



There is no denying that Russia's invasion of Ukraine and the resulting sanctions have had a significant impact on the global energy landscape. That impact has been especially notable in the European Union (EU), as Russia supplied nearly 40% of the region's gas in 2021. In 2022, Europe witnessed a 60% surge in LNG imports, as Russian pipeline imports experienced a declineⁱ. Meeting the goal of reducing dependency on Russian gas by 2030ⁱⁱ will require the EU to look at alternative sources rapidly. Expanding liquefied natural gas (LNG) imports is the easiest and most likely solution to the challenge. LNG is natural gas reduced to a liquid by cooling it to -162°C , which reduces the volume by $1/600^{\text{th}}$ compared to its original state, making it much easier to transport and store. U.S. LNG is anticipated to play a major role in meeting future EU energy needs. The White House predicts that American exports of LNG will continue to grow through 2030 when an estimated 50 billion cubic meters of gas will be sent to Europe annually.ⁱⁱⁱ

There is ample American LNG to share with allies. Europe was the main destination for U.S LNG exports in 2022^{iv}. Soaring prices and the demand for energy security are set to propel the US to become the leading exporter of LNG in 2023 globally. This development could potentially lead to \$100 billion in new investments over five years to support long-term growth in the sector^v.

As the cleanest burning hydrocarbon and one of the few energy sources that can be used across all energy sectors, LNG also offers environmental benefits and is expected to play a significant role in the energy transition as a replacement for “dirtier” energy sources like coal or heavier fuels. LNG imports also boost energy security and support supply diversification since LNG can be stored in tanks or underground once “re-gasified.” Additionally, in July 2022, EU lawmakers declared natural gas as a “green” or “sustainable” energy source. While this allows for expanded use of the resource compared to coal or oil, there are also expanded reporting requirements for measuring and quantifying emissions.

Therein lies the challenge. Tracking the emissions associated with each step of the natural gas-to-LNG value chain is anything but simple. To further complicate matters, knowing the exact carbon footprint of LNG shipments to the EU is a regulatory requirement and a financial liability since taxes are assessed on excess emissions. Accurate and auditable data from all phases – exploration, production, and transportation – is essential.

There are some global guidelines in place. The International Group of Liquefied Natural Gas Importers (GIIGNL) launched a comprehensive framework aiming for a consistent approach to declaring LNG cargoes “greenhouse gas (GHG) neutral” throughout the industry. It was a collaborative industry effort of over 50 experts representing 20 GIIGNL member companies. The resulting Monitoring, Reporting, and Verification (MRV) and GHG Neutral Framework is designed to “provide a common source of best practice principles in the monitoring, reporting, reduction, offsetting, and verification of GHG emissions associated with a delivered cargo of LNG.” This will be achieved by promoting:

- Disclosure of verified emissions based on consistent GHG accounting criteria and definitions from all relevant value chain stages, yielding a footprint reflecting the climate impact of each LNG shipment.
- A full accounting of methane, carbon dioxide, and other applicable GHG emissions.
- A consistent approach to declarations related to emission reduction actions and carbon offsets that are associated with an LNG cargo.

The effort focuses on positioning emission reductions as the primary focus of ‘neutrality’ claims, relying on offsets for emissions that cannot be reduced. You can read more about the framework [here](#).

Similarly, Pavilion Energy, Qatar Energy, and Chevron jointly published a quantification and reporting methodology designed to produce a statement of GHG emissions (SGE) for LNG deliveries. It was the first published framework providing a calculation and reporting framework for GHG emissions “from wellhead-to-discharge terminal, based on industry standards.”^{vi}

Though the exact details about future emissions measuring and reporting requirements are still being worked upon, there is no doubt that increased transparency around the carbon content of natural gas being processed and sent out will soon be required. For LNG sellers, this means having accurate and auditable information about all emissions generated along the value chain.

American producers who can supply a verifiable carbon footprint to travel with the LNG shipment will have a competitive advantage as LNG trade to the EU from the U.S. increases to replace Russian resources. That’s where Planckton Data can help. Our consulting and technology services team designs and implements end-to-end carbon data management programs that support GHG reduction across all stages of the LNG lifecycle, from well to end-use. We streamline, automate, and translate data to support a multitude of requirements. We use libraries of emission factors, references, calculations, and unit conversions to generate verifiable and auditable GHG footprint. And we’d love to talk about your needs and how our platform can help manage your LNG data across the value chain. [Reach out today](#); we’re here to help provide a competitive advantage.



i <https://www.shell.com/energy-and-innovation/natural-gas/liquefied-natural-gas-lng/lng-outlook-2023.html>

ii https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1511

iii <https://www.eia.gov/todayinenergy/detail.php?id=53719>

iv <https://www.eia.gov/todayinenergy/detail.php