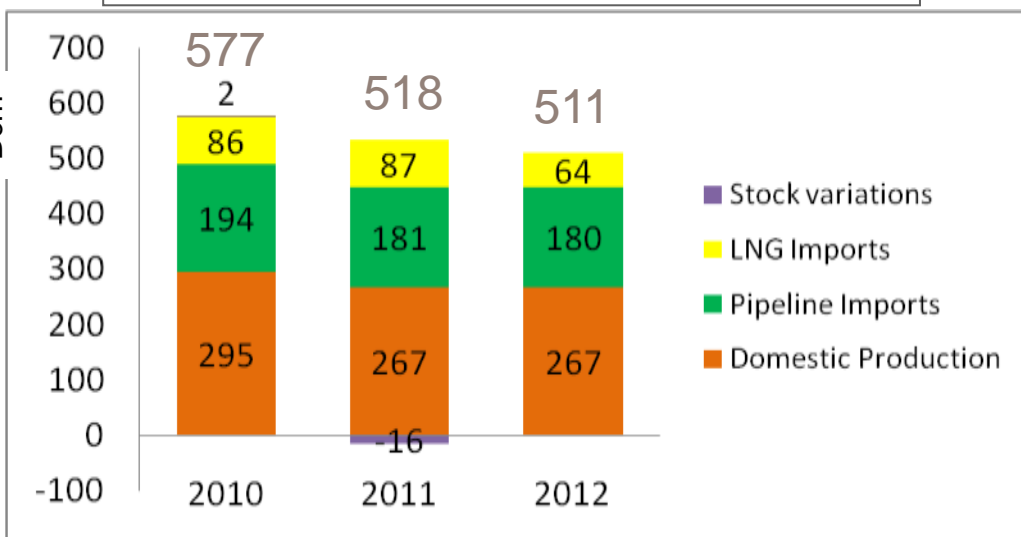
# European natural gas consumption

European natural gas consumption by sector



► **Decreasing European natural gas demand by 1.4% in 2012 vs 2011 due to challenging economic conditions and competition with coal in power.**

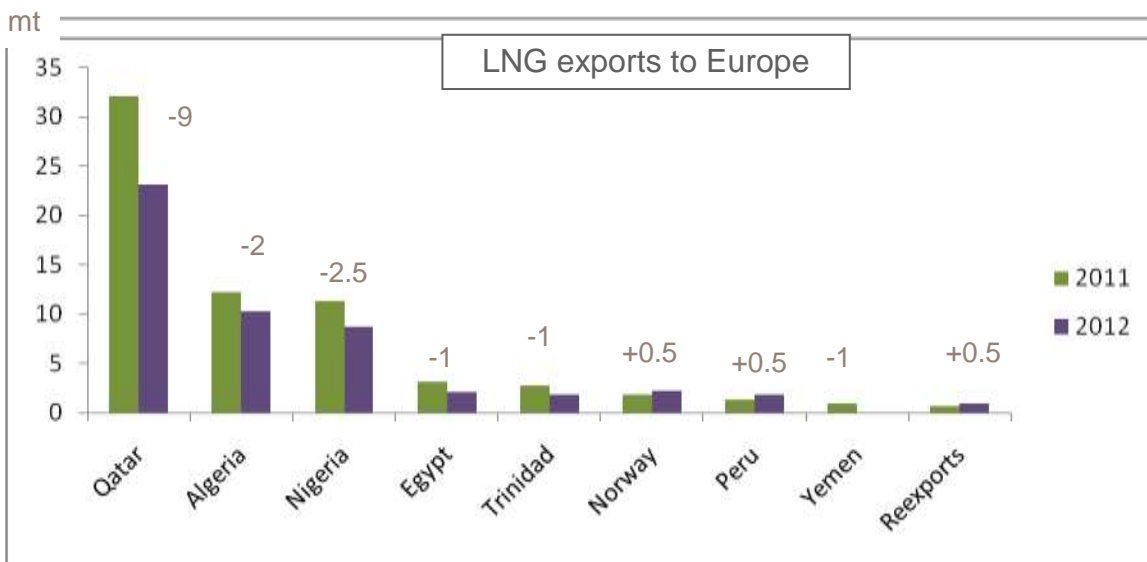
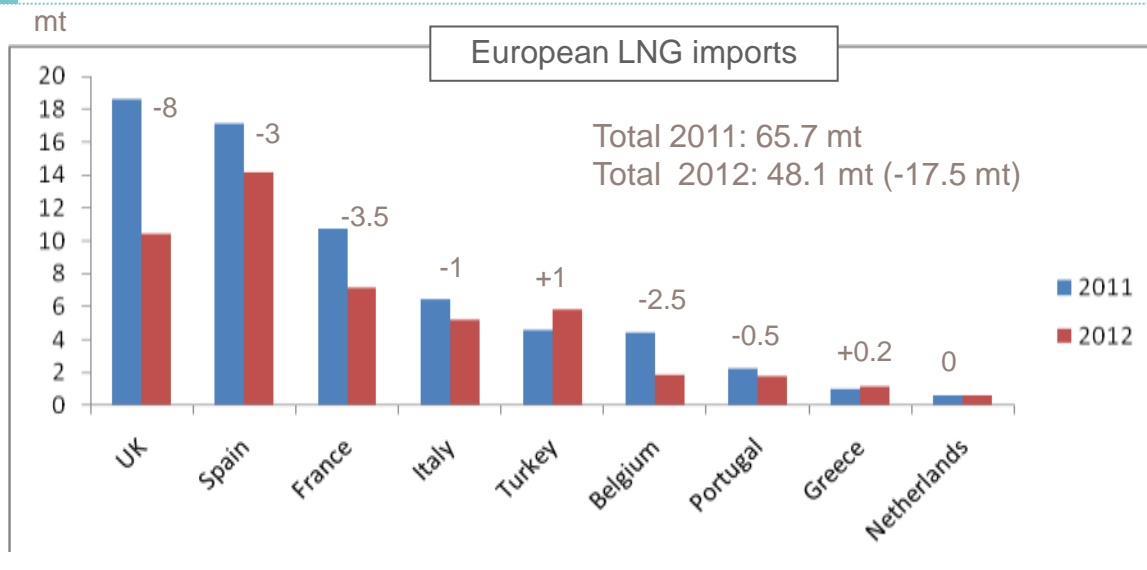
European natural gas consumption by supply source



