



Madrid Forum

Feedback on the EU's LNG and storage study and
gas storage market failures

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LNG terminal operators (LSOs) actively respond to the market



LSOs actively listen and respond to the market

- LSOs are recognized for pursuing open access and transparency and by developing new services to cater to the needs of the market

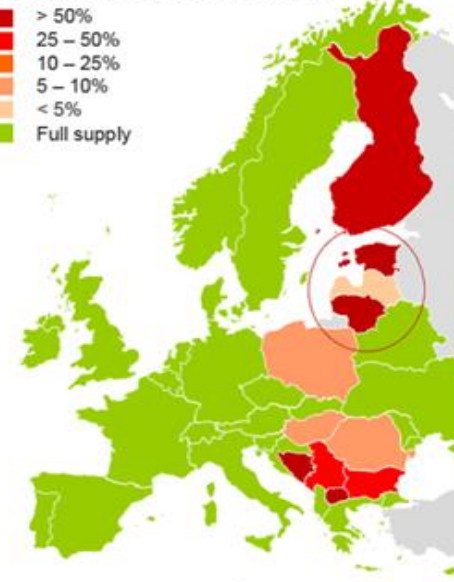
LSOs have concerns about certain points of the follow-up study:

- The modelling of certain infrastructure projects, including certain LNG terminals, result in sometimes misleading results.
- LNG, which is a multisource supply (Qatar, USA, Nigeria, Algeria, Norway, etc.), is not recognized for its contribution as a flexibility source for security of supply. In particular in case of longer shortages LNG is a source of flexibility, but LNG storage may also help in short-term disturbances and shocks.

Example: Security of supply for the Baltic States

Gas supply disruption 6 months, cold spell scenario

Before completion of Klaipeda LNG terminal



After completion of Klaipeda LNG terminal and Klaipeda – Kuršėnai pipeline



“Don’t fix it if it ain’t broke”



***Terminal access in the EU is working and
authorities should refrain from any regulatory
action in an area that is functioning well as
confirmed by the stakeholders.***



Gas storage market failures

Current storage market puts security of supply at risk

- The merchant gas price is not reflecting the full value of gas storage
- Declining spreads leads to storage closures that could harm the European SoS

Focus on gas storage market failures

- Current gas markets are missing parts of the value
- The market failure regarding the system value
- The market failure regarding the insurance value

Conclusions

- It seems timely to stress the social benefit of the gas storage
- Objectives of GIE presentation

The merchant gas price is not reflecting the full value of gas storage



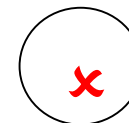
| | The full value of gas storage | The market price of gas storage |
|--------------------------------------------------------------|-------------------------------|---------------------------------|
| The intrinsic value (Summer–Winter spread of gas prices) | ✓ | ✓ |
| The extrinsic value (The volatility of day to day prices) | ✓ | ✓ |
| The insurance value | ✓ | ✗ |
| The system value | ✓ | ✗ |

The merchant storage gas price

- is not reflecting the full value of gas storage
- is not covering some SSO's costs

