



The increasing role of LNG in Europe

Agenda

World outlook

European demand and supply

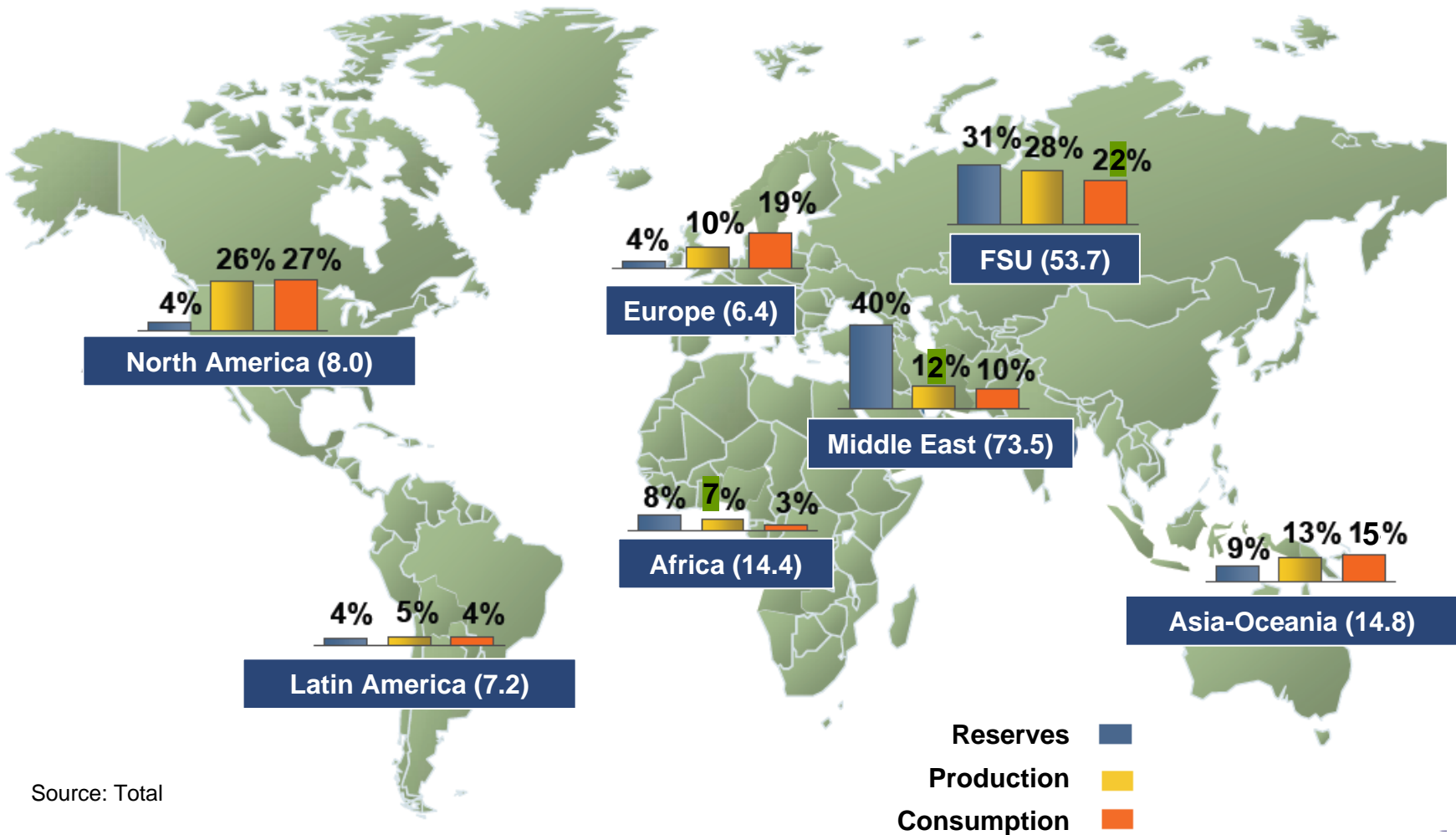
Growing role for LNG in Europe

Conclusion

Gas supply/demand in the world : Geographic dissociation of reserves and demand