► **In 2012, pipeline gas imports to Europe remained stable.**

► **LNG imports fell by 23 Bcm.**

# Focus on the European LNG flows 2012 vs. 2011



▶ **European LNG imports dropped by 23 bcm or 17.5 mt (-27%)**

■ **Asia (+15.5 mt) and Latin America (+3.5mt) attracted flexible LNG, out of Europe;**

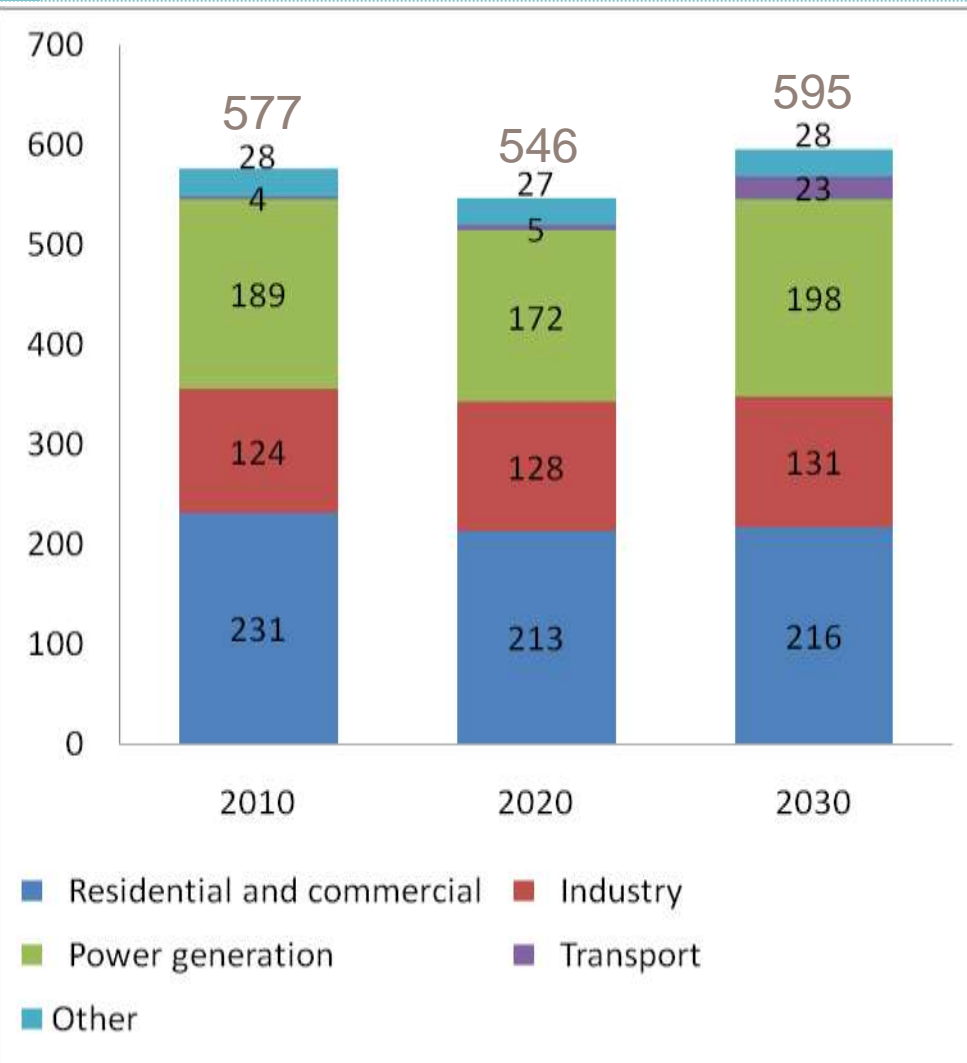
■ **Liquefaction plants faced production issues in Egypt and in Algeria: - 3.1 mt.**

