

DRAFT

Elaborating concrete European legislative proposals on gas storage

Executive summary

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A cost-effective transition will require gas storage; EU reforms can ensure storage facilities capture their value to the energy system

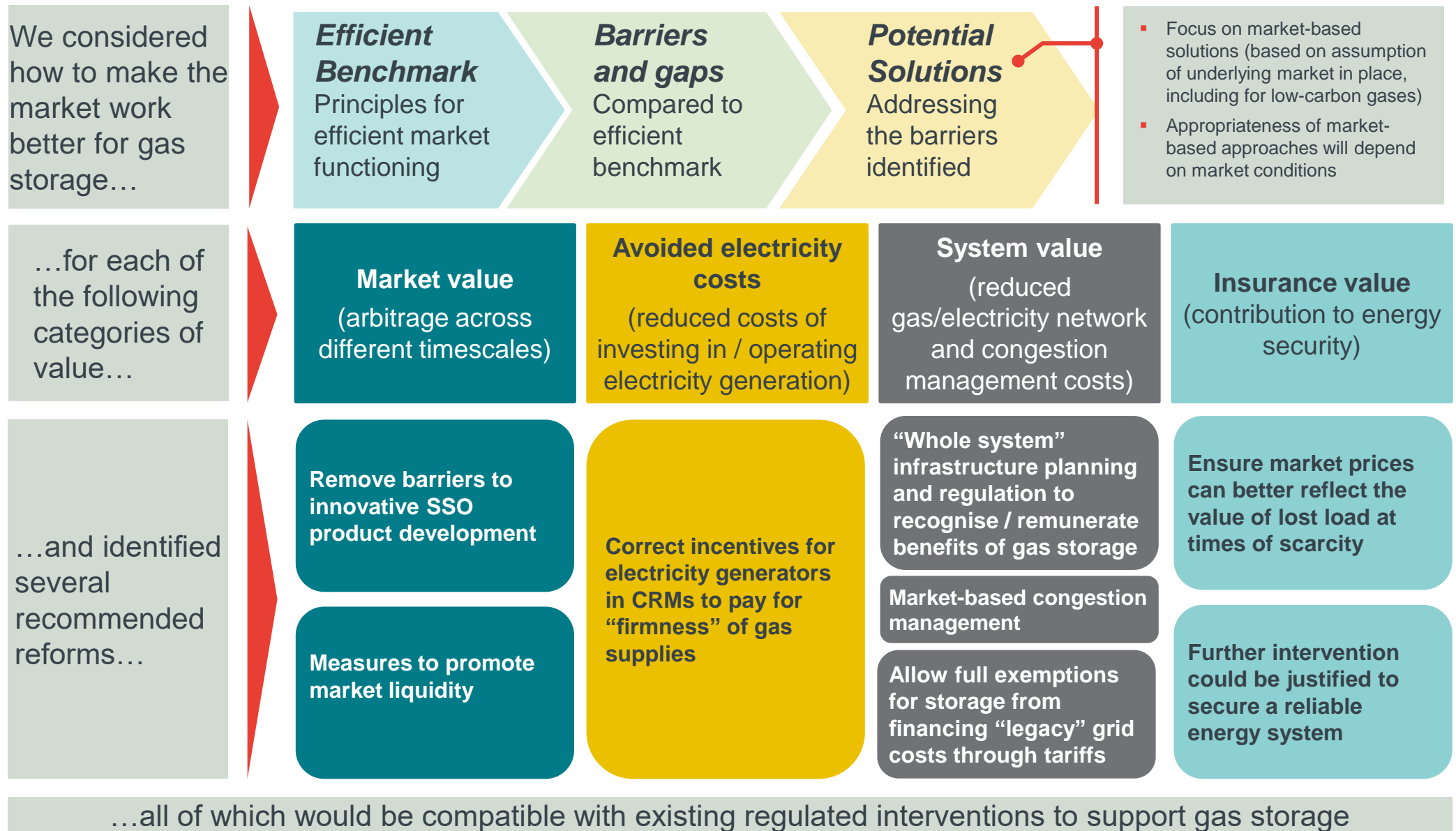
Gas storage has an important role to play in the future energy system

- To achieve 2050 climate goals the EU must achieve deep decarbonisation in the energy sector. This will create challenges that need to be managed, notably in respect of energy storage and transport
- The Commission's Hydrogen Strategy states that (decarbonised) hydrogen is essential to support EU commitment to carbon neutrality by 2050, in part given its large potential for storage of renewable energy (in particular over seasonal timescales where alternatives are limited)
- The Energy System Integration strategy further notes the importance of gas storage in facilitating the integration of the electricity and gas systems

Reforms should be implemented across the energy system to ensure flexibility tools such as storage capture the full value they bring to the system

- Market failures may prevent gas storage from realising the value it brings to the system
- These failures are compounded by policy-driven uncertainty regarding the future for gas and gas storage (e.g. the level of gas demand, the mix of different gases on the system). Operators are not well-placed to manage such risks.
- Together, this may lead to the (inefficient) premature closure of existing storage sites, making the decarbonisation process more expensive (including increasing security of supply risks)
- Change is required at the EU level to ensure the legislative framework ensures:
 - gas has a route to benefiting from avoided electricity capacity costs in electricity CRMs
 - that the wider energy system benefits of gas storage are taken into account in market and tariff design, as well as in network planning and regulation
 - that prices react appropriately in times of scarcity, allowing storage to benefit from the insurance value it provides
- Alongside such reforms, further interventions could be justified which member States could implement to address residual failures.

