


# **3<sup>rd</sup> ACER Gas Target Model Workshop**

**3<sup>rd</sup> ACER GTM workshop, Brussels, 15 May 2014**

**ACER**

 Agency for the Cooperation  
of Energy Regulators

# **6. Enhancing upstream competition and security of supply**

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**3<sup>rd</sup> ACER GTM workshop, Brussels, 15 May 2014**

## To enhance upstream competition:

- Diversification of supply routes and sources
- Decreasing dependency on one source → more options needed

## Relevant **GTM1 criteria** still valid:

- » Gas being available from at least 3 different sources; and
- » Residual Supply Index (RSI) of more than 110% for more than 95% of days per year

→← only a few MS can supply all domestic gas demand from different sources

+ 6 MS without alternative to Russian gas supplies

## Need for:

- Implementing IEM and GTM
- Diversification: additional sources and routes, maximise indigenous production, fuel switch
- Adequate infrastructure, also for exceptional situations
- Incorporate gas storage and LNG in the considerations
- Enhanced transparency and modelling

1.

## Objective

- Enhanced upstream/producer competition
- Security of gas supply
  - Through the whole year
  - But also in particular at the end of the peak (winter) period

2.

## Evaluation of situation

Assessment against GTM1 criteria

- Gas being available from at least 3 different sources
- Residual Supply Index (RSI) of more than 110% for more than 95% of days per year

***Feasible  
for MS to  
meet  
objective  
by itself***

**Evaluation**

3.

## National measures to enhance SoS, e.g.

- Infrastructure enhancement

## Regional measures to enhance SoS, e.g.

- Infrastructure connections in the region
- Regional storage capacity
- Regional emergency plans
- Supply diversification

***Not  
feasible  
for MS to  
meet  
objective  
by itself***

## **CEER undertook an analysis on the possible role of LNG imports in the context of security of supply**

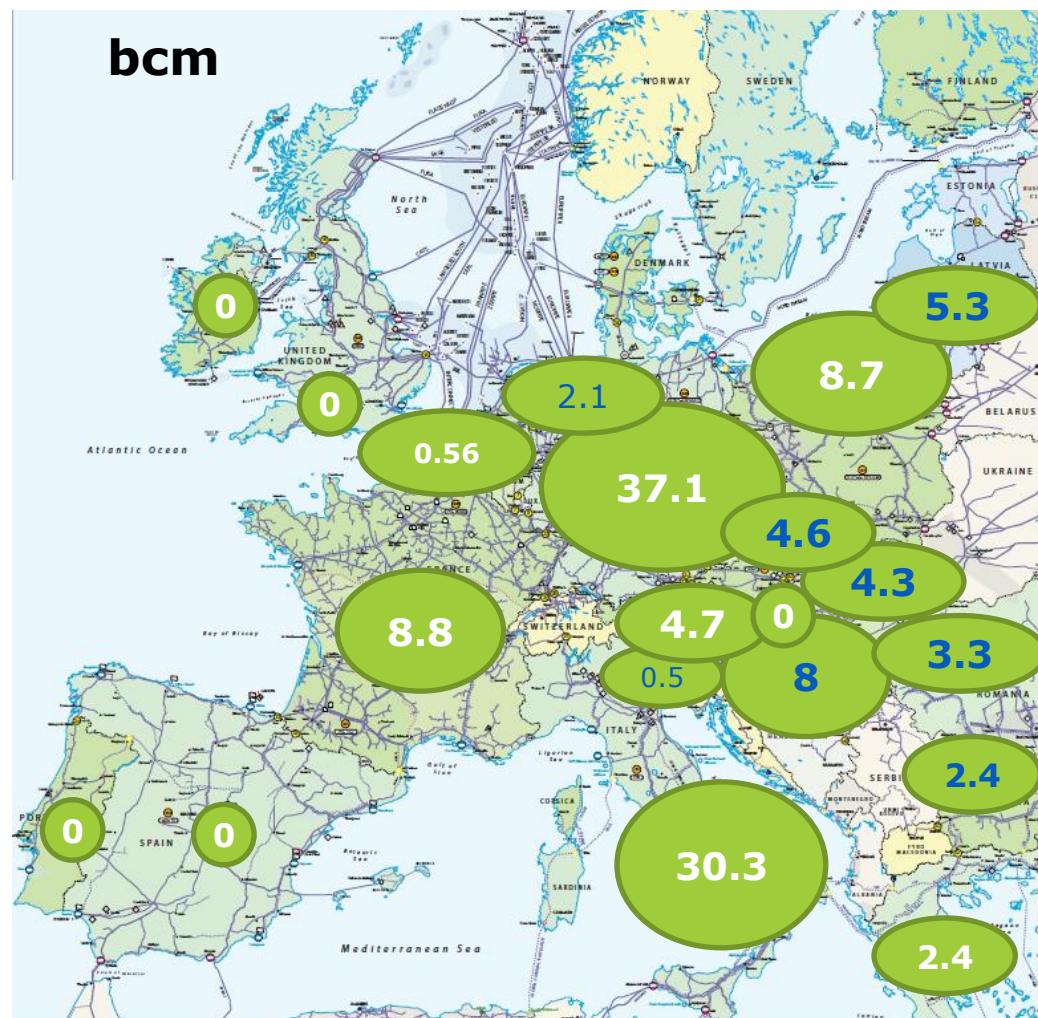
- **LNG is a strong asset in terms of security of supply as it offers access to diversified sources:**
  - » 17 countries exported LNG at the end of 2013
  - » Key exporters for Europe are Qatar, Algeria, Nigeria and Trinidad
- **The EU has 19 regasification terminals and their current rate of utilization 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 a worst-case scenario as regards gas deliveries to the EU?**

