Gas LNG Europe

Operational aspects of LNG terminals in SoS

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CEER Workshop on role of LNG to improve regional SoS in Europe, Madrid, 17 March 2015

Who we are

- GLE is one of the three columns of GIE (Gas Infrastructure Europe), the European association of the Transmission, Storage and LNG Terminal Operators

- GLE membership:
  - ➢ 17 member companies
  - ➢ 9 countries
  - ➢ 1 observer

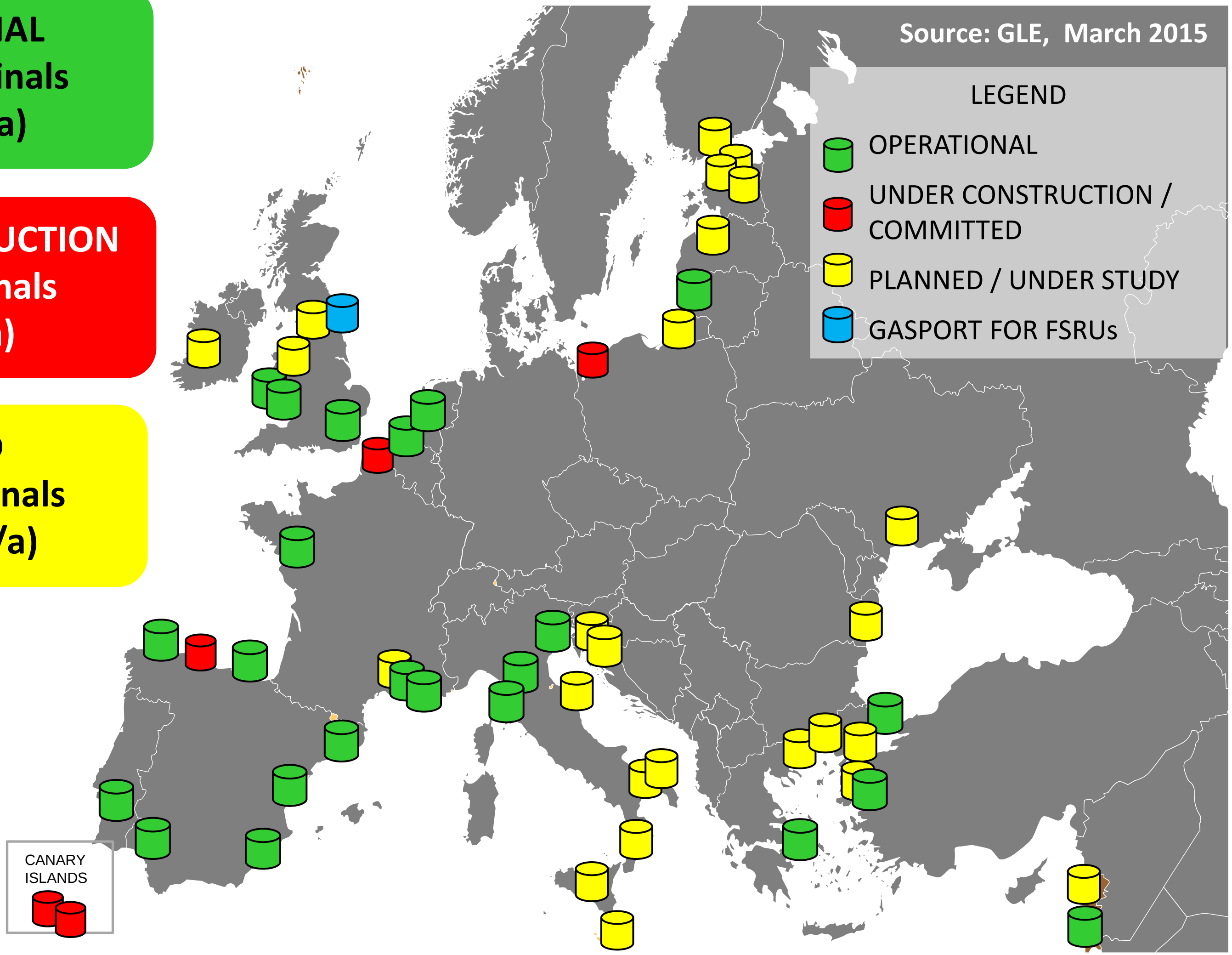
GLE represents ca. 90% of regasification capacity in the EU

