

Equivalence Liquefaction: Scaling BioLNG and eLNG for European Decarbonisation

The European energy industry is keen to deliver on the Union's decarbonisation ambitions for maritime and heavy-duty transport. However, the pace and scale of that transition depend critically on one condition: **a clear, consistent, and investable regulatory framework.**

The ongoing revision of RED III Annexes V and VI and Implementing Regulation 2022/996 represents a key opportunity for the Commission to provide the legal certainty that the market urgently needs, particularly regarding the treatment of **liquefaction pathways for biomethane and e-methane.**

*We call on the Commission to **ensure maximum clarity on the liquefaction by equivalence pathway** by providing an associated default value or ISCC-compatible methodology for GHG emission calculations. This shall be achieved by **calculating only process and transport greenhouse gas (GHG) emissions associated with the biomethane and e-methane value chains** – for both equivalent and physical liquefaction pathways.*

1. Emissions Accounting Consistency

The GHG accounting framework for bioLNG and eLNG must remain consistent with the mass balance approach applied to biomethane and e-methane, scoped to emissions inherent **to the single mass-balance facility** and the transportation and transformation processes it encompasses. **Accounting for emissions that do not belong to the biomethane/e-methane value chains would place bioLNG and eLNG at a structural disadvantage**, distort competition, and prevent Europe from becoming a **globally competitive hub for renewable LNG bunkering.**

As Implementing Regulation 2022/996 states, *“In case of liquid or gaseous fuels introduced into an interconnected infrastructure and subject to the same mass balancing system, the respective sustainability and GHG emissions saving characteristics shall be assigned to the consignments entering and exiting the interconnected infrastructure”* – i.e. including LNG terminals, as per Art.2(18). As a consequence, the sustainability and GHG emissions characteristics of bioLNG and eLNG liquefied in an LNG terminal should correspond to the ones of the biomethane and e-methane that was injected into the grid, rather than to the fossil fuels present in the infrastructure.

Practical consideration: in a simple scenario, LNG is unloaded at an LNG terminal; most of it is regasified and injected into the gas grid (volume A), while a smaller share (volume B) is loaded for bunkering. In parallel, an amount of biomethane equal to B is injected into the interconnected gas infrastructure. In this case, under the mass-balancing rules, the biomethane or e-methane injected can be attributed to the LNG delivered for bunkering (bioLNG or eLNG), while the gas circulating in the network remains accounted as fossil on the basis that both volumes are within the same mass balancing system. Attributing emissions from the LNG value chain to the bioLNG and eLNG

pathway would imply a double counting of emissions, both in the bioLNG/eLNG value chain and in the fossil value chain. This issue is particularly relevant for maritime operators subject to FuelEU Maritime, who report consumption of both fossil LNG and bioLNG/eLNG under the same compliance system.

2. Affordability for the Maritime Sector's Transition

With a sharply increasing number of LNG-powered vessels already at sea or under construction – and asset lifetimes exceeding 25 years – **liquefaction by equivalence represents a key, immediately deployable decarbonisation pathway compatible with existing infrastructure and the new obligations under FuelEU Maritime**. Failure to enable liquefaction by equivalence would, in practice, strand assets that have already been built, foreclose the market that the EU renewable energy legislation is designed to create, and push European operators towards less sustainable alternatives – an outcome that serves neither the climate nor the competitiveness agenda.

Practical consideration: from a logistics standpoint, liquefaction by equivalence is also the only operationally viable model for bunkering vessels at scale. The capacity of fuel tanks in LNG-fueled vessels is in the order of thousands of cubic meters of LNG; a standard LNG road tanker carries approximately 40-50 cubic meters. Supplying a vessel directly by truck would require dozens of simultaneous deliveries at the quayside, with clear practical issues in terms of port congestion, timing, and safety which would make bioLNG and eLNG bunkering commercially and operationally impractical at scale. The LNG terminal is the only possible point of delivery for bioLNG and eLNG.

3. There is no lock-in effect

Finally, Europe's growing structural reliance on LNG renders the lock-in concern difficult to sustain on the facts. While LNG imports are set well above 100 bcm annually, and regasification capacity has expanded dramatically since 2022 driven by energy security imperatives, total EU biomethane production stands at around 5 bcm – the vast majority of which is gaseous and injected into the grid, rather than liquified.

Equivalence liquefaction will either have a negligible impact on Europe's LNG trajectory, or on the contrary it may even contribute to reducing it, as any additional biomethane that can be produced thanks to financial commitments of bioLNG and eLNG users is preventing equivalent volume of gas to be imported in Europe. Denying liquefaction by equivalence does not reduce Europe's LNG exposure; it simply hampers the decarbonization of Europe's gaseous demand. If the Commission is genuinely concerned about lock-in effect, the answer is to accelerate the scale-up of renewable gas supply, not to block the only commercially viable pathway that allows bioLNG and eLNG to reach vessels today.

In light of these considerations, the industry remains fully committed to supporting the Union's decarbonisation objectives and investing in scalable renewable gas solutions for transport. To unlock that investment and enable the transition to progress at the required pace, we ask the Commission to provide the regulatory certainty that the market urgently needs.