- ✓ The Russian gas imports in 2013 were aprox. 130-140 bcm.

 **Gas imports from Russia**

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)

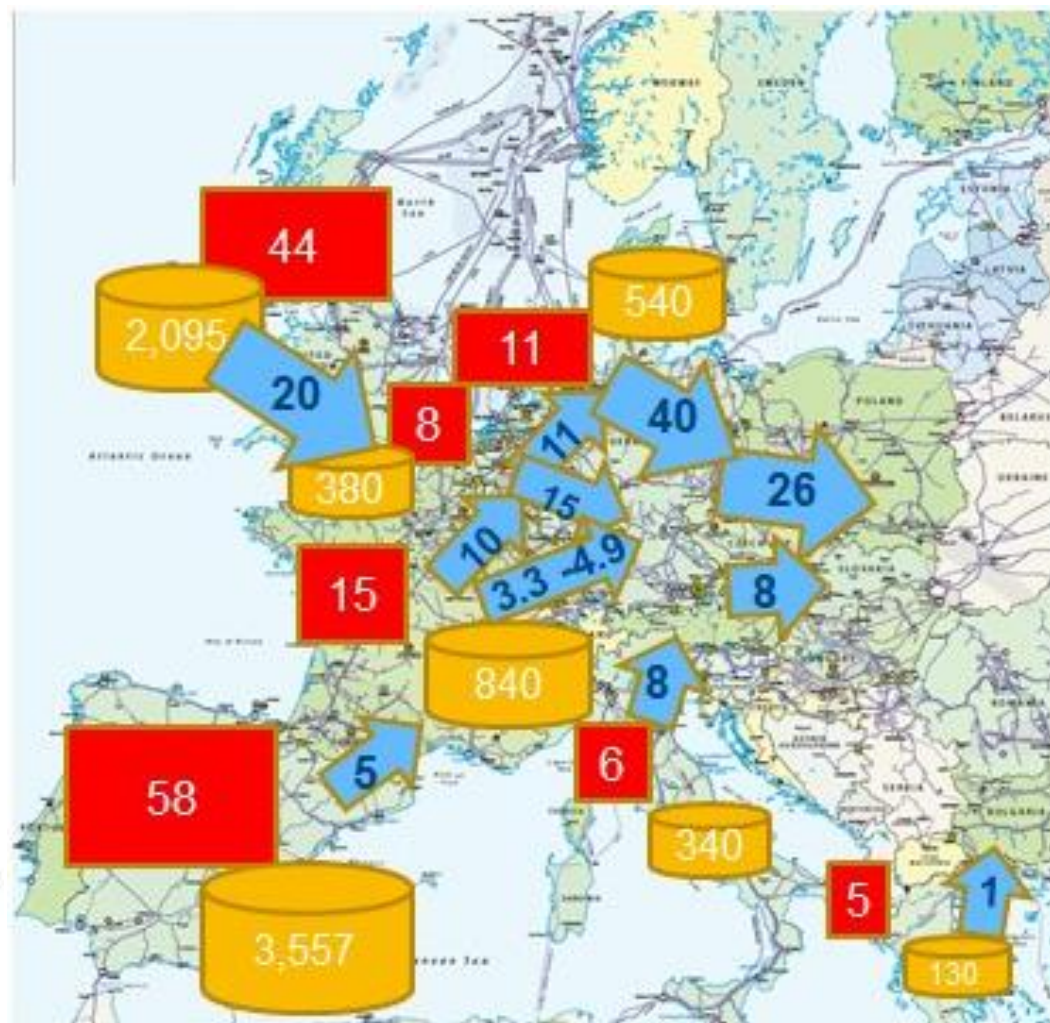
■ Regasification capacity not used in 2013 (bcm )

