



Gas storage and security of supply

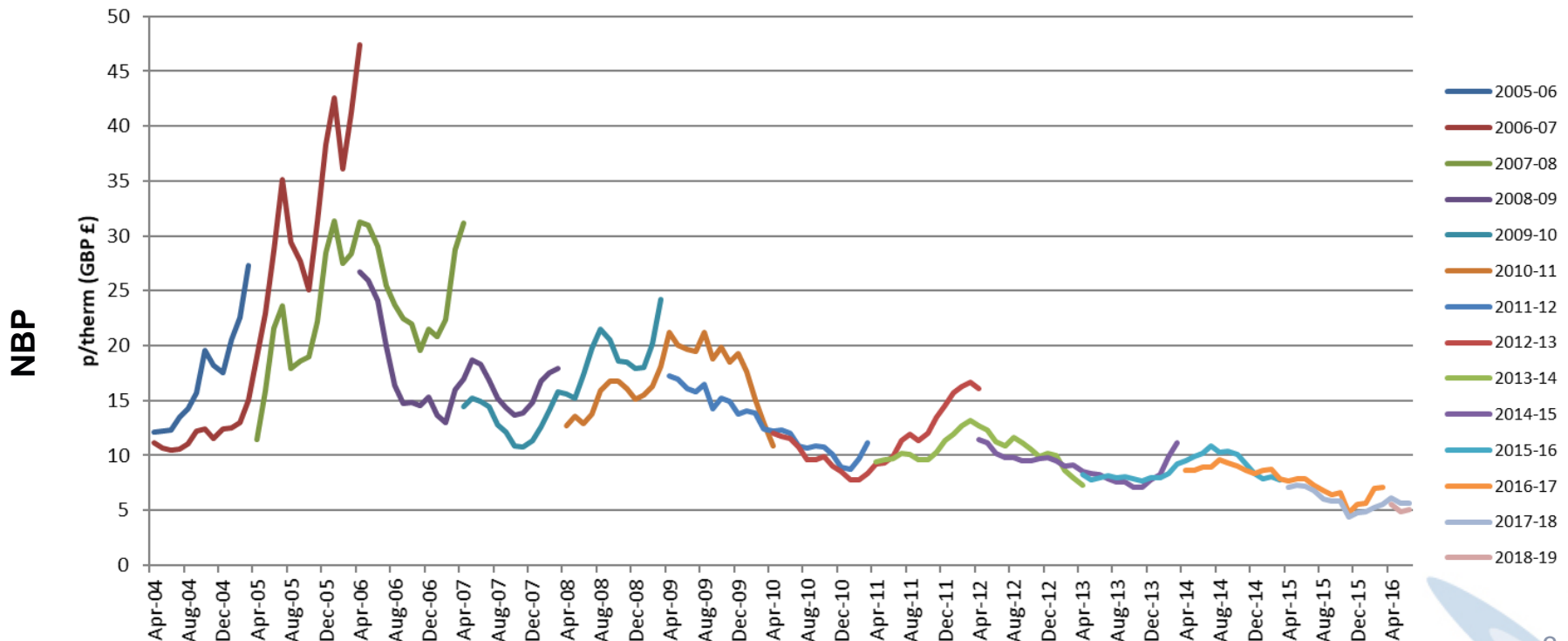
Ed Freeman, CEER GST TF co-Chair
27 September 2017

- Current market conditions for storage are challenging
- Storage competes with other sources to provide flexibility and other benefits to the wider gas market
- It is important to ensure the regulatory framework enables storage to compete
- Market signals that capture the value of storage should drive efficient infrastructure use
- Where wholesale markets are not yet functioning effectively, interventions may be necessary
- The long-term future for gas storage is uncertain