▶ **Decreasing imports in the UK: -8.2mt. The country is now the 2<sup>nd</sup> European LNG importer.**



# European Natural Gas and LNG markets – Long-Term Outlook

# Europe's long-term natural gas demand



▶ *European gas demand is expected to grow between 2010 and 2030 at an average annual rate of **+0.16%**.*

▶ *Two distinct periods are expected to shape the European market;*

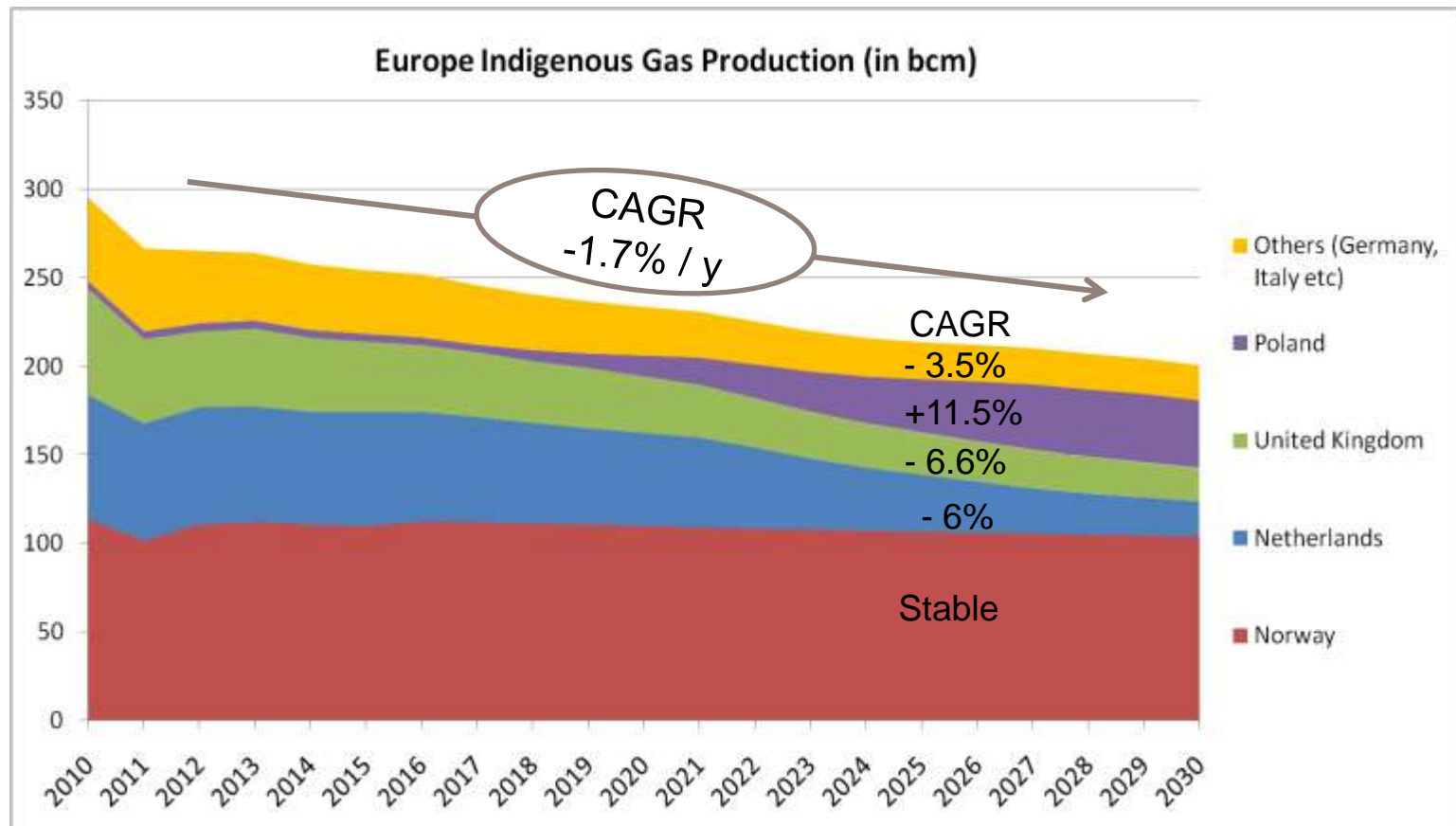
- *2010-2020: decrease in gas needs (-31 bcm)*
- *2020-2030: demand picking up (+49 bcm)*