Technical transmission capacity at the lps (bcm )  
*To be considered with caution; in a real crisis situation this capacity would be reduced*  
Requirements of odorisation harmonization not considered as an obstacle.



LNG storage capacity (1,000 m<sup>3</sup> GNL)

Source: NRAs



- **Theoretically, the EU LNG terminals could receive 137 bcm of additional LNG in 2014 (on top of the 49 bcm delivered in 2013)**
- **Once substituted the Russian gas supplies to Western Europe, the potential flow of LNG eastward would be limited by constraints on the 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 spread of LNG would appear in a crisis situation, taking into account:**
  - » Scenarios of high demand;
  - » Simultaneous maximization of all remaining import sources (excluding Russian gas) and of storage use.



# Demand and supply worldwide - Liquefaction and regasification

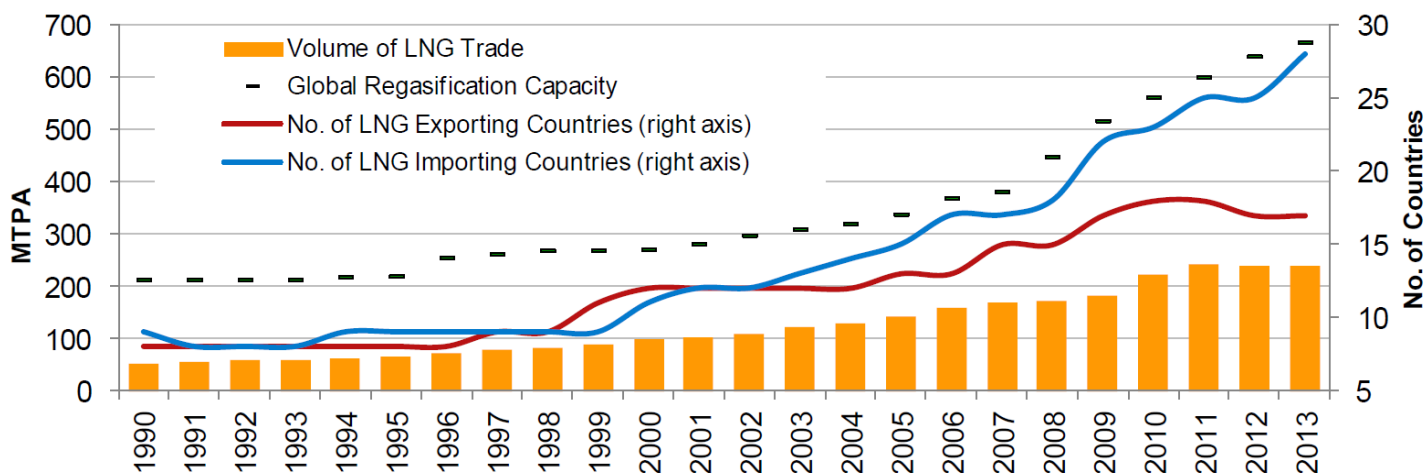
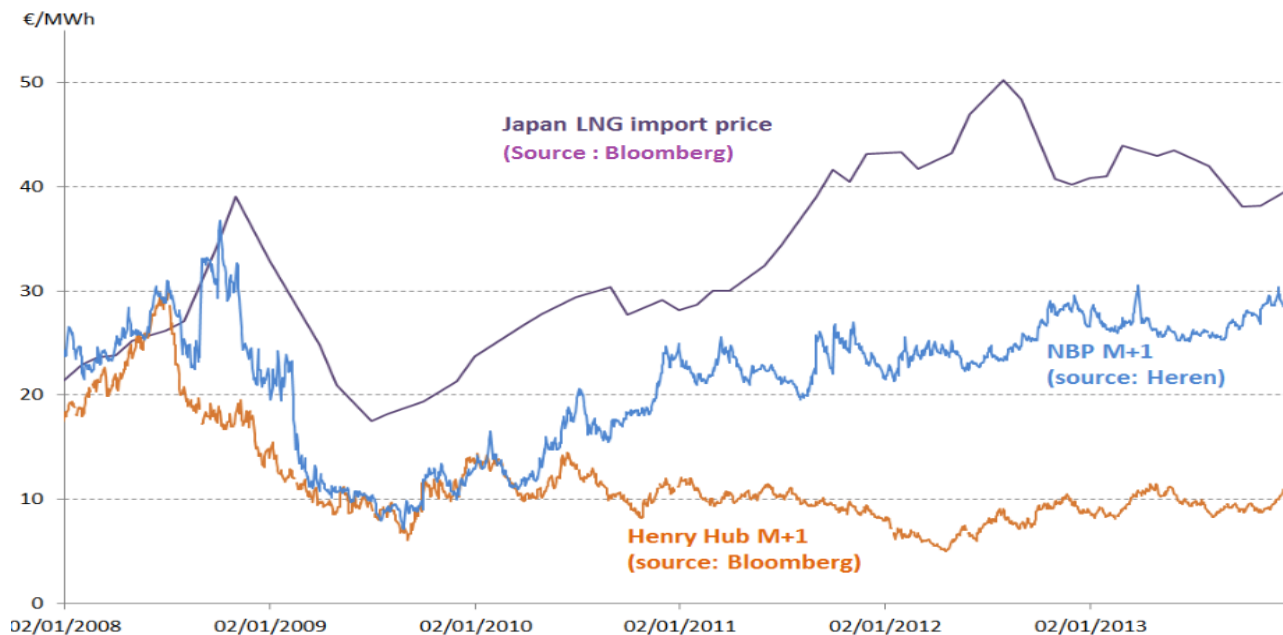


Figure 3.1: LNG Trade Volumes, 1990-2013

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 will 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)



- » **LNG flow is currently driven away from Europe to the higher-paying markets in Asia and Latin America**
- » **In case of supply disruptions, LNG prices at European hubs would rise:**
  - No more reloadings from EU terminal (5.9 bcm in 2013)
  - No more diversions of cargoes originally intended for Europe, delivery of spot LNG
  - Diversion of cargoes originally intended for other regions
  - In the medium term new sources of gas will develop (shale gas, new countries)
  - Additional LNG regasification terminals in Eastern Europe could be considered