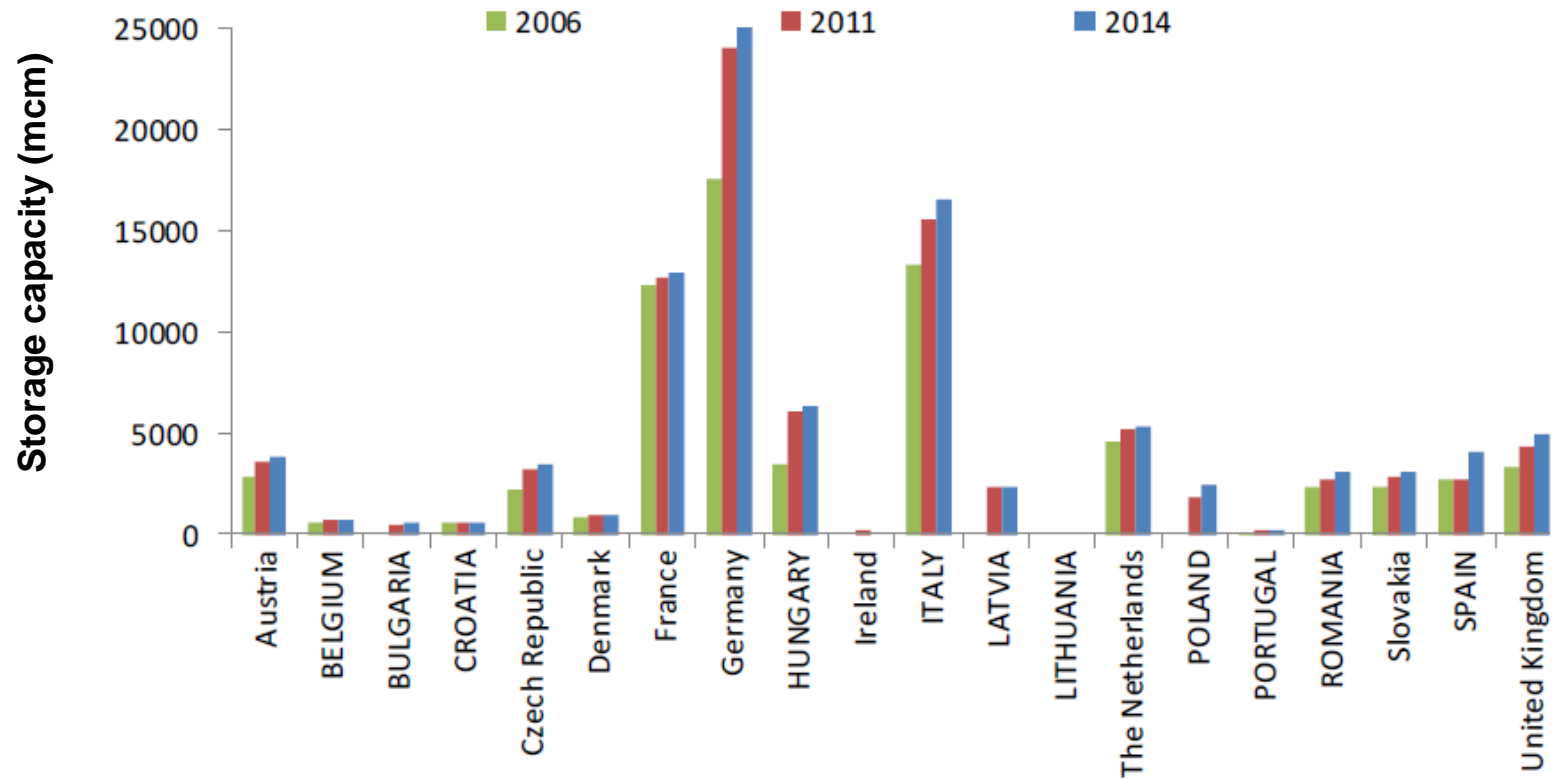
Changing market conditions: prices and profitability

- Profitability of seasonal storage closely linked to summer-winter spreads
- Driven by competition between abundant sources of flexibility (including LNG, interconnection and storage) and falling demand



Changing market conditions: investment and capacity

Despite some recent closures, overall trend towards increasing capacity.



Source: European Commission

CEER Storage Vision

Some commentators raised concerns about the need for interventions in the market to ensure that:

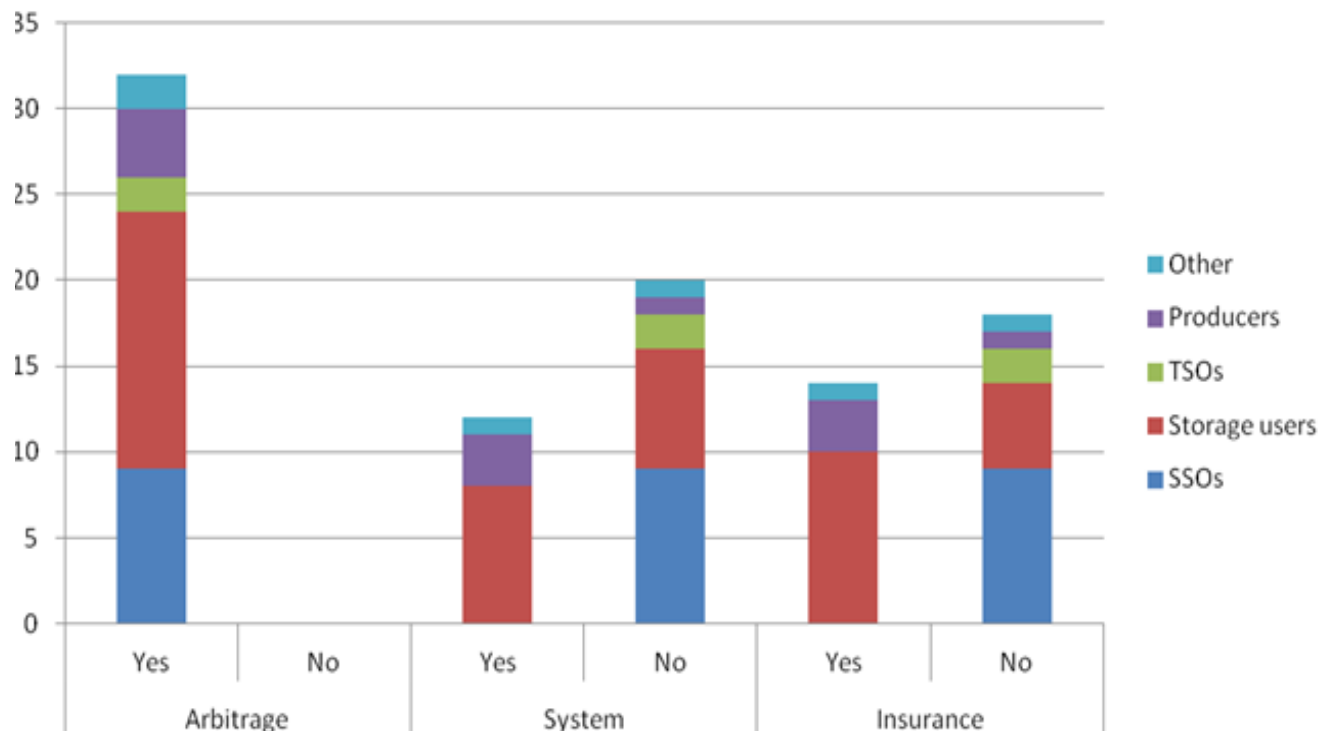
- sufficient gas is in store when it is needed
- facility closures do not threaten long-term security of supply

CEER produced a vision which aimed to address these important questions for Europe in the long term:

- What is the role of gas storage in the market?
- Are storage markets in Europe functioning sustainably?
- How can security of supply be appropriately valued in the market?
- What impact do interventions have on the storage market and when might they be appropriate?

Divergent views on how storage is valued in the market

Do market participants value all three values of storage identified by CEER (arbitrage, system and insurance) in the market price?



Competition: storage in the wider flexibility market

- Storage competes in the flexibility markets against other flexibly assets
- Storage usage will be affected by variations to these alternatives to the extent market participants believe them to be substitutable or enable them to meet their supply contracts more efficiently
- Effective competition on a level playing field between different sources of flexibility should deliver the most efficient and economic solution
- Regulatory arrangements should facilitate this competition, where appropriate



Creating an undistorted market

Access to storage: all storage capacity should be fully contestable and offered to the market on a non-discriminatory basis

Regional approach: users should be able to access storage capacity in adjacent markets without restriction on its use

Transmission tariffs: transportation charges should be cost reflective and consider the benefits that storage facilities provide to the system

Information provision: good progress made to date. Encourage SSOs to continue to provide enhanced information to the market

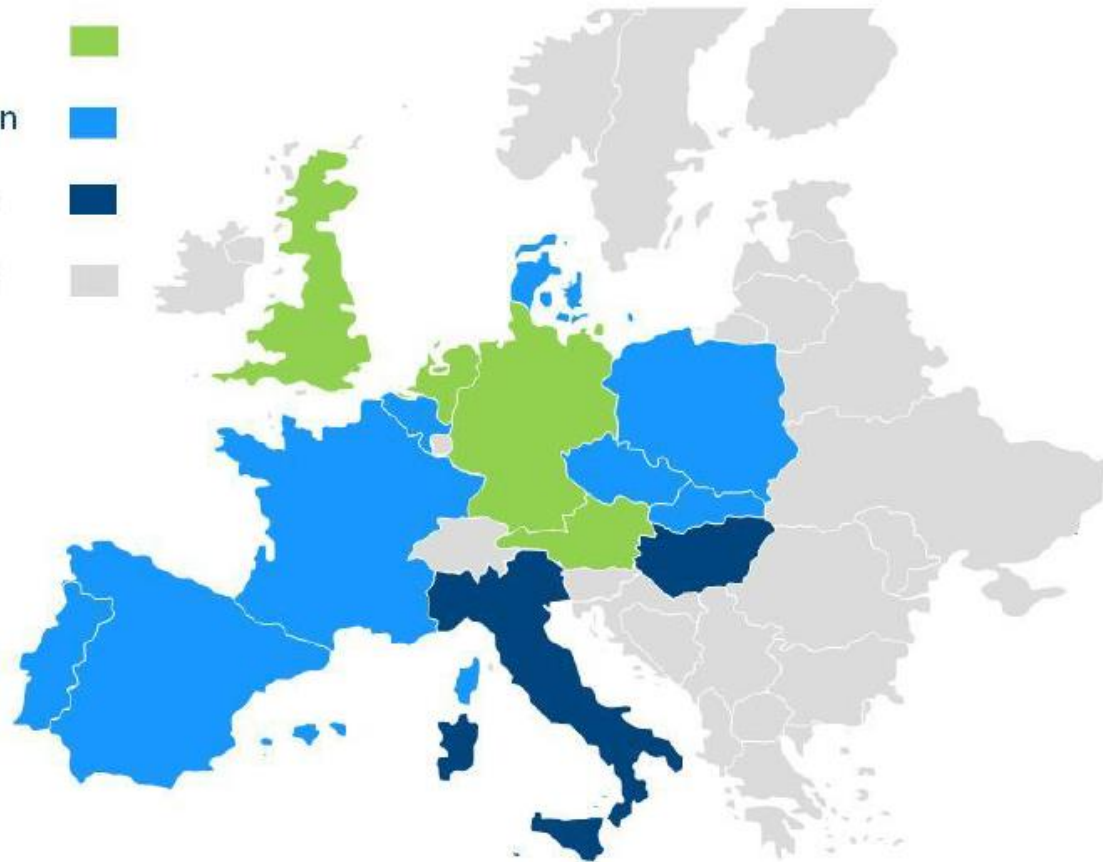
Product development: regulatory arrangements should facilitate innovation and the development of new products, where appropriate