▶ *Consumption growth is anticipated in **transport** (+19bcm), in **power generation** (+9bcm) and in **industry** (+7bcm).*

Source: CERA March 2013

# Europe long-term natural gas supply : domestic production

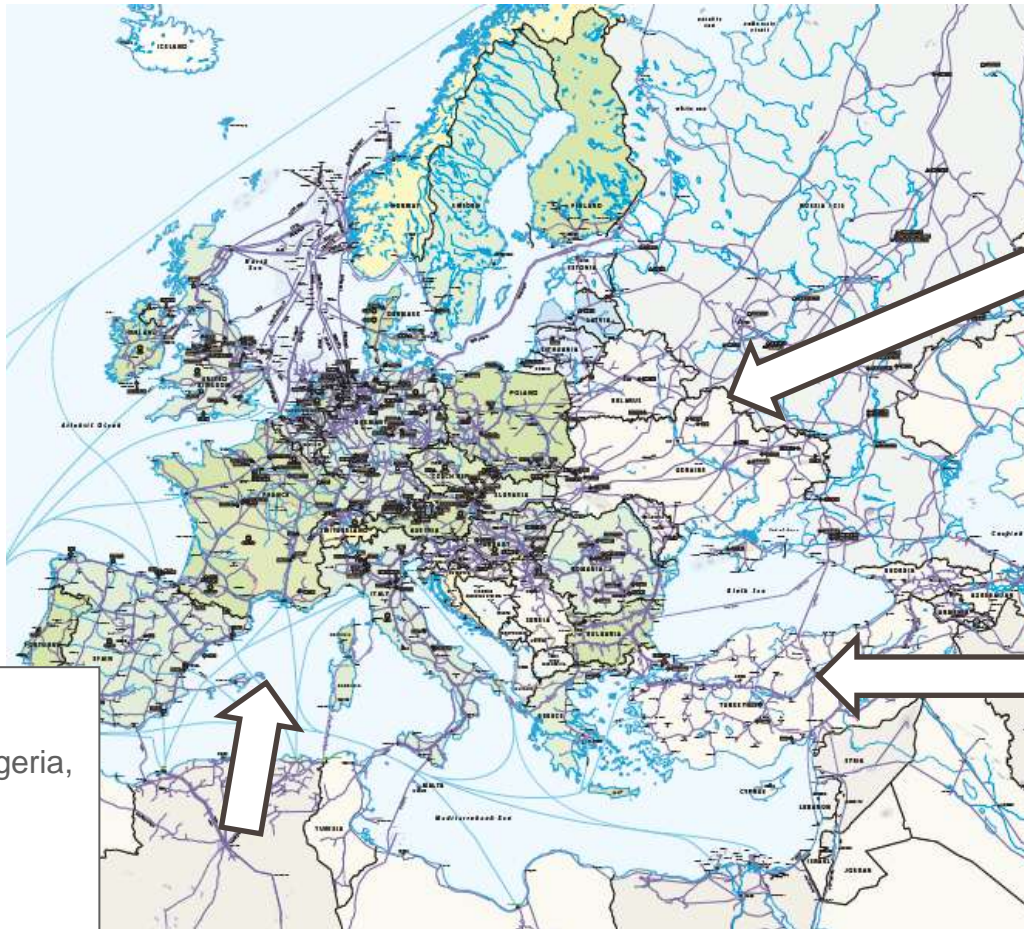
- ▶ **Domestic production** is expected to decline by **-1.7%** per year between 2010 and 2030
  - Current production levels in Norway should remain steady
  - Shale gas in Europe (notably in Poland) is in its very early stages of resources appraisal. Its development is not expected to be as fast as in the US, because of different geological, regulatory, social and environmental issues





# Europe long-term natural gas supply : pipe imports

- *The average utilization rate in 2011 of the pipelines was around 60% from Russia (excluding Nord Stream), from Caspian and from North Africa.*



## North Africa:

Existing; 58 bcm (Algeria, Libya)