**Price  
spread  
EU/Asia**

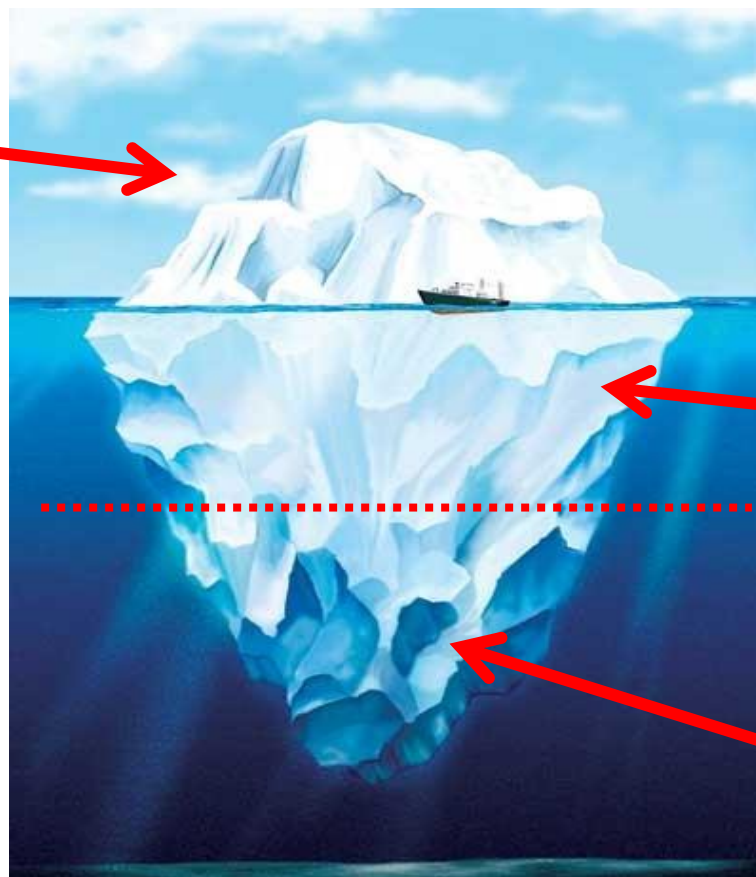
# CONCLUSIONS

- **In case of supply disruption, increased LNG deliveries in BE, PT, ES, FR, GR, IT, NL and UK will help covering Europe's needs and free up pipe-gas for 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 such worst-case scenario, 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 would imply significant price increases at European hubs**