Reserves end 2007 = 178 Tcm

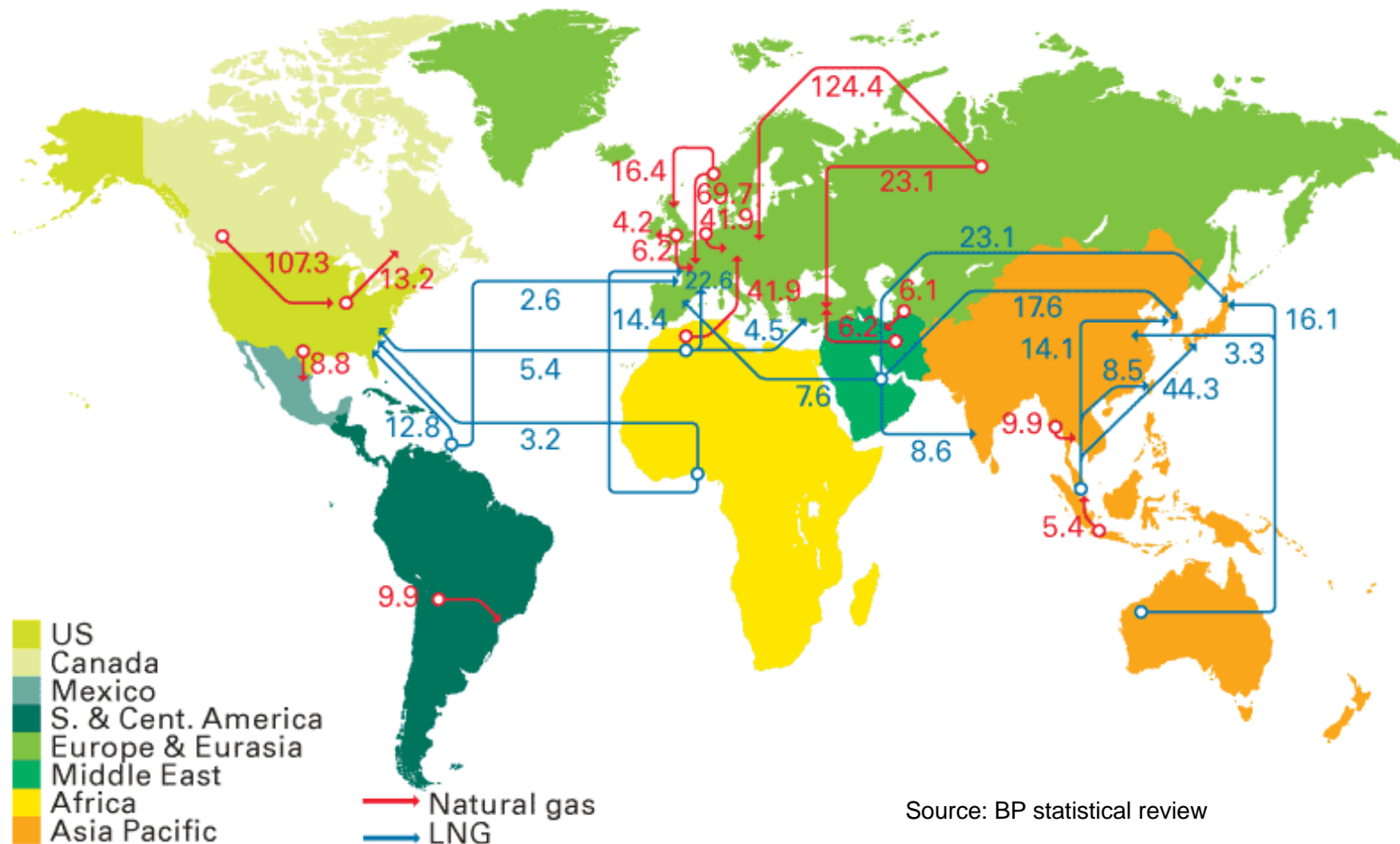
Consumption 2007 = 2.9 Tcm



Source: Total

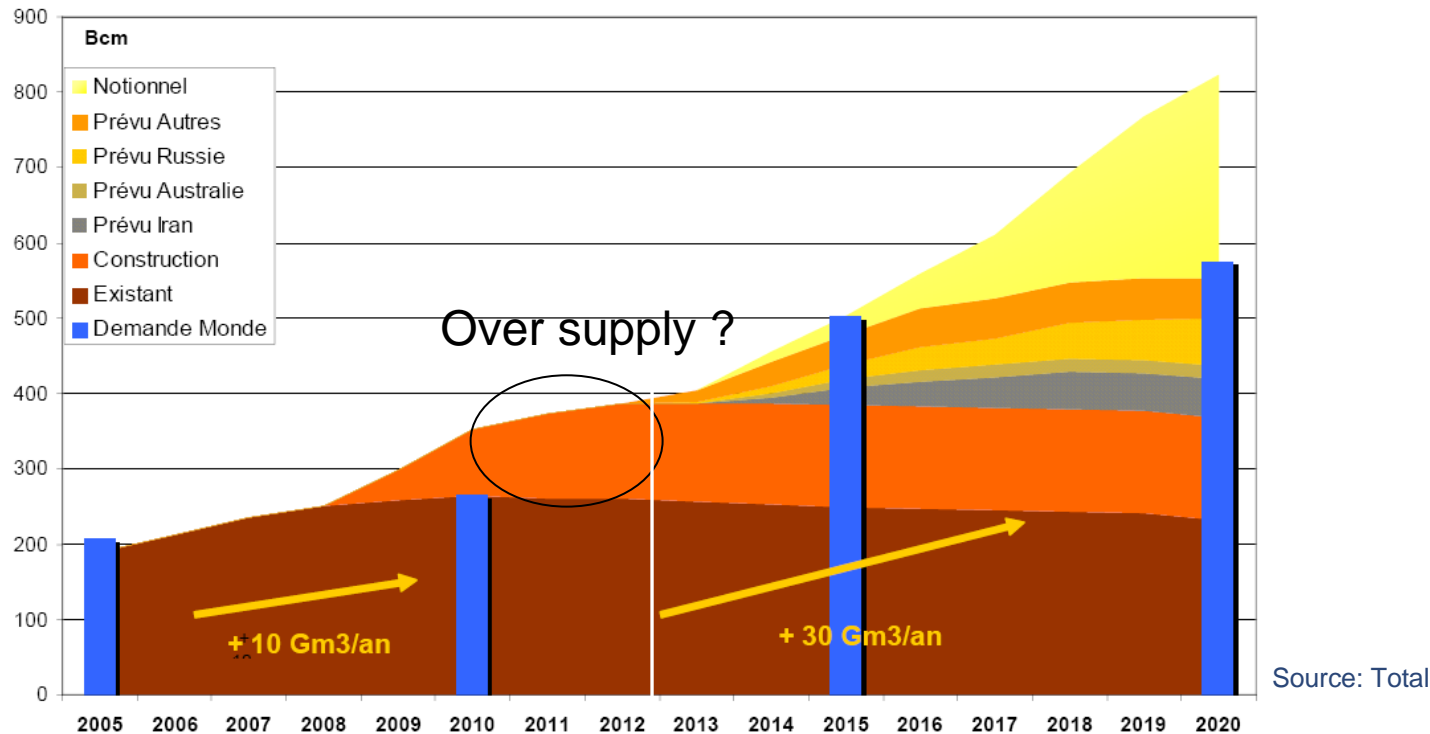
Major gas trade movements in the world, 2007