Projects: 15 bcm

## Russia:

Existing; 268 bcm

Project: at least 102bcm

## Caspian:

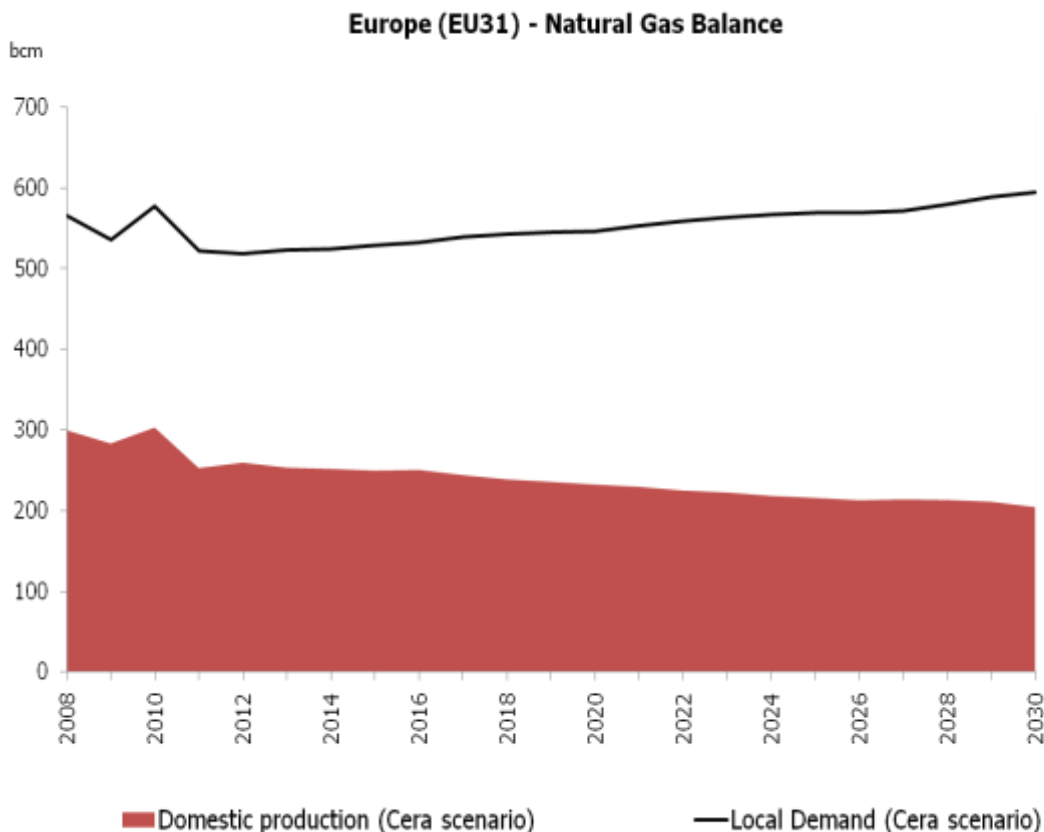
Existing; 20 bcm  
(Azerbaijan, Iran)

Projects: at least 141 bcm  
(Caspian, Azerbaijan, Iran, Turkmenistan...)



# Addressing the long term European supply/demand gap – LNG vs Pipeline

# European natural gas demand / supply gap outlook – domestic supplies

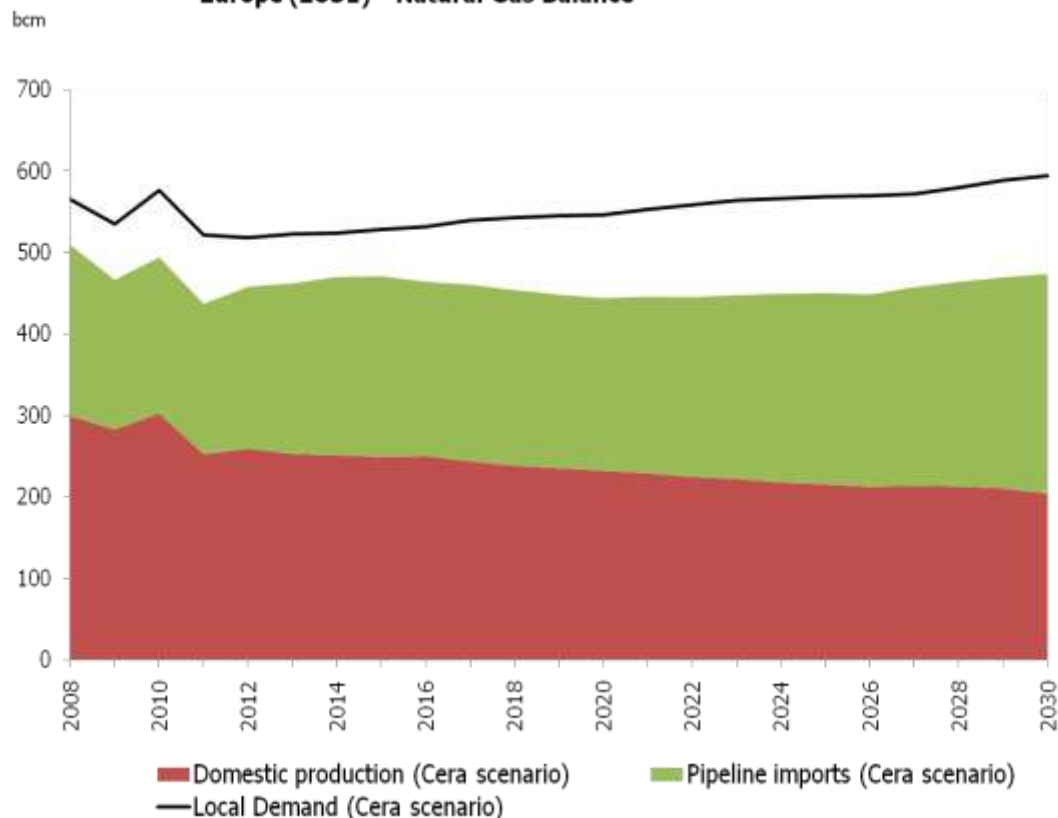


► From 50% in 2010, domestic production is expected to represent slightly above 40% of total European gas demand in 2020, and 35 % in 2030.