## CEER is also assessing the (changing) role of storage

Market value of storage

- Intrinsic value
- Extrinsic value



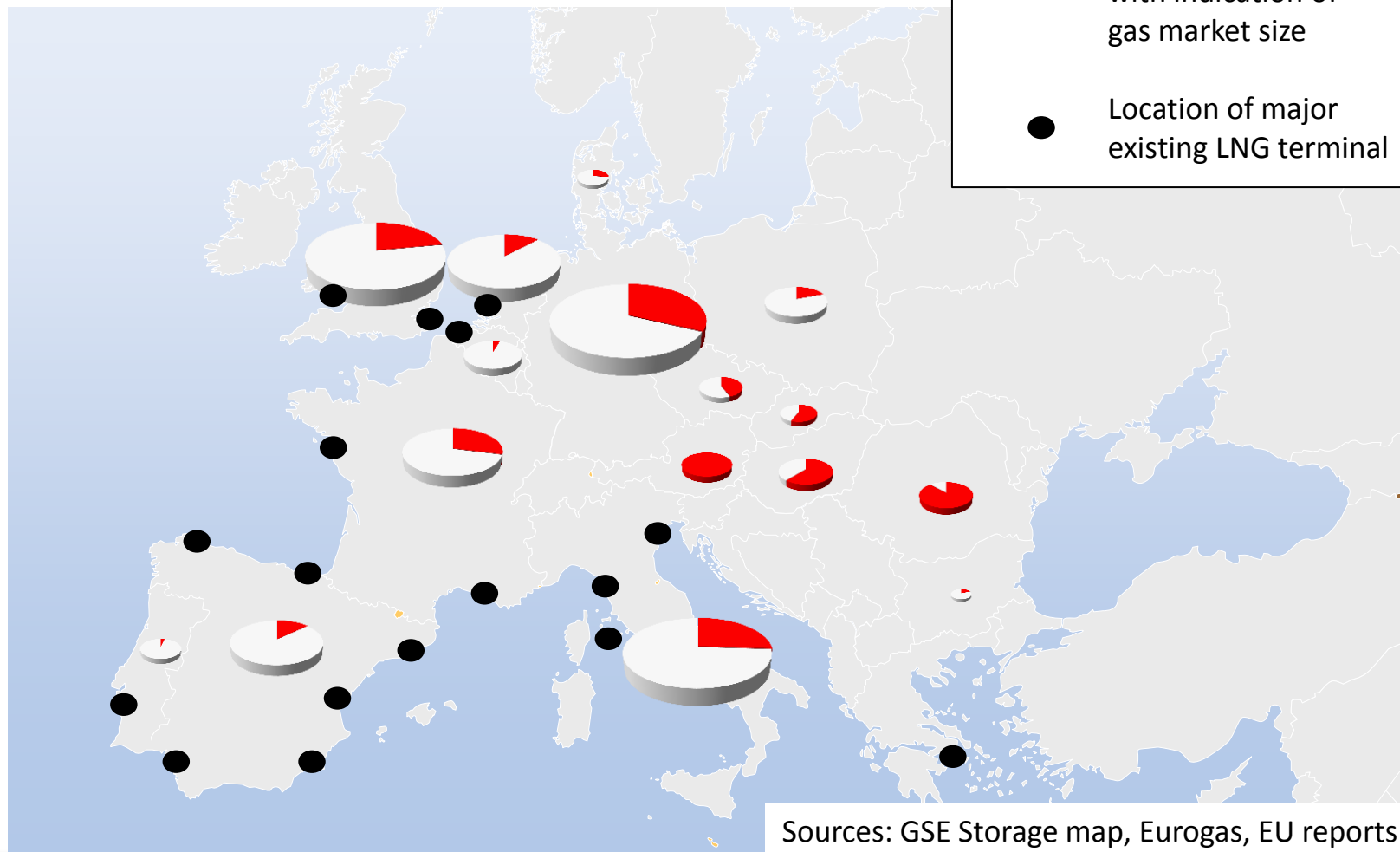
System value of storage

- Optimized production
- Efficient gas transport

Insurance value of storage

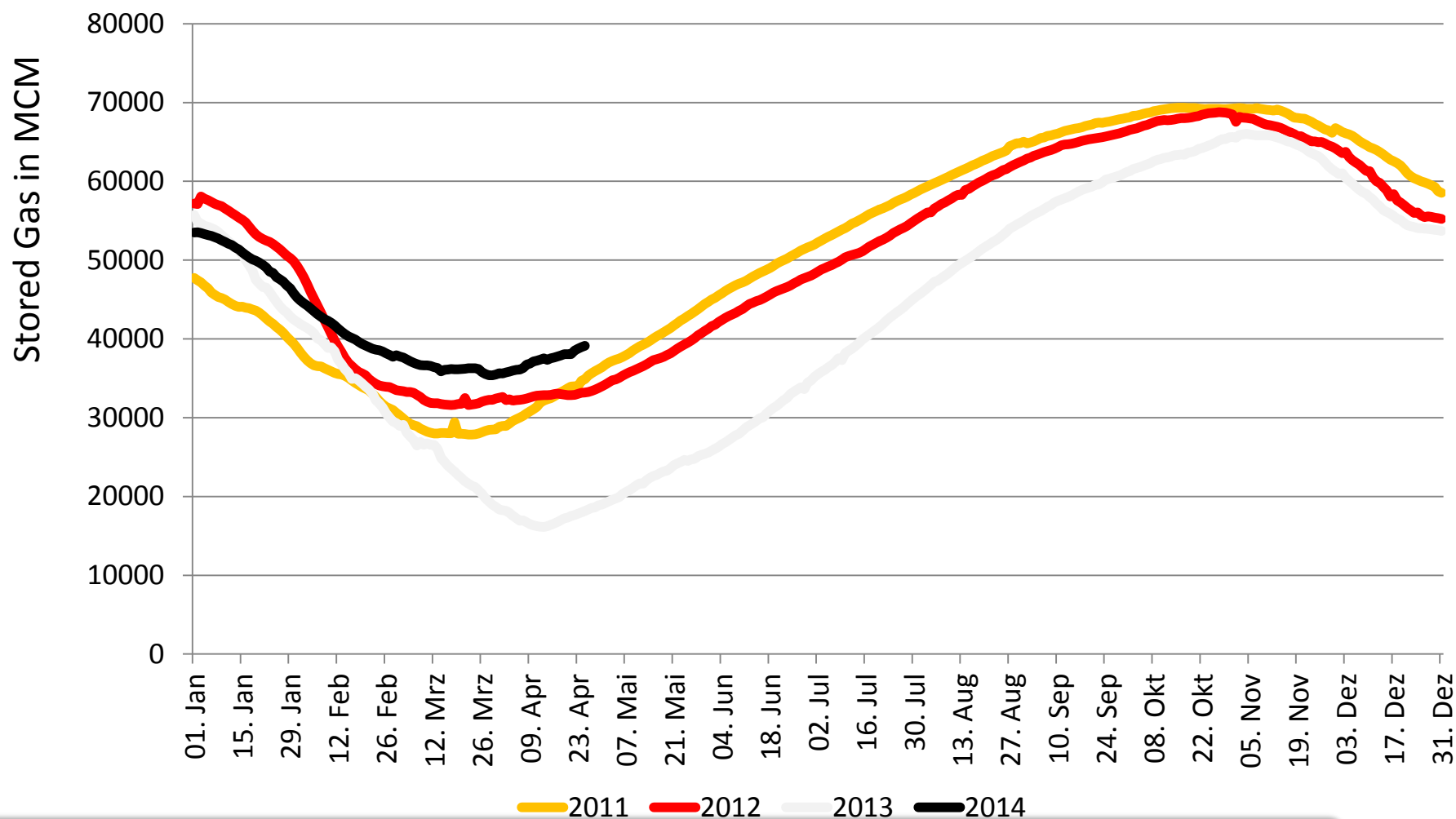
- Hedge against supply risk

# Gas storage capacity in Europe



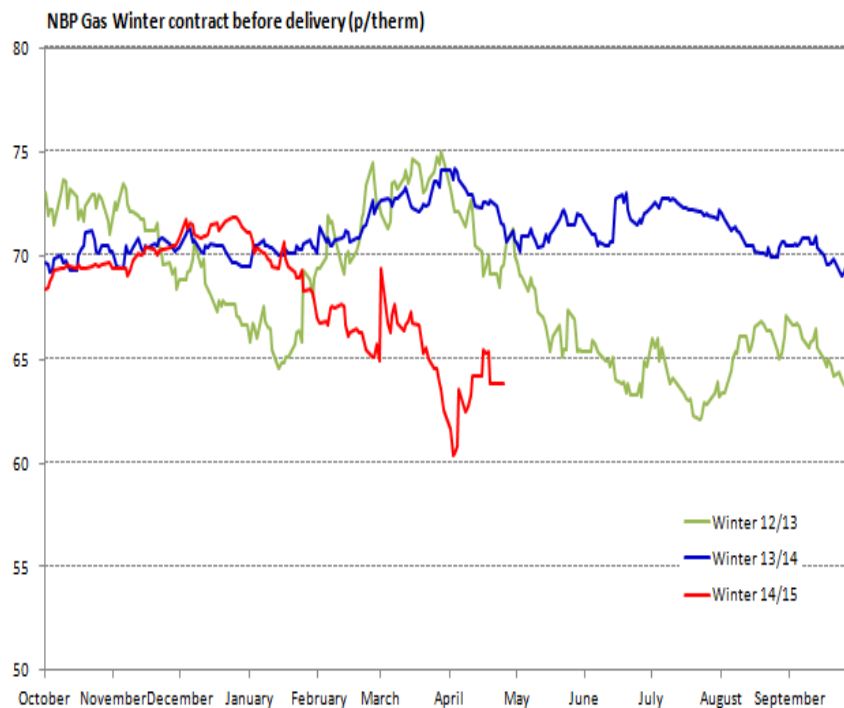


## Current storage levels above previous years



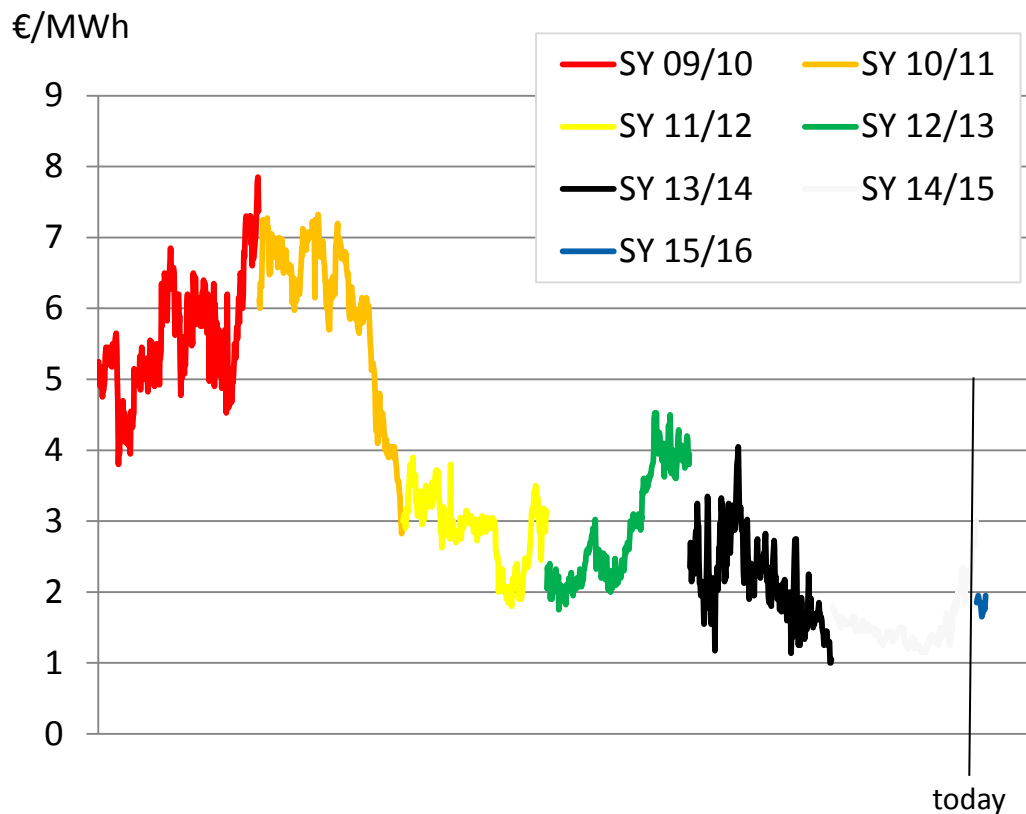
# Storage plays a key role in providing Security of Supply during this crisis

- The political situation in Ukraine since the beginning of the year has had no impact on delivery of Russian gas through the different import routes