Major trade movements
Trade flows worldwide (billion cubic metres)



Source: BP statistical review

Forecasted gap between LNG supply and demand



New liquefaction capacity to come online in 2009-2010

Few projects in the years after, credit crunch may hinder new projects

Growing LNG demand possibly not to be met from 2013

⇒ **LNG prices could soar**

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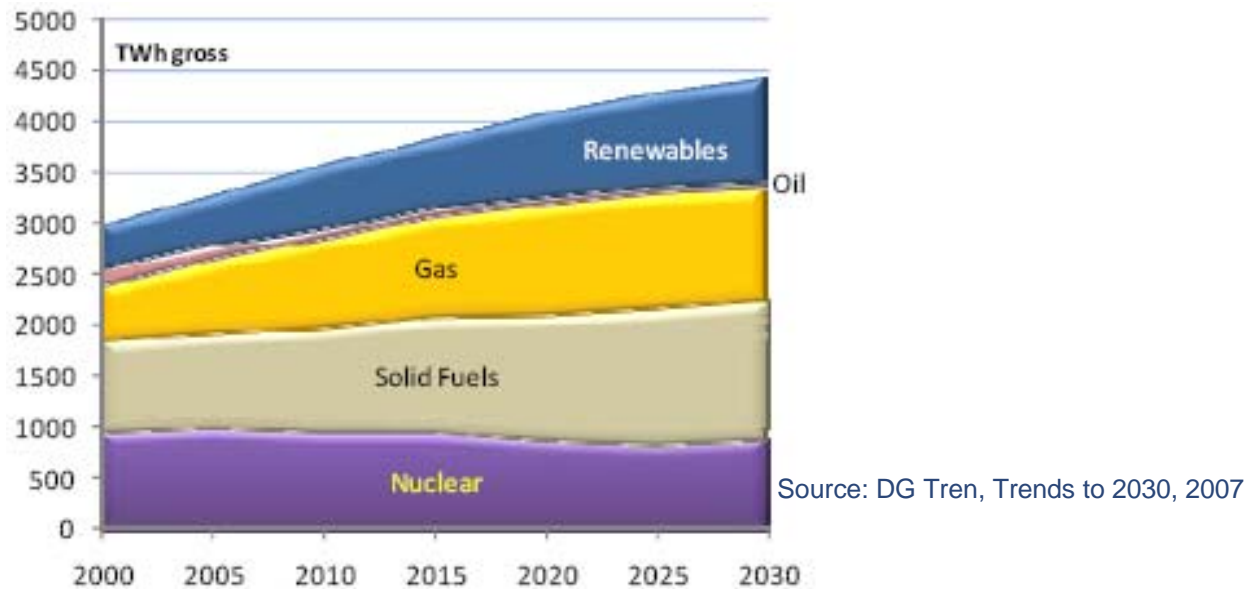
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Energy policy in Europe

The three pillars of EU energy policy

- **Competitiveness: 3rd package on the internal market for the creation of a truly integrated European market**
- **Security of supply**
- **Sustainability: Energy – Climate package in order to reach the the 3x20 rule in the EU by 2020:**
 - ⇒ **20% of additional energy efficiency**
 - ⇒ **20% of renewable energy sources**
 - ⇒ **20% decrease of CO₂ emission**