- *CEER 2017 report on barriers for gas storage product development*



Different approaches to security of supply across Europe

- No obligations
- Supplier obligation
- Strategic storage
- No data received



Source: CEER survey (data incomplete)

Valuing security of supply in the market

Market signals should be used, as much as possible, as the main driver to infrastructure development and utilisation

- Well-functioning markets with robust reference prices are best placed to value and deliver security of supply and facilitate efficient levels of investment
- Rather than focusing on “adequacy” of reserves and measures to enforce a specified level of security, should focus on the functioning of markets and incentives on market participants

Priority must be implementation of the European Network Codes, which establish foundations for competitive wholesale markets

- BAL should deliver effective price signals; CAM increase opportunity to trade between markets; CMP prevent inappropriate use of infrastructure and contractual rights

Where liquid wholesale markets do not yet exist, there may be a need for interventions to appropriately value security of supply



The role of interventions

Interventions distort the efficient functioning of the market and should only be considered where there is clear evidence of market failure

- Storage obligations can hinder market participants' ability to respond to market signals

Interventions must be targeted to specific markets (not pan-European) and not foreclose the growth of wholesale markets

- Non-discriminatory access in emergency situations enhances the value of storage, creating appropriate incentives on market participants

Regional approach

- Restrictions on the cross-border use of storage, including in emergency situations, should be reviewed

The impact on the market should be understood and minimised and an exit strategy should be prepared

- Where strategic storage/storage obligations are introduced, clear rules, responsibilities and boundaries are essential
- Existing interventions should also be reviewed

Initial view on the report proposal: VOLL-based firm and obligatory financial compensation scheme

Aligns with CEER recommendations to focus on incentives rather than specific levels of gas in store

- Incorporating cost of an emergency into market prices can create appropriate incentives on market participants (including storage users) to deliver supply security. Should ensure the most efficient actions are taken.
- Mitigates many of the distortions associated with storage obligations and strategic stocks

Similarities with the Gas SCR in GB

- Cash-out prices unfrozen and dynamic through emergency; no cap on prices
- Cost of network isolation priced in at VoLL
- Consumers paid for involuntary DSR they provide using funds recovered from cash-out charges

Important considerations

- Calculating VoLL
- Duration of interruption not fully within supplier control
- Not EU-wide but market specific
- Work with existing balancing/neutrality arrangements



The future for European gas storage?

Commission Storage and LNG Strategy

- Investment and the development of new flexibility sources have led to some excess capacity and narrowing summer-winter spreads

European gas demand in 2050

- Long-term pressure to de-carbonise electricity and heat
- Development of CCS and the future of shale uncertain

Projections for gas prices, short-term volatility and summer-winter differentials

- Challenging near-term outlook and significant uncertainty further out

Evolving role and value for storage

- Potential move towards more short-term flexibility with role of gas-fired generation to support increasing intermittent sources of power
- Closure of some storage facilities could be seen as an appropriate market reaction to situation of oversupply





Review

- Storage is part of the flexibility market and must be able to compete.
- Market participants' use of storage is driven, in the main, by economic reasons
- Market signals that capture the full value of storage should drive efficient infrastructure use and investment
- Interventions in the market reduce the value of commercial storage
- The closure of some facilities may be an appropriate correction to situation of oversupply and could improve the business case for other facilities
- Security of supply depends on physical availability of all flexible gas supply; cannot consider storage in isolation
- Markets across Europe are different; political dimension to security



Thank you for your attention!