Source: CERA, GDF SUEZ

# European natural gas demand / supply gap outlook – domestic supplies and pipeline imports

Europe (EU31) - Natural Gas Balance

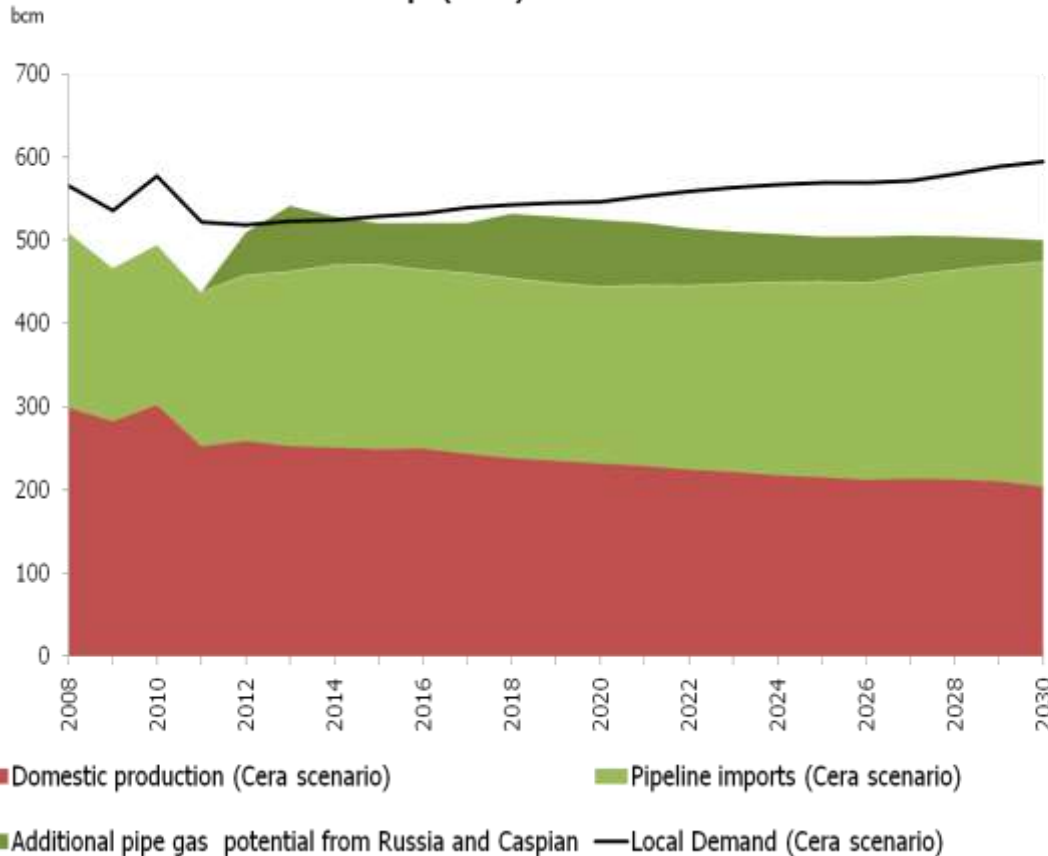


- ▶ *In 2012, pipeline imports accounted for ~40% of total European gas needs.*
- ▶ **Pipeline imports are expected to increase by +1.7% per year on average over 2010 - 2030**
  - *Russia will remain the key supplier for Europe, with pipeline projects development (North Stream, South Stream)*
  - *Additional pipeline gas would require significant financial investments*