⇒ Missing positive externalities

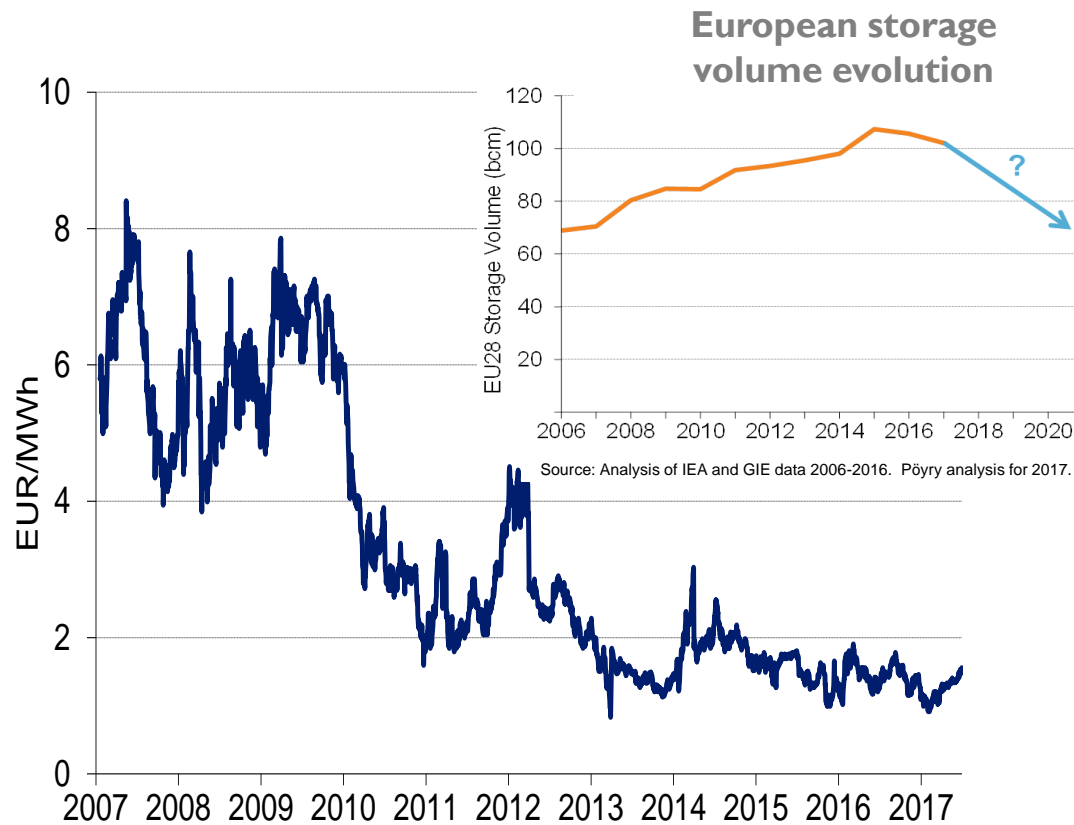
⇒ Reduction in the physical availability of gas



Declining spreads leads to storage closing that could harm the European SoS



TTF summer-winter spreads (2007-2017)



Reduction in the physical availability of gas

- Need to be used in crisis scenarios

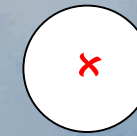
In the long term, the time would be too long to cope with the event of an emergency crisis

- Gas storage facilities can quickly reach a point of “no return”
- Gas storage facilities need long lead times to be rebuilt

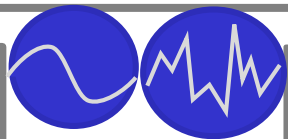
This capacity reduction could harm the European SoS and/or require expensive future interventions to rebuild storage

Focus on Gas storage market failures

Current gas markets are missing parts of the value



The drivers of gas storage value



Arbitrage value

- Intrinsic value
- Extrinsic value



System value

- Reducing need for extra-large networks
- Aiding pressure and congestion management