LNG terminals in Europe (large scale)

OPERATIONAL
23 LNG Terminals
(201 bcm/a)

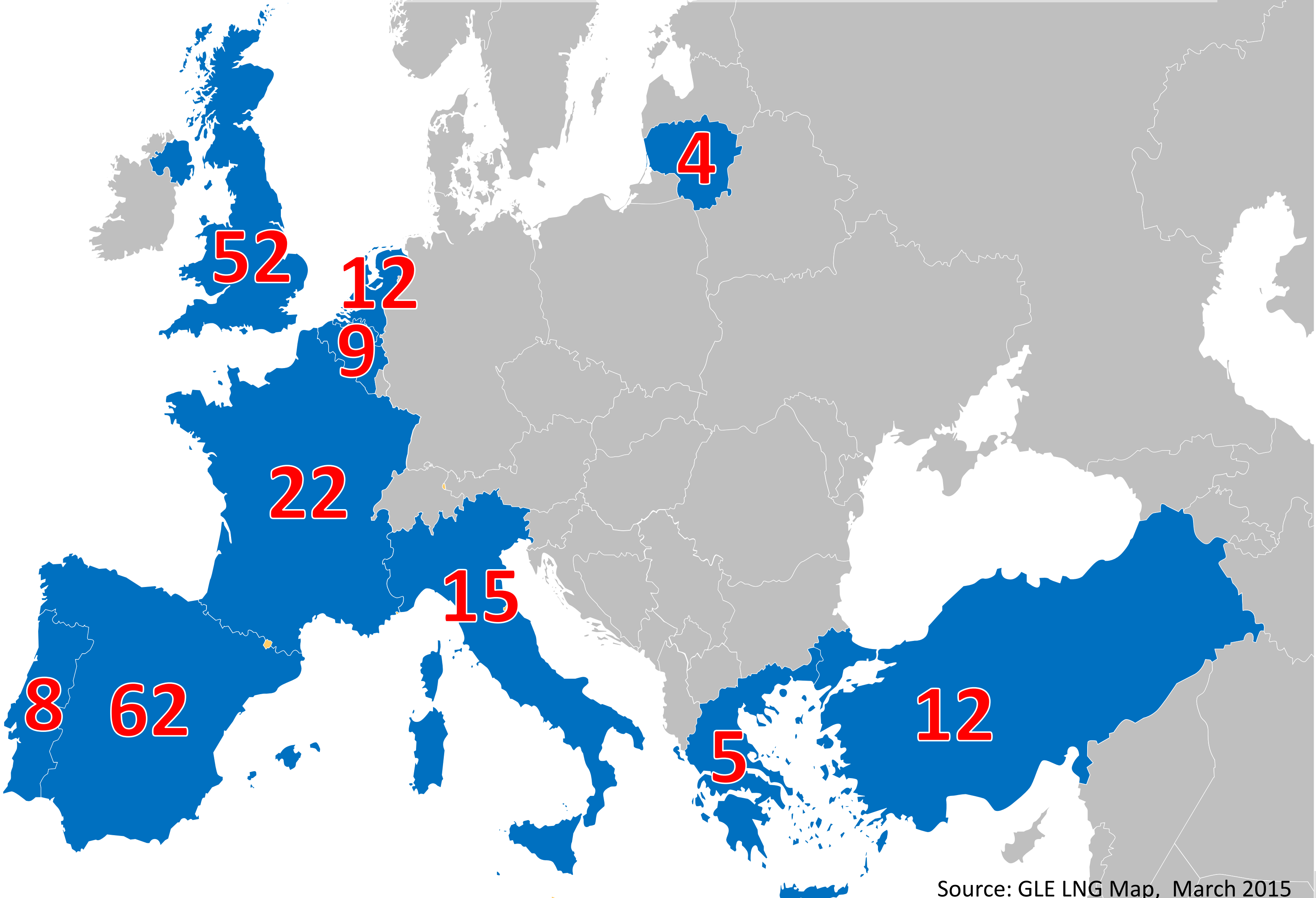
UNDER CONSTRUCTION
5 LNG Terminals
(28 bcm/a)

