

The contribution of terminal operators to securing and greening energy for Europe

2 December 2024

GRIDTech 2024

The mandate



37^o European Gas Regulatory Forum (May 2023):
European Commission invites GLE to analyse and report to the Forum on the possible scenarios and challenges regarding the usage of LNG terminals for the imports of renewable and low-carbon gases, including hydrogen and its derivatives.

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Securing & Greening Energy for Europe: The Role of Terminal Operators

Presented by DNV & Frontier Economics

The logo for Gas LNG Europe (GLE), featuring a stylized green and blue icon of a gas flame or drop next to the letters 'GLE' in a bold, blue, sans-serif font, with 'Gas LNG Europe' written below it.The logo for DNV, consisting of three horizontal blue lines above the letters 'DNV' in a bold, blue, sans-serif font.The logo for Frontier Economics, featuring the word 'frontier' in a bold, black, sans-serif font with a red curved line above it, and 'economics' in a smaller, black, sans-serif font below it.

Contribution of terminal operators

1. EU gas market

2. Pathway costs

3. Terminal benefits

4. Assess pathways

5. Policy recommendations

Six key contributions of terminals

Valuable volumes

Enabling much needed renewable and low-carbon imports



Building bridges

Accessing favourable locations for renewables through worldwide sourcing



Safety net

Providing system resilience to disruptions through diversification of supply and back-up capacity

Waiting in the wings

Leveraging the value of readily available infrastructure for expanding to new carriers



Greening gradually

Growing progressively with transition



Fit for many

Allowing different import pathways and various other energy services

The pathways and their strenghts

		Suitability to meet EU targets	Energy costs	Infra-structure requirement	End use suitability	Techno-logical maturity	Other value chain elements	Environ-mental implications
Upstream conventional LNG, downstream greening	Pathway 0: LNG → CH4+CCUS							
	Pathway 1A: LNG → H2(+CCUS)							
Upstream greening, CH4 end-use	Pathway 2A: BioLNG* → CH4							
	Pathway 2B: SynLNG → CH4							
Upstream & downstream H2	Pathway 3A: LH2 → H2							
	Pathway 3C: SynAmmonia → H2							
	Pathway 3D: SynLNG → H2							

Legend:

- Overall positive assessment of pathway specifics
- Mixed factors identified in the assessment of pathway specifics
- Challenges identified in the assessment of pathway specifics

Clusters of pathway advantages

Reality check & Policy recommendations



Hybrid terminal regulation



Regulators need to recognise the diverse range of services/options that existing terminals can provide

Policy Regulatory environment



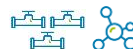
Alignment of regulations, licensing and permitting and support measures

Policies upstream



International coordination, standardisation and certification schemes are essential

Policies downstream



Ensure downstream market regulation is compatible with hybrid terminals.



THANK YOU
For your attention

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