Insurance value

- Avoiding risks to SoS and extreme prices

Market Failures

Market Failures

**Market failures in two important areas:
system & insurance value**

**No system in place to assess &
remunerate the value that storage brings
to the whole system and provide to SoS**

Missing positive externalities

- means too many gas storages will close at the wrong location in the system

Long term consequence

- Reduction in EU welfare

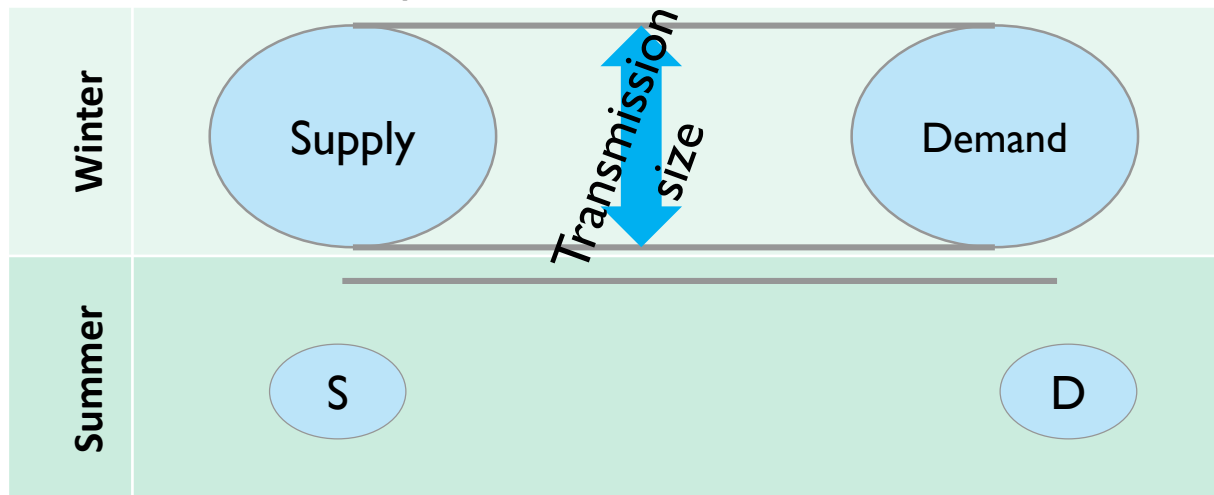
The market failure regarding the system value

Gas storage reduces the required size of the transmission network



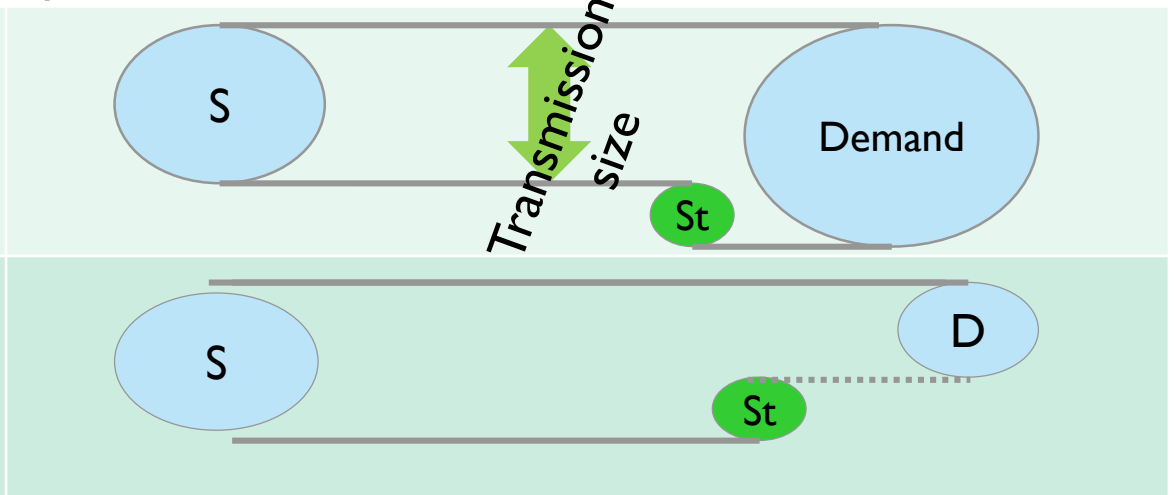
Without storage

Peak day demand would have to be transported from supply sources to demand centres resulting in a large transmission system.



With storage

Peak day demand is partially met by local storage withdrawal, lowering the costs of the transmission system.