PLANNED
24 LNG Terminals
(> 146 bcm/a)



Detailed information on LNG terminals available at www.gie.eu, Maps & Data

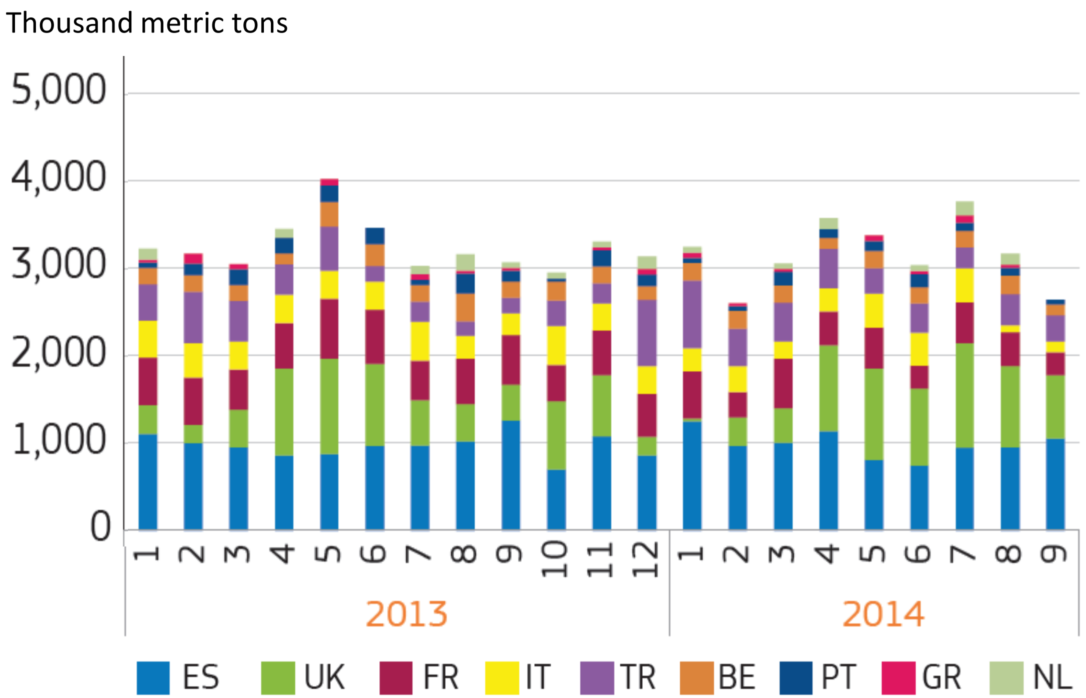
Total send out capacity of large-scale LNG terminals: 201 bcm NG/year