Source: CERA, GDF SUEZ

# European natural gas demand / supply gap outlook – the Russia max case

Europe (EU31) - Natural Gas Balance

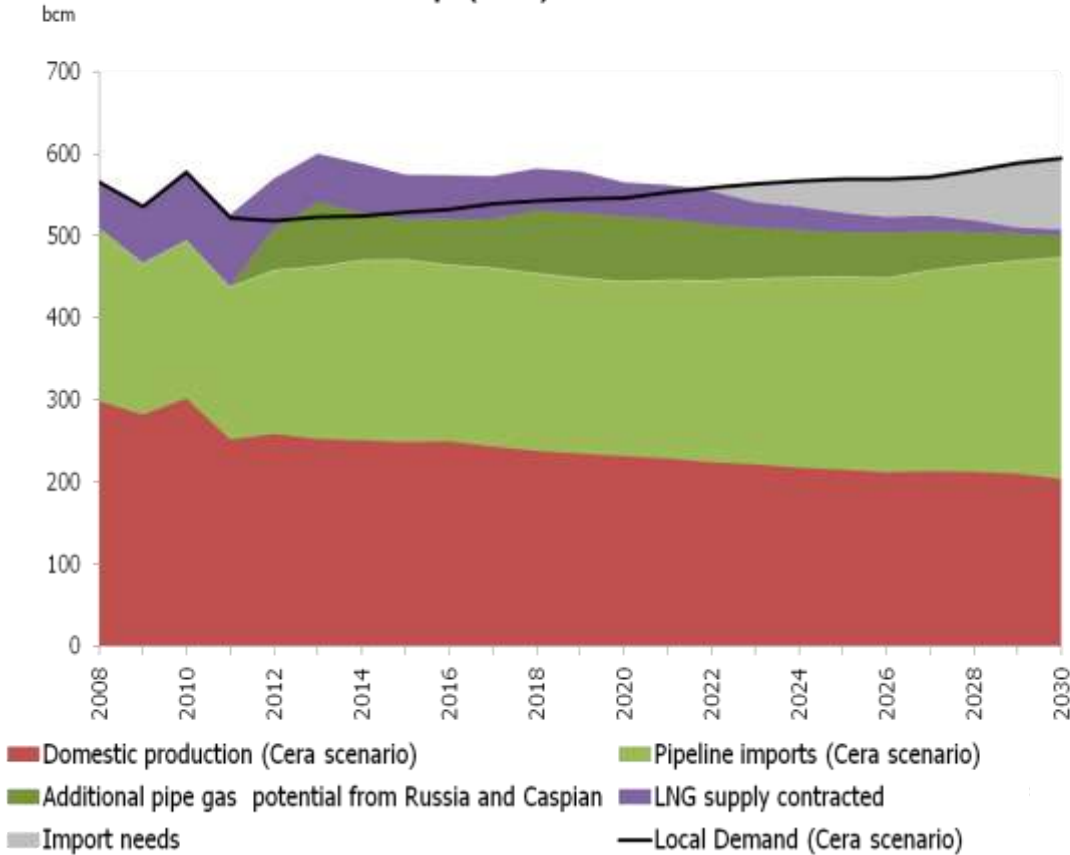


- ▶ *Russia and the Caspian have the ability to increase their export level to Europe*
  - ▶ **In this case Russia would export at 85% of the nominal pipeline capacity to Europe**

