

EU security of gas supply
Potential role of LNG in case of gas
flows disruptions from Russia

Vienna, 15 July 2014

Introduction

- The political tensions in Ukraine have re-opened the issue of potential disruptions of transit from Russia
- Europe has been preparing itself to react to crises and, in particular, use alternative supply routes and sources
- Following the 2009 crisis, the resilience of the system has been improved
 - SoS Regulation (EU) 994/2010 has introduced new infrastructure standards (reverse flows at IPs, N-1)
 - Aim: developing solidarity between Member states by sharing flexibility
 - Investigations about the role LNG could play due to the existing regasification capacity and the geographical flexibility it offers

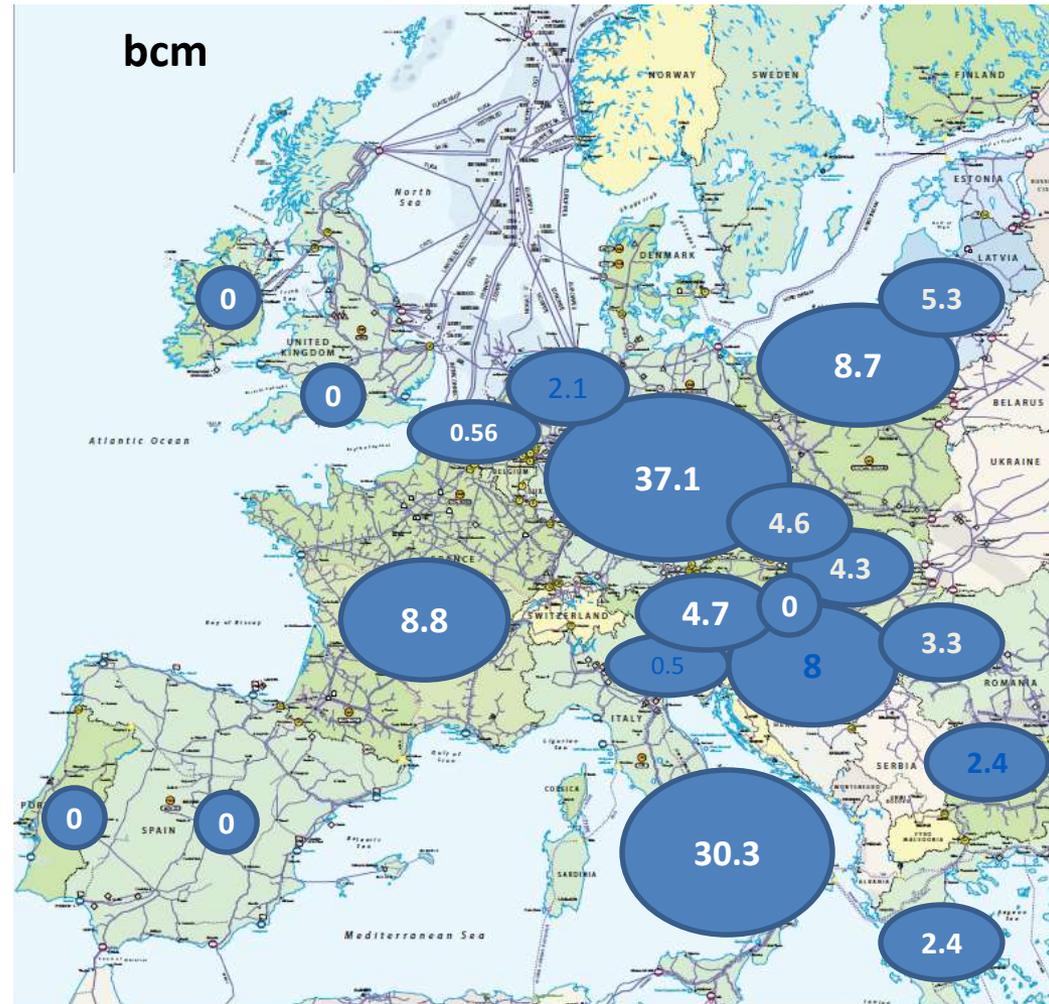
The role of LNG in SoS

- **LNG is important in terms of security of supply as it offers access to diversified sources:**
 - 17 countries exporting LNG at the end of 2013
 - Key exporters for Europe are Qatar, Algeria, Nigeria and Trinidad
- **The EU has 19 regasification terminals and their current rate of utilization is low (20% on average in 2013)**
 - Total regasification capacity of 186 bcm in 2013
 - Total LNG deliveries in 2013 of around 49 bcm
- **What could be the role of LNG imports in supply crisis scenarios as regards as gas deliveries to the EU?**

European Imports from Russia in 2013

- ✓ The Russian gas imports in 2013 were approx. 130-140 bcm.
- ✓ LNG terminals are essentially located in the West while the countries potentially affected by a transit disruption through Ukraine are in Central and Eastern Europe