Source: GLE LNG Map, March 2015

LNG imports to Europe

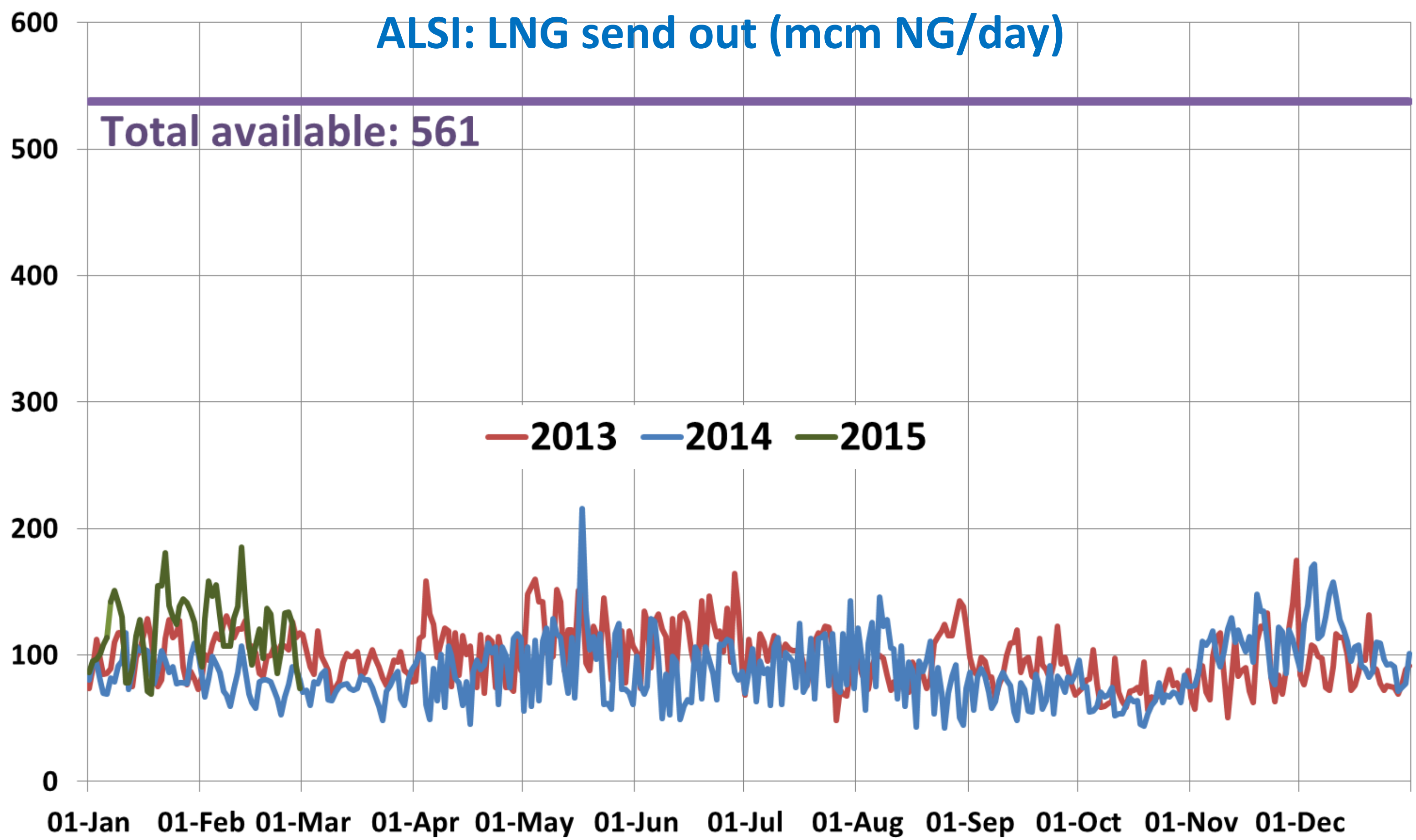
- LNG imports to the EU were down by 7% in the first three quarters of 2014 relative to the same period of 2013.
- However, the two largest EU LNG importers – Spain and the UK – experienced a reversal in what was a steep downward trend for LNG imports.
- The overall downward trend for LNG imports in Europe may change in the coming months with subdued LNG demand in Asia leading to falling LNG prices there and spot cargos looking to attract new buyers.