Gas demand driven by power generation in Europe

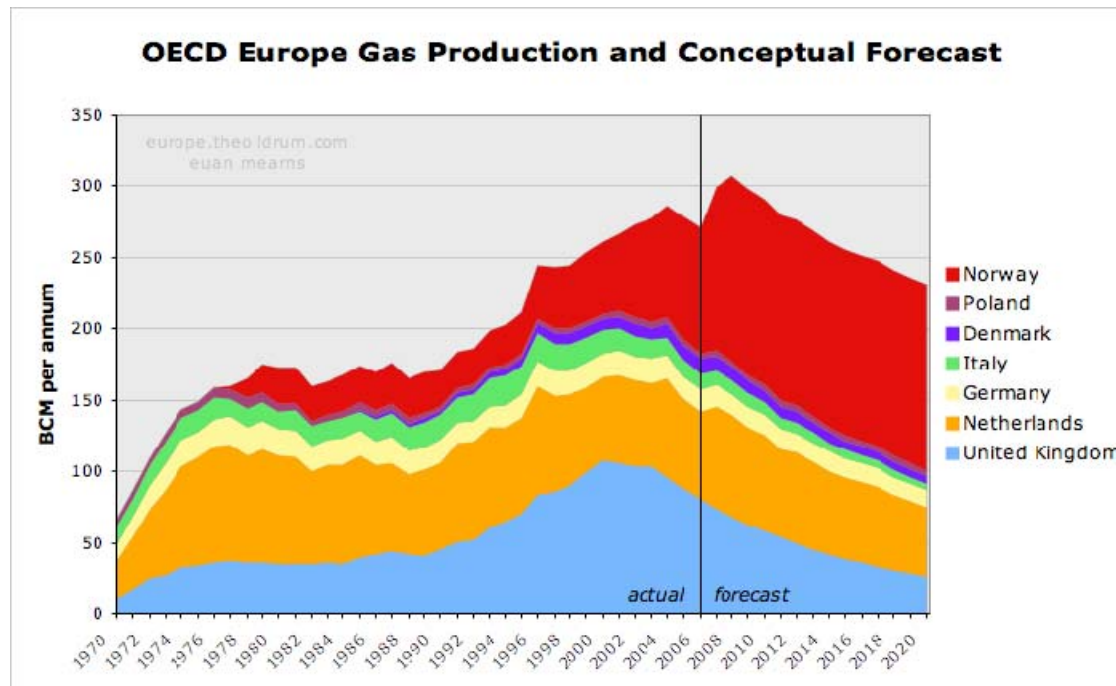


Power generation to increase by 35% between 2005 and 2030 in EU 27

Gas use growing as it is flexible, efficient and clean:

- Wind power to increase => Need to back up this intermittent production
 - Nuclear power declines (phase-out Germany, Spain)
 - CO₂ emissions much higher for coal than for gas
- ⇒ **Increase of the number of CCGT expected in Europe**

The decline of domestic gas production in Europe



Source: OECD

Existence of non conventional gas but limited resources in Europe

⇒ Europe has to develop its imports: by 2020, the EU could need to import up to 500 Bcm per year (in 2007: 290 Bcm)