Source: CERA, GDF SUEZ

# European natural gas demand / supply gap outlook – the Russia max case

Europe (EU31) - Natural Gas Balance

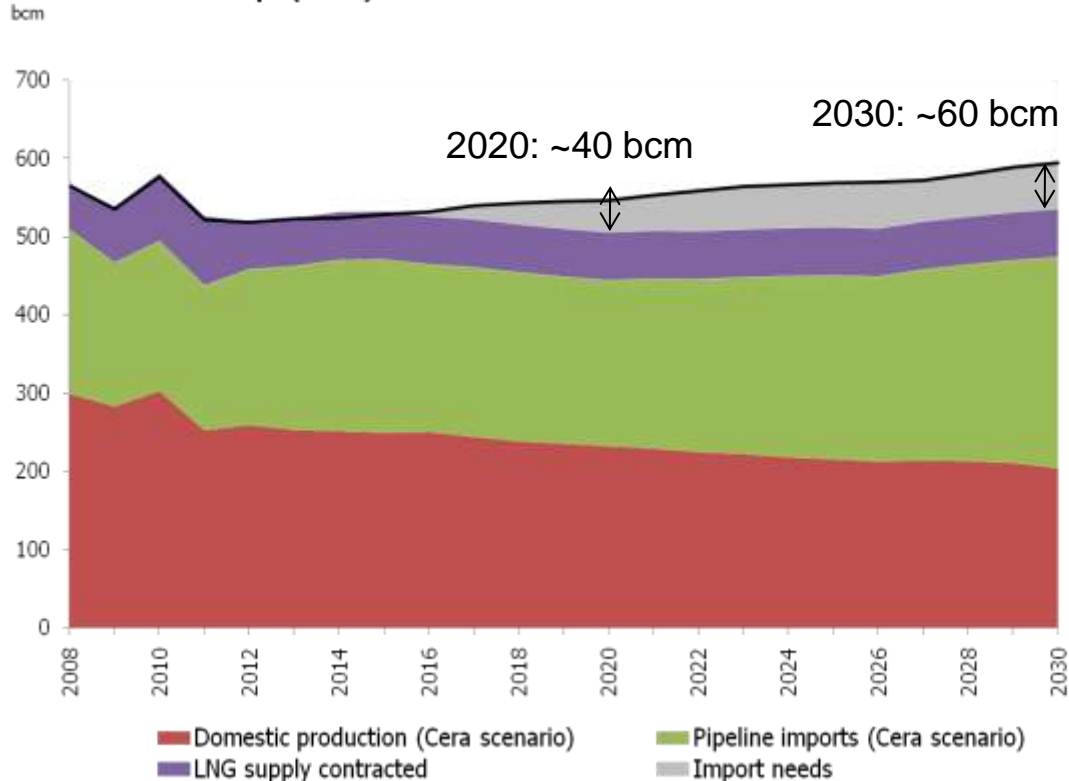


Source: CERA, GDF SUEZ

- ▶ *The additional pipeline imports from Russia would be directly competing with LNG.*
- ▶ *Long term LNG contracts are not renewed due to a strong pipeline competition.*
- ▶ *As a consequence, additional LNG imports are not required in Europe before 2022.*

# European natural gas demand / supply gap outlook – the base case

Europe (EU31) - Natural Gas Balance



► **No additional pipeline imports assumed**

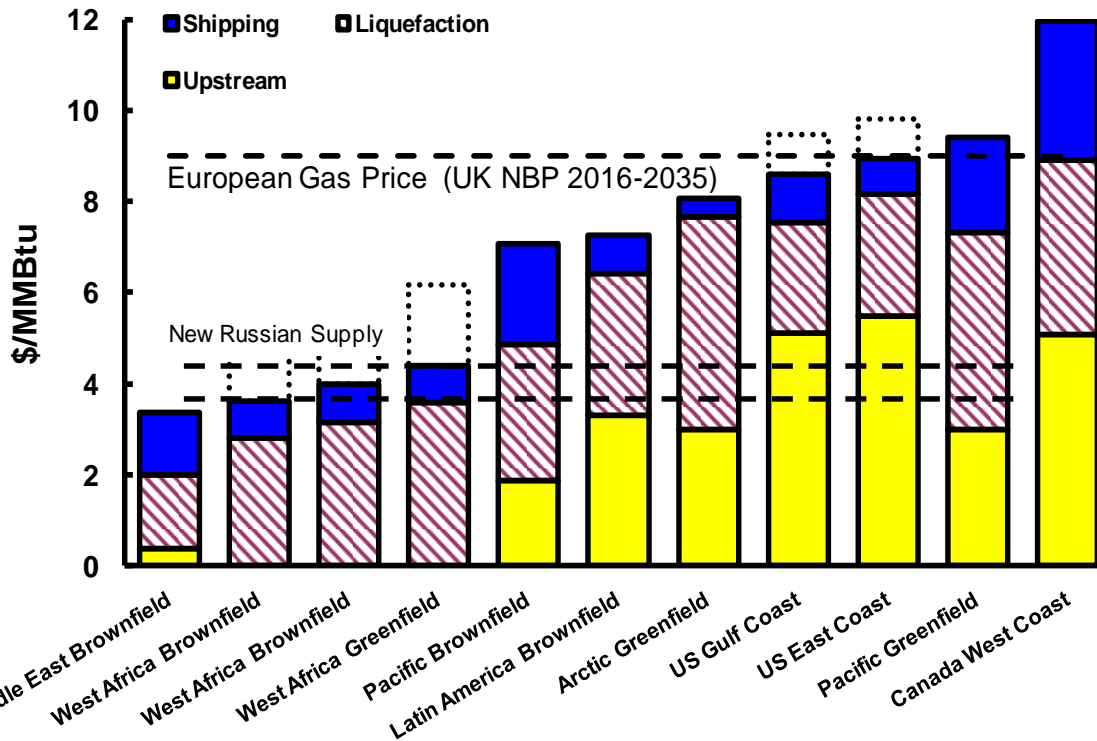
► **LNG imports:**

- *Until 2015 contracted LNG should cover most of the needs.*
- *Current LNG contract renewed*
- *After 2015 Europe may have to import new volumes, especially from flexible LNG*
- *Which LNG will fill the supply/demand gap ?*

Source: CERA, GDF SUEZ

# Competition between future LNG projects to supply Europe

LNG Costs To Europe



Source: IHS CERA.

Notes:

Calculated "Break-even" Cost of Supply Delivered to Europe, including Liquids Credits, excluding regas.

Russia cost represents the cost of gas from Bovanenkovo to European border

➤ *New liquefaction projects will be needed on top of flexible volumes, and are expected from the US, Africa (West and East), the Mediterranean basin or Arctic areas.*

➤ *Marginal supply cost is not the sole driver of European gas prices:*

➤ **Additional Russian/Caspian volumes would depend on the producers' willingness to adapt to a strong competition environment.**

➤ **Diversification and security of supply are key for Europe.**



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