Source: Quarterly Report on European Gas Markets, DG Energy, 3Q2014

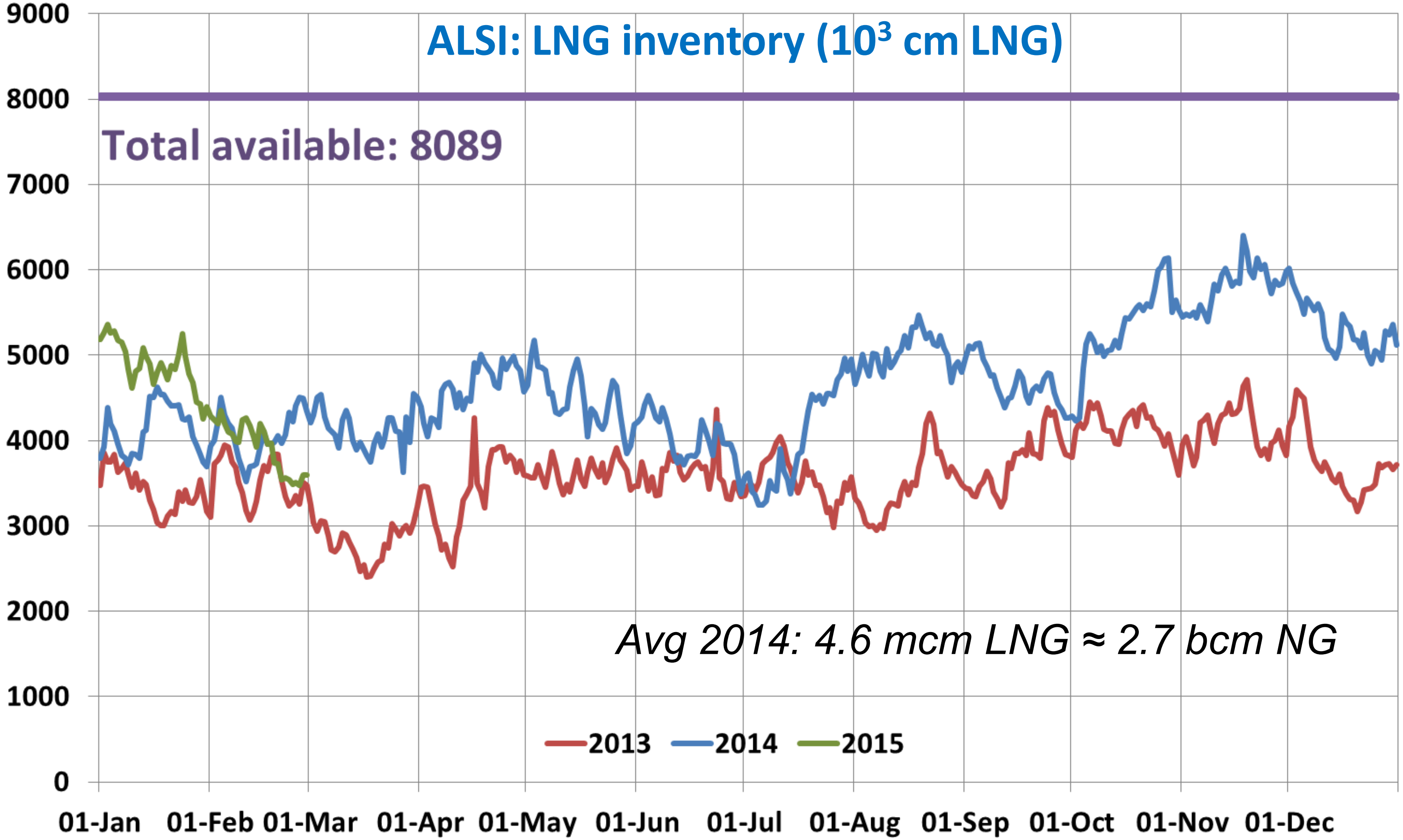
Total send out capacity of large-scale LNG terminals: 201 bcm NG/year