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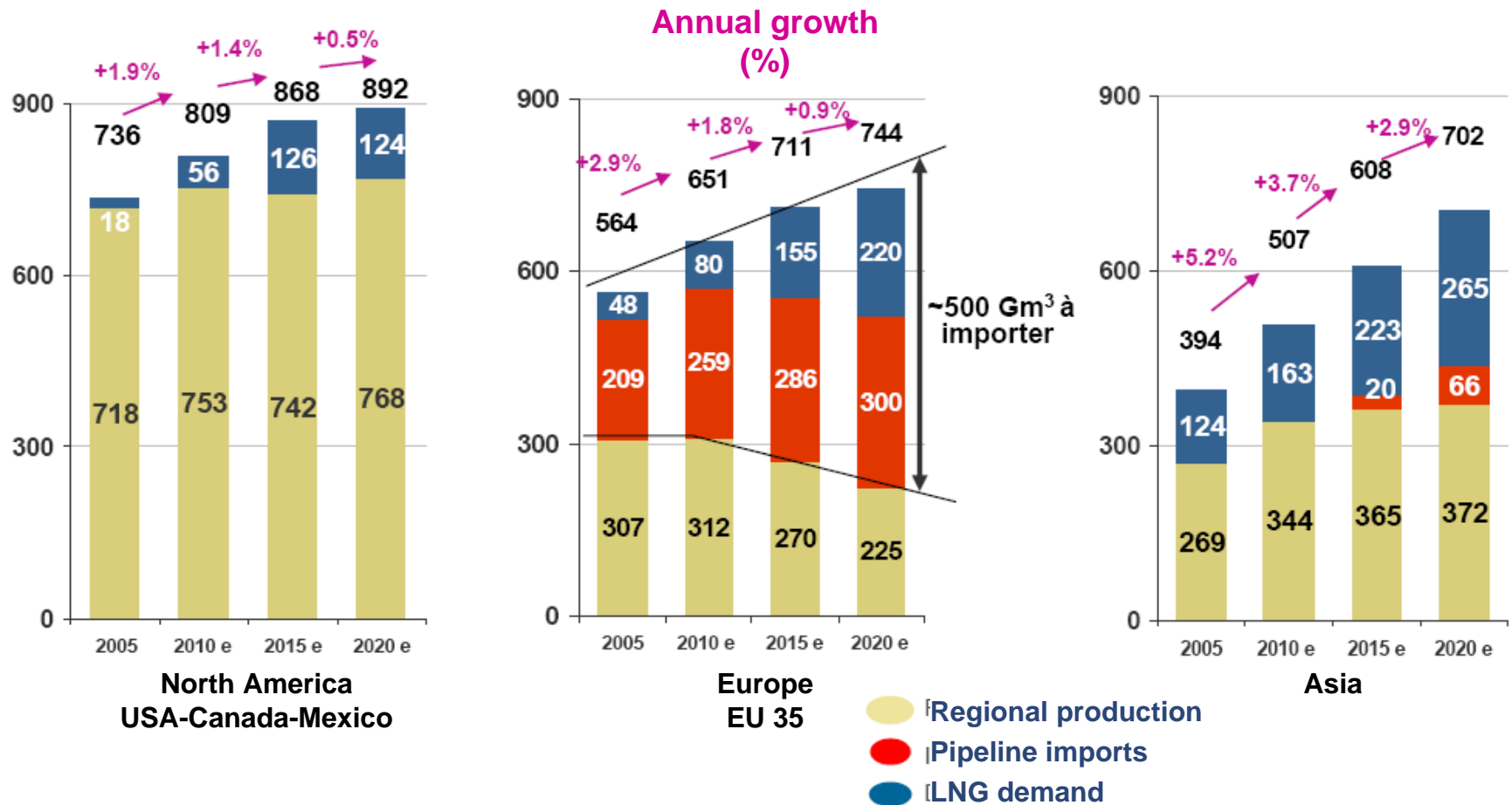
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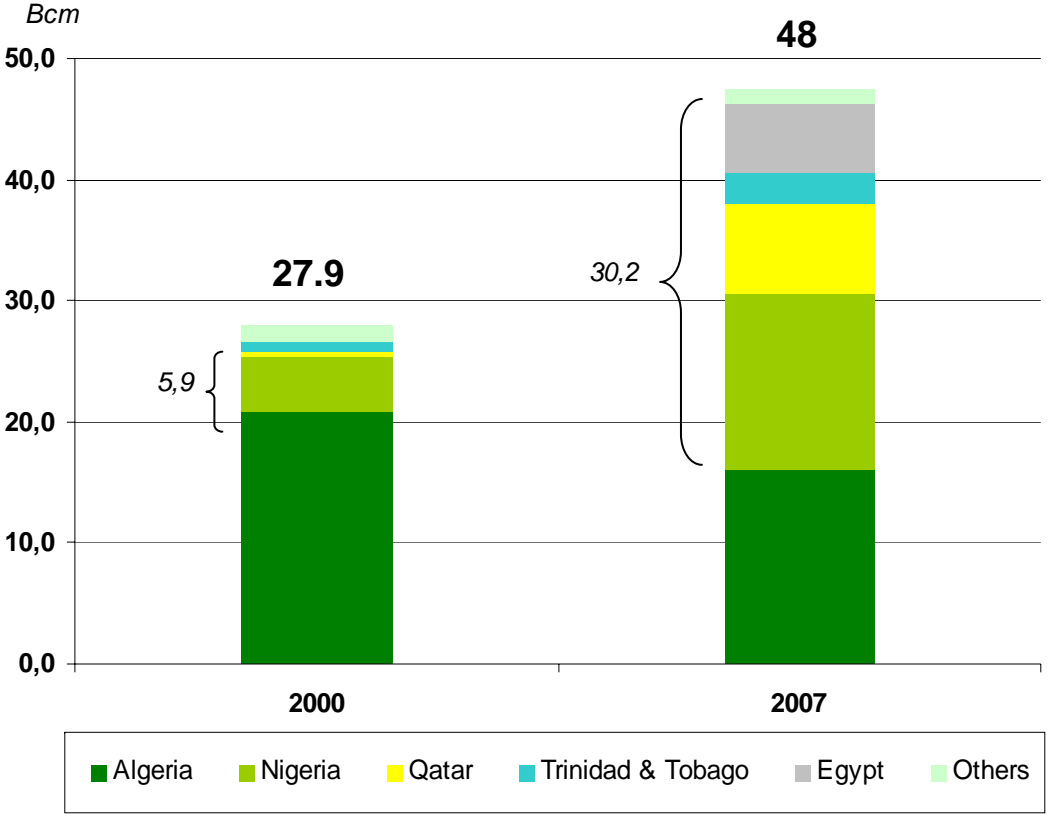
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Gas supply outlook, the increasing role of LNG



The world LNG market should progress by more than 8% per year from 2005 to 2020
 LNG share in world gas supply will double between 2005 and 2010

The increasing role of LNG in EU 27 gas supplies



Sources: BP statistical review & CEDIGAZ

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Regulation objectives for attracting LNG in Europe (1/3)

- 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

- Appropriate regulation of infrastructures

 - The basic rule in Europe : LNG terminal in Europe are regulated

 - Exemptions from TPA can be granted (9 projects have been decided under Article 22)