 Gas imports from Russia per country

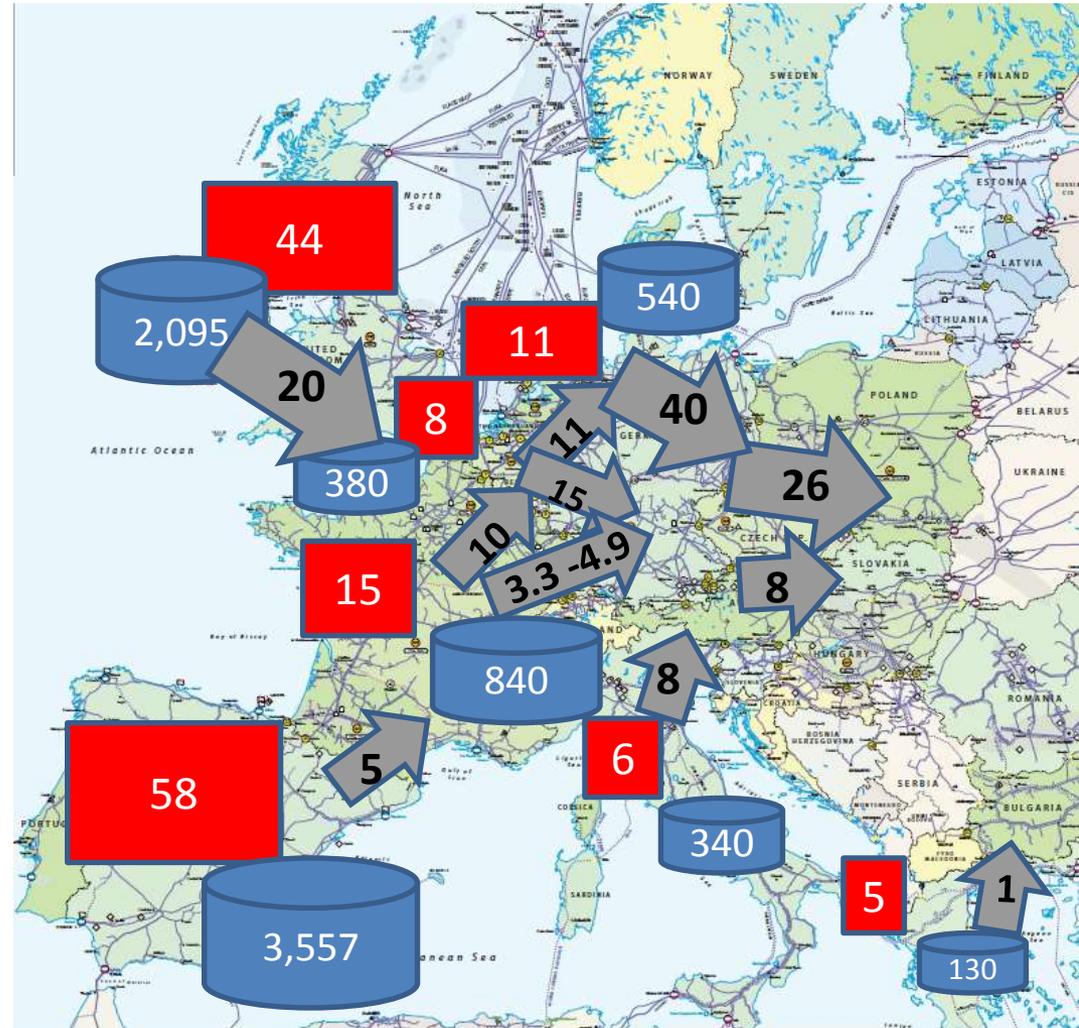


Source: NRAs and EUROGAS (data in blue: 2012 Russian gas imports)

Regasification capacity available in Europe vs Russian gas imports

Year 2013

- ✓ 137 bcm of regasification capacity in Europe were not used in 2013 (73% technical capacity)



 Regasification capacity not used in 2013 (bcm)

 Technical transmission capacity at the Ips (bcm)

*To be considered with caution; in a real crisis situation this capacity would be reduced
Requirements of odourisation harmonization not considered as an obstacle.*

 LNG storage capacity (1,000 m³ GNL)

Transmission capacity to move gas to eastern Europe

- Theoretically, the EU LNG terminals could receive 137 bcm of additional LNG in 2014 (on top of the 49 bcm delivered in 2013)
- The potential flow of LNG eastward would be limited by constraints on transmission network:
 - EU system primarily designed to accommodate historical predominant flows from North to South and East to West;
 - Reverse flow capacities have substantially increased in the past years...
 - ...but significant investments would be required to enable a major LNG 'counterflow' to Central and Eastern Europe.
- Other limitations to the potential role of LNG would appear in a crisis situation, taking into account:
 - Scenarios of high demand;
 - Simultaneous maximization of all remaining import sources and of storage use.

Demand and supply worldwide - Liquefaction and regasification



Figure 3.1: LNG Trade Volumes, 1990-2013

Source: IHS, IEA, IGU

- Tight supply-demand dynamics in the global LNG market:
 - 2,5 times more regasification capacity than liquefaction capacity in the world today;
 - Surge in LNG demand, 29 import countries
- Most analyses suggest that the LNG market could remain supply-constrained in the medium term:
 - Few new liquefaction additions in the short run
 - Demand in Asia Pacific likely to remain high
 - Nevertheless, new opportunities might arise (new exporting countries: shale gas)

Conclusions

- Ukraine still plays a very important role in EU gas supplies, interruptions could have dramatic consequences for many Member states
- The EU is investigating all the potential means to maximise the resilience of its gas system
- In case of supply disruption, scenarios of increased LNG deliveries in BE, PT, ES, FR, GR, IT, NL and UK would help covering Europe's needs and free up pipe-gas for the other parts of the EU
- Transmission capacity seems to be a limiting factor; the European network has not been designed to flow gas from LNG terminals along Europe
 - Due to the limited potential for eastward flows on the EU transmission network, the loss of Eastern gas supplies cannot be compensated only with LNG imports
 - In “worst-case” scenarios, a combined response would be the most efficient (storage use, increased imports from all alternative sources, increased domestic production...)
- Given the tightness of the global LNG market, the return of LNG to Europe could imply significant price increases at European hubs