In average just 16% of total daily LNG send-out used in 2014



European LNG storage capacity: 8.3 mcm LNG (≈4.9 bcm NG)

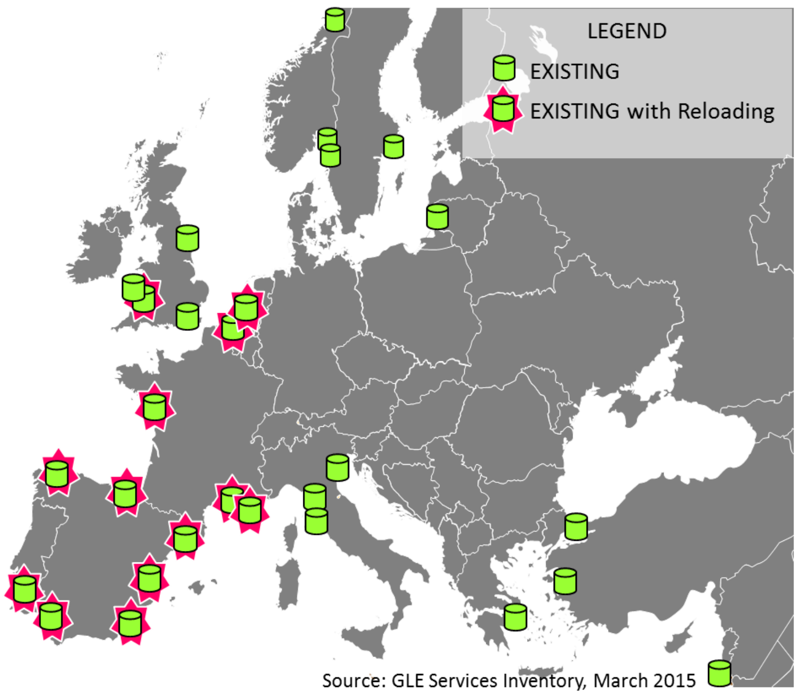
Higher LNG storage inventory in 2014



Moving LNG from LNG storages to countries where gas is needed

Reloading

- Transfer of LNG from the LNG tanks at the terminal into a vessel
- In 2014 more than 130 operations were done and about 14 mcm LNG were reloaded