Regulation objectives for attracting LNG in Europe (2/3)



Regulators contributions to the regulation of LNG facilities:

- **Voluntary GGPLNG : Guidelines for Good third party access Practices for LNG facilities operators**
 - ⇒ Establishes basic common rules for regulated LNG facilities
- **Interpretative note of the European commission on Art. 22**
 - ⇒ Art. 22 TPA exemptions possible for LNG terminals
 - ⇒ Note drafted in close cooperation with regulators
 - ⇒ In order to grant in a coherent manner TPA exemptions
 - ⇒ Under approval
- **Modification of the gas Regulation 1775/2005**
 - ⇒ 3rd package: Proposal to include provisions for LNG in the Regulation

Regulation objectives for attracting LNG in Europe (3/3)



Objectives of European regulation :

- **Create a single market with one reference price to attract LNG cargoes**
 - Implementation of the 3rd package on internal market
 - Reinforcement of gas interconnections between national markets
 - Convergence of national regulations

- ⇒ **Need for a flexible exemption regime in Europe in order to encourage LNG projects**

- ⇒ **Importing countries will have regas capacity in excess in order to attract cargoes and have a greater security of supply**

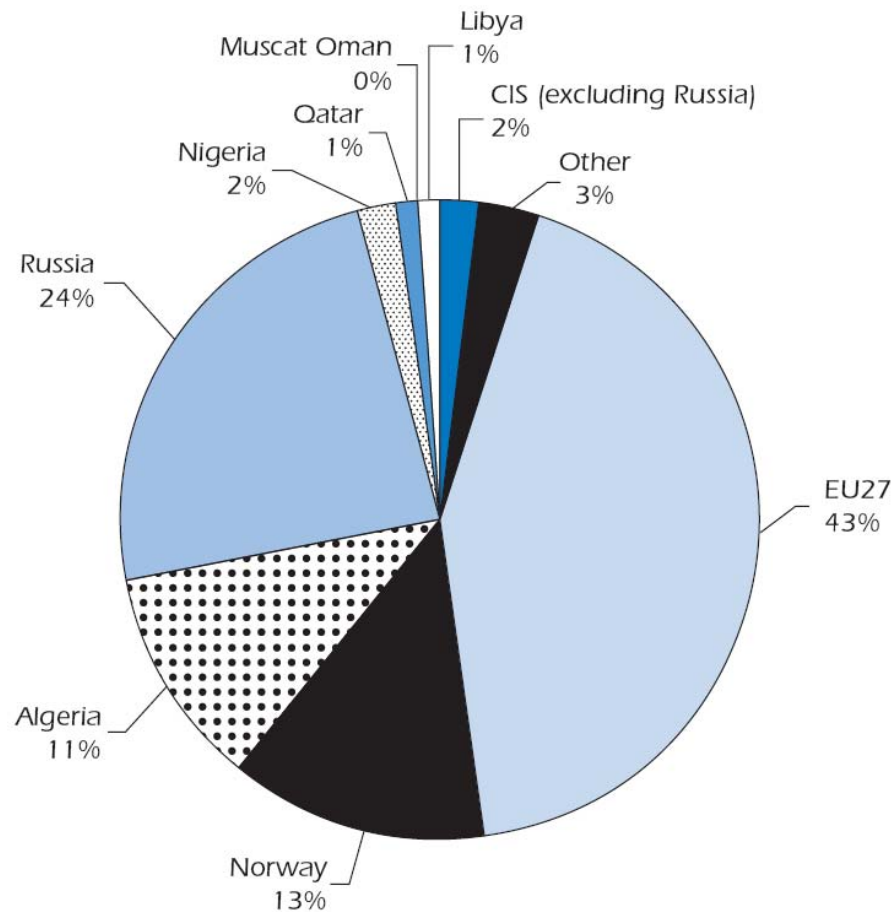
Thank you for your attention



Appendix



Origin of gas consumed in the EU 27



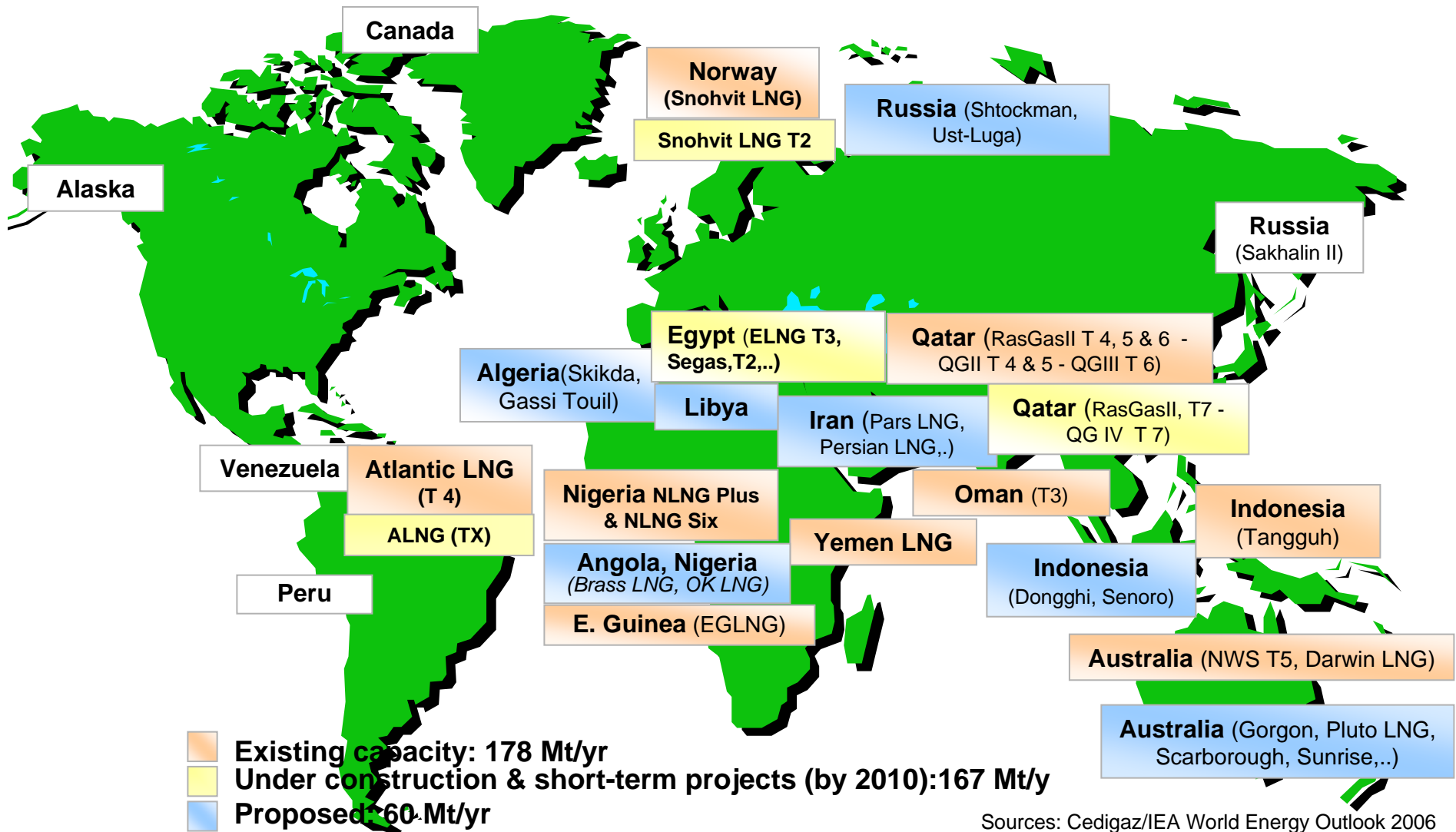
Risks:

- Decline of volume as many fields are maturing and few investment to replace them
- Reliance on limited number of countries

⇒ Need to diversify the source of gas

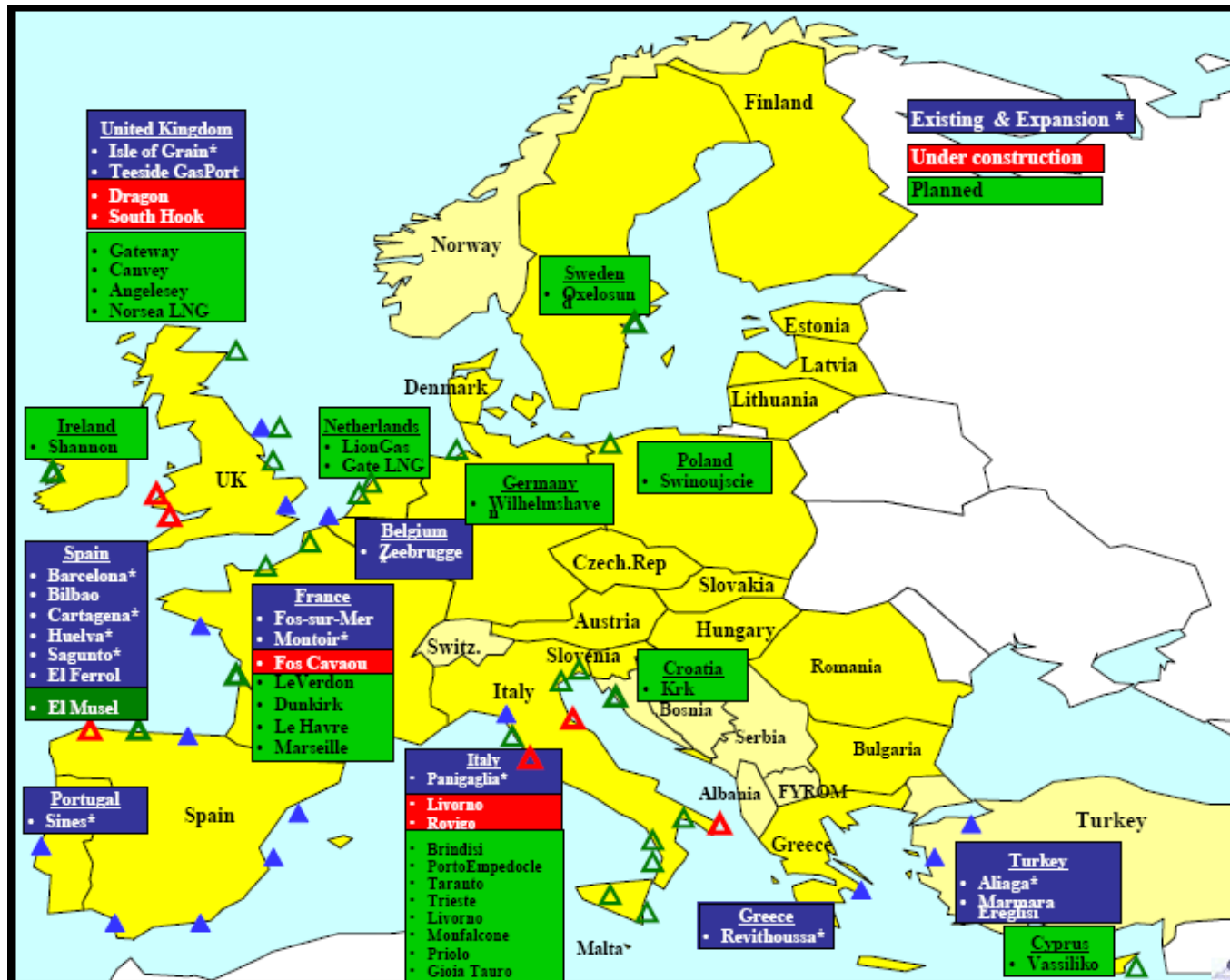
⇒ LNG is one of the best way to achieve supplier diversification