Several EU-level reforms are needed to ensure that storage (and other flexibility sources) can realise the full range of value they provide



Summary of proposed reforms (1/3)

	Rationale	Specific reforms
Remove barriers to innovative SSO product development	<ul style="list-style-type: none"> Regulations may hinder product development by SSOs 	<ul style="list-style-type: none"> It could be necessary for MS to review regulation to ensure efficient SSO product development is possible At EU level, need to clarify whether trading gas / transmission capacity for the purpose of provision of storage products is compatible with unbundling rules
Measures to promote market liquidity	<ul style="list-style-type: none"> Illiquid markets may mean that shippers have less certainty regarding forward value of gas and the value of storing gas, potentially leading to storage being undervalued in the market 	<ul style="list-style-type: none"> ENTSOG (and national) CBA methodologies should include consideration of liquidity impacts in infrastructure investment / decommissioning decisions NRAs and MSs should consider other action to enhance liquidity including: <ul style="list-style-type: none"> reducing barriers to market mergers adopting “best-practice” balancing and imbalance charging rules
Correct incentives for electricity generators in CRMs to pay for “firmness” of gas supplies	<ul style="list-style-type: none"> Some electricity CRMs effectively assume firm gas supplies for gas generation without requiring plants to demonstrate this is the case. This removes the incentive for gas generators to contract for firm gas supplies and obstructs a stream of revenues for gas storage providers 	<ul style="list-style-type: none"> Plant availability assumptions should be accounted for in CRMs with resulting payment for capacity providers Use the upcoming opportunity of sector integration legislation to ensure that gas storage operators’ rights are clear in this regard, including, where relevant, considering definitions (e.g. of energy storage)

Summary of proposed reforms (2/3)

	Rationale	Specific reforms
“Whole system” infrastructure planning and regulation to recognise / remunerate benefits of gas storage	<ul style="list-style-type: none">▪ Insufficient coordination between electricity and gas sectors as well as between TSOs and DSOs in planning for infrastructures may lead to whole system costs not being optimised▪ This means that flexibility tools such as storage may not be properly considered as alternatives to infrastructure investment, leading to potentially less revenues for SSOs	<ul style="list-style-type: none">▪ Ensure coordinated investment planning for transmission and distribution at the national and EU levels, including an assessment of flexibility options across all network levels▪ SSOs and other infrastructure operators should be included in system planning discussions at the national and EU level▪ MSs could be required to demonstrate optimised system planning between sectors and between the transmission and distribution grids▪ NRAs should implement regulatory incentives to achieve system cost savings▪ All network operators should be required to consider flexibility sources if they are more cost effective than network investment▪ The range of counterfactuals considered in PCI process CBAs should be broadened
Market-based congestion management	<ul style="list-style-type: none">▪ With the development of production units connected to the distribution grid, congestion management at the distribution level could become increasingly important. However there is no congestion management requirement at the distribution level in NC BAL	<ul style="list-style-type: none">▪ Implementation of rules for (technology-neutral) market based congestion management at distribution level

Summary of proposed reforms (3/3)

	Rationale	Specific reforms
<p>Allow full exemptions for storage from financing “legacy” grid costs through tariffs</p>	<ul style="list-style-type: none"> Storage operators may face tariffs from other infrastructure (e.g. transmission grid) which include not only marginal costs (i.e. costs imposed on the infrastructure from storage) but also sunk costs (i.e. costs incurred to build the infrastructure). Since storage use (capacity and commodity) may be more price sensitive than final use, such “residual” cost recovery charges could reduce the use of storage and lead to inefficient closure 	<ul style="list-style-type: none"> Amend NC TAR to define a tariff structure to ensure distortions from cost recovery charges are minimised Case for reducing residual cost recovery element of grid tariffs for storage (potentially down to incremental cost only) avoiding double “cost recovery” charging for storage / energy conversion A starting point short of NC reform might be to require ACER to produce a “best practice” report on tariff methodologies, akin to what is now in place for electricity. This could clarify the concept of “cost-reflectivity” and also be an opportunity for taking a cross-system view on cost-recovery issues. Ensure consistency across electricity and gas
<p>Ensure market prices can better reflect the value of lost load at times of scarcity</p>	<ul style="list-style-type: none"> If imbalance prices do not reflect the value of loss load, customers cannot signal the value they associate with loss load. This reduces the incentives for private players to insure themselves against lost load, which leads to flexibility tools such as storage being underused 	<ul style="list-style-type: none"> The NC BAL should be updated to require marginal pricing (unless liquidity issues prevent it) and potentially to require imbalances prices to include a “scarcity adder”. Price caps on imbalance prices should be removed, and any administered prices should have signalling scarcity value as an objective
<p>Further intervention could be justified to secure a reliable energy system</p>	<ul style="list-style-type: none"> Despite market reforms, residual market failures may persist, leading to insurance value being under-rewarded 	<ul style="list-style-type: none"> Member States could implement further interventions to secure a reliable energy system



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