Transhipment

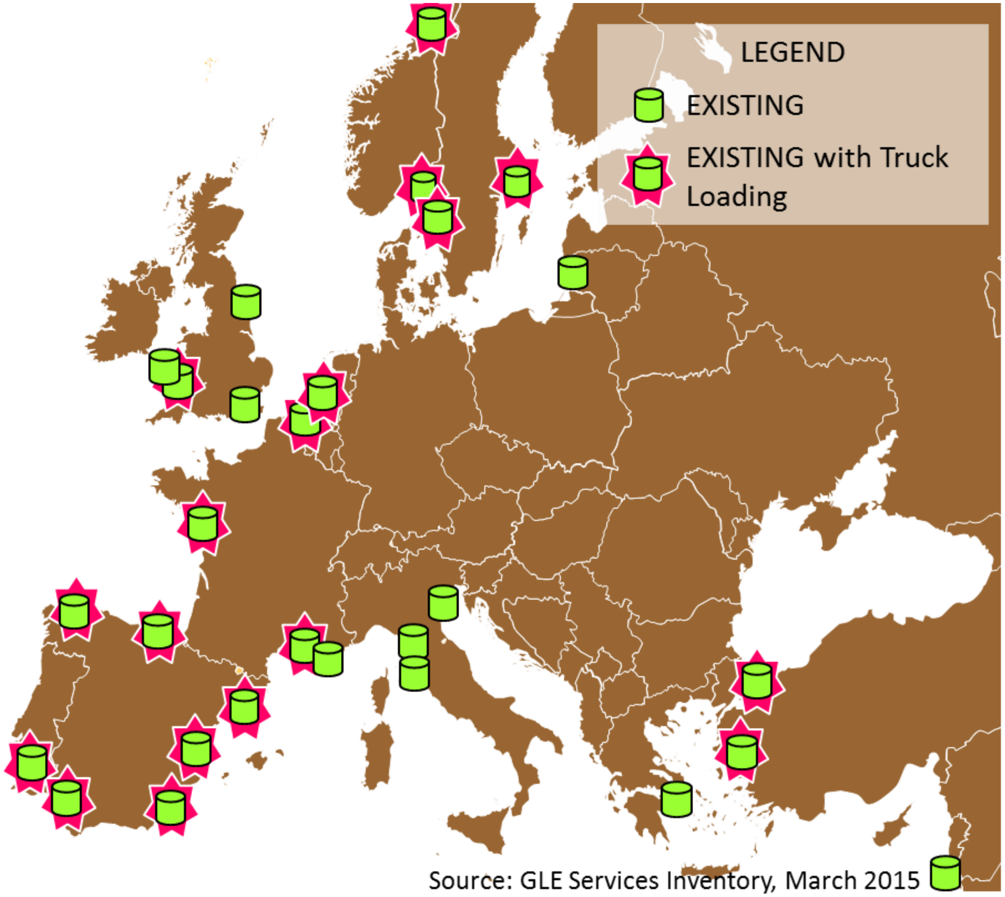
- Transfer of LNG from one vessel to another
- Offered in France, Spain, UK and from 2015 in Belgium and The Netherlands
- In 2014 one operation was done in France: 150,000 cm LNG

Supplying LNG satellite storages by trucks

Truck loading

- LNG is loaded on tank trucks which transport LNG in smaller quantities
- About 42,600 trucks loaded 1.9 mcm LNG at truck loading facilities at large-scale LNG terminals in 2014

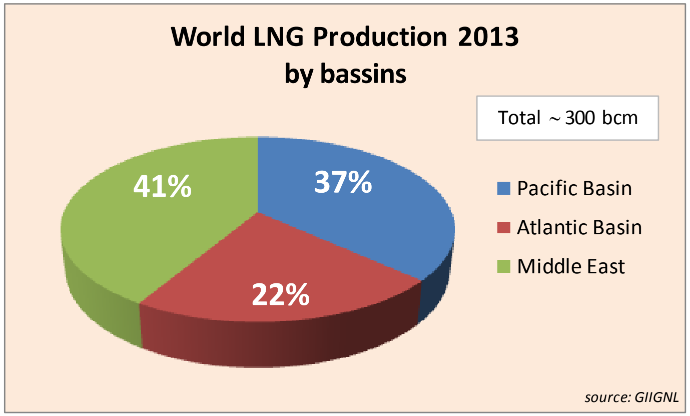
Source: Reganosa



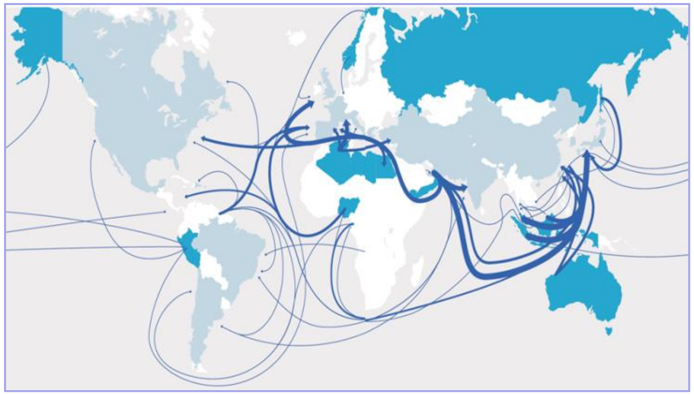
Source: GLE Services Inventory, March 2015