Storage provides a system benefit by regional availability of peak supplies, thus significantly reducing the requirement for transmission capacity

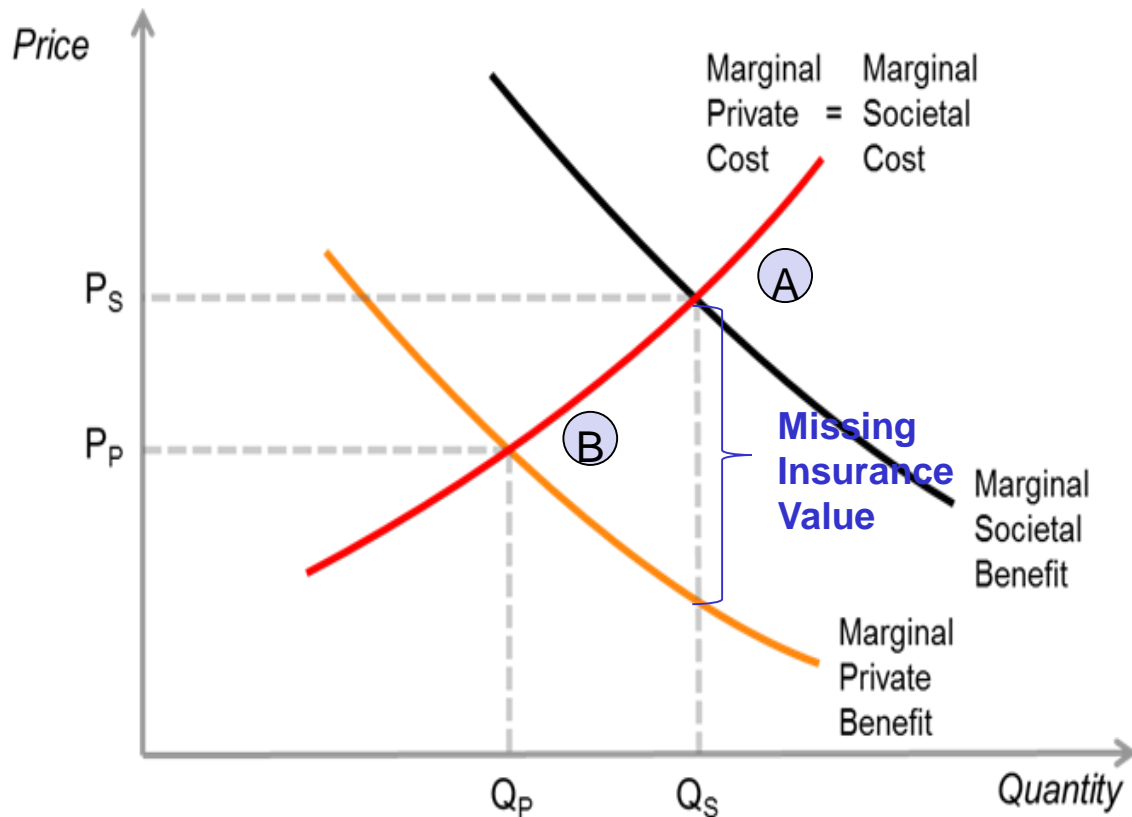
This benefit was recognised under integrated planning and network development, but since separation/ unbundling storage is not rewarded for reducing the network size and cost

The market failure regarding the insurance value

Merchant storage is not able to capture a market price that reflects the true insurance value it provides