LNG supply projects in the world



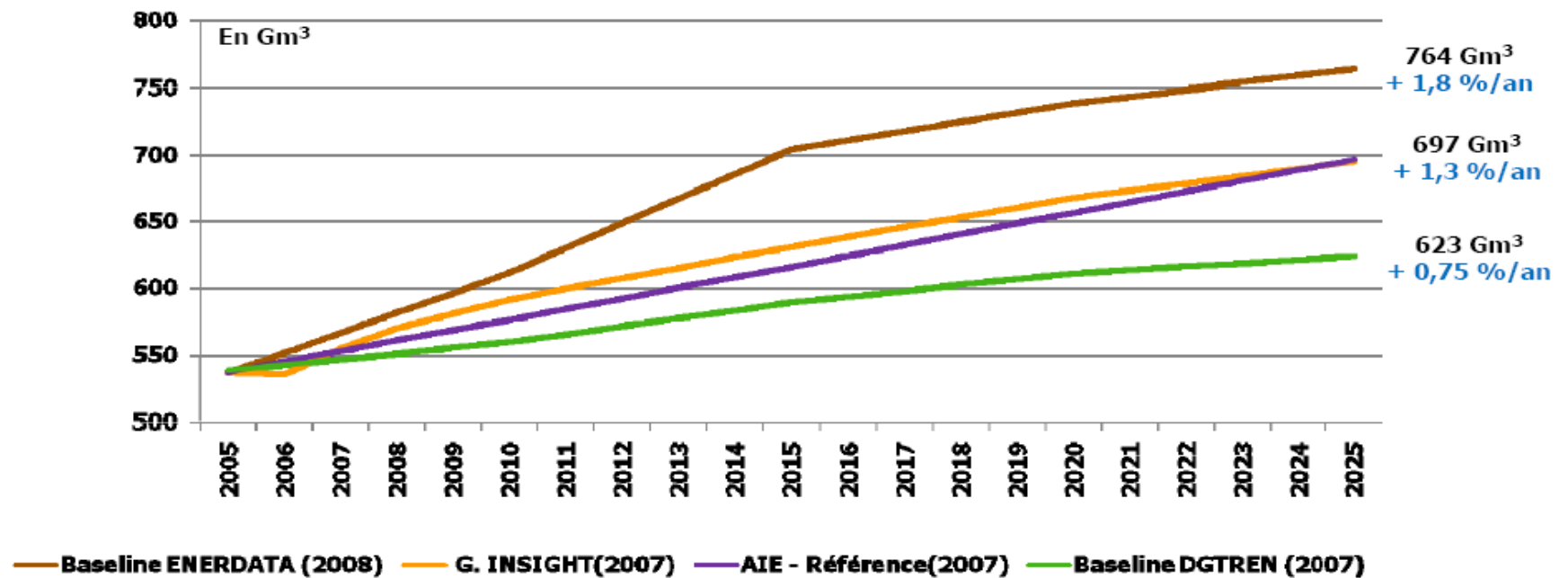
Sources: Cedigaz/IEA World Energy Outlook 2006

LNG regasification terminals in Europe: existing and projects



EU 27 Gas demand scenarios by 2025

Consumption keeps growing



Even the lowest scenario foresees a growth of 15% between 2005 and 2025