Contribution of LNG to SoS

- LNG: A world market
- Great diversity of producers: 86 liquefaction trains in 17 exporting countries spread among the 3 main basins



- LNG transported by vessels:
  - Direct routes to consumers
  - No political risk on transport



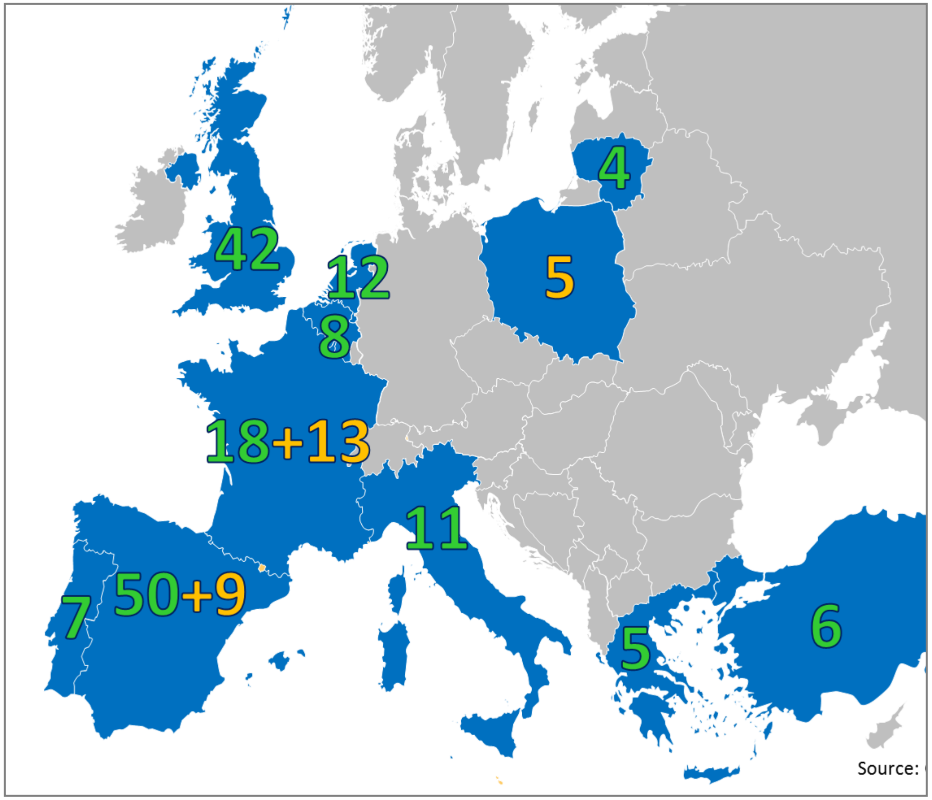
- A lot of projects of new liquefaction plants : Australia, USA, Russia... Start-up of the first ones planned in 2015-2016

Nevertheless:

- LNG price sensitive to supply - demand balance
- Uncertainties and risk of delays on the project

Contribution of LNG to SoS in Europe

- Available (not used) Regasification Capacities in 2014 : **163 bcm/y**
- New capacities 2015-2017 : **+ 27 bcm/y**



"The current infrastructure could already replace large volumes of Russian gas with LNG"

Cf. IEA Presentation at the Gas Coordination Group 10/11/2014

Role of floating storage and regasification units (FSRUs)

- Currently 2 FSRUs operated in Europe (Italy, Lithuania)
- Installation possible within 6 months

Source: OLT Offshore LNG Toscana

GIE is proud to support

gas naturally

making a clean future real

Gas Naturally

GN is a campaign to showcase the essential role of natural gas in the forthcoming energy revolution. The mitigation of climate change has become one of the most important issues for the gas industry.

Thank you for your kind attention.

GIE - Gas Infrastructure Europe

www.gie.eu