Illustration of positive externalities



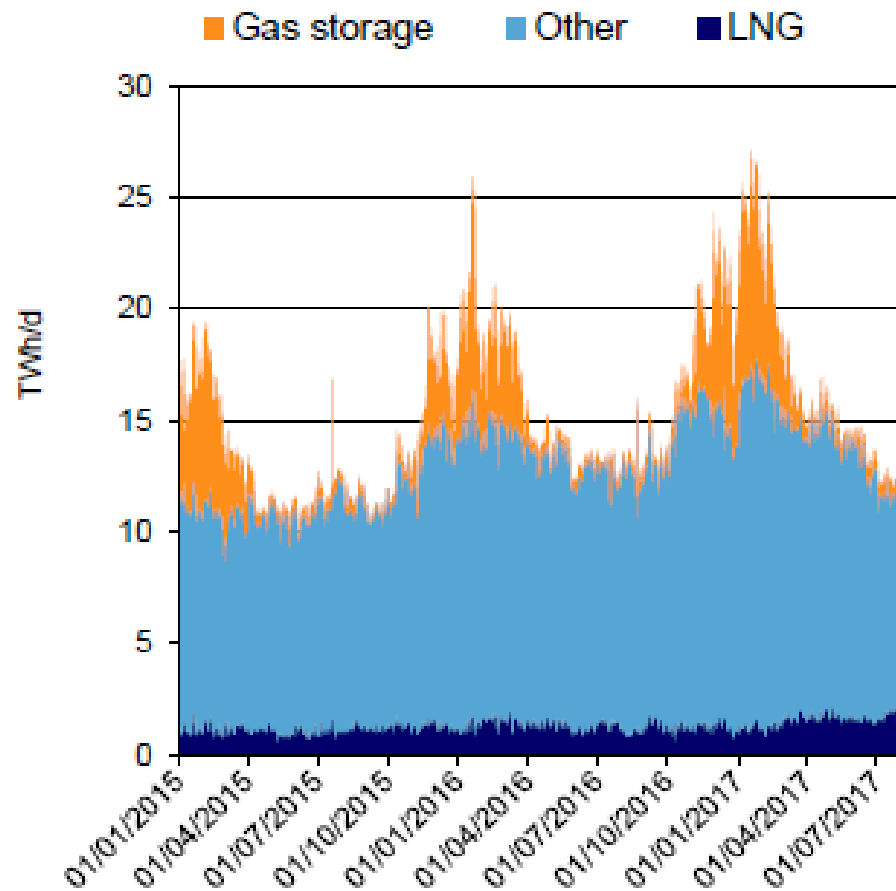
The missing value of insurance

- Society puts a greater value on the benefit of storage (MSB) than the shippers (MPB)
- The market could require less storage (Q_P) than society would want (Q_S)
- Assuming interventions: define the quantity of storage needed by society (Q_S), the market price would be much lower than the price society would be prepared to pay for SoS (P_S)
- The difference is the missing value of insurance

This failure result in an inefficient volume of storage: too much storage is likely to close, and security of supply would be lower than socially desirable

It seems timely to stress the social benefit of the gas storage

European gas flows (2015-2017)



Source: ENTSOG Transparency Data, National Grid

In a coherent way across EU gas markets remunerate SSOs for the system value of storage (not addressed in current EU legislation) and for the Insurance value storage (level playing field on EU level)

Some analogy can be made with CRM in the European power sector

That matter needs to be addressed in the Quo Vadis Study

- Evolving market conditions \Rightarrow Increasing variability of gas flows
- Manage the flows through transmission/storage optimization \Rightarrow increasing reduction of the trading cost (cross-border issue)
- Ensure security of supply in the long term

Objectives of GIE presentation: to alert on gas storage market failures and to work on measures



Storage facilities are likely to close and if the potential market failures are not assessed, it is likely that too much or wrong storage will close

- Merchant storage can only capture arbitrage value
- The revenue received from the arbitrage value, based on spreads and volatility, not sufficient to keep most facilities open in the long term

Quo Vadis and the Follow-up study to the LNG and Storage Strategy provide an opportunity for addressing the missing price signals for gas storage. Gas operators should work together to propose measures to achieve an efficient balance of transmission and storage, and to ensure security of supply.

 **GIE offers to provide additional analysis to be considered in an evidence-based documentation on market failures in collaboration with stakeholders and ENTSOG**

 **A follow-up study could focus on regulatory mechanisms/measures that would enable to reach the marginal social benefit**



Thank you for your attention and interest