- Due to the warm winter storage stocks across Europe remain high
- The Russia-Ukraine crisis created an initial shock in prices but this has dampened due to high stock levels
- There is sufficient spare import capacity from Russia into Europe to allow 67% of Ukrainian flows to the EU via alternative routes
- ENTSOG analysis shows that EU stock levels could reach 90% by the end of the Summer even in the event of a one month disruption to Russian supplies<sup>1</sup>



<sup>1</sup>ENTSOG Summer Supply Outlook 2014

Seasonal price spread at historical lows discouraging users from contracting storage, but the spreads...



Evolution of forward seasonal spreads on TTF for the following storage year

...cannot predict exceptional events

...may be a vicious cycle as storage use influence them

...disregard system efficiency

...ignore short-term, extrinsic value

...reflect only part of the market (futures)

# How to realise the full value of storage?

Benefits to the market and system	Possible regulatory arrangements
<ul style="list-style-type: none"> <li>• exploiting price differentials in the market</li> <li>• meeting flexibility requirements</li> <li>• optimising use of transmission systems</li> </ul>	<ul style="list-style-type: none"> <li>• a level playing field for storage in the flexibility market</li> <li>• regulatory framework conducive to commercial innovation</li> <li>• transmission fees that reflect potential storage benefits for end-users</li> <li>• non-discrimination between network users</li> </ul>
Security of Supply benefits	Possible out of market interventions
<ul style="list-style-type: none"> <li>• response to demand peaks</li> <li>• insulation against supply interruptions</li> <li>• a value for security of supply?</li> </ul>	<ul style="list-style-type: none"> <li>• non-discriminatory rules for storage users in system emergency</li> <li>• supply obligations</li> <li>• strategic storage</li> </ul>

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**Thank you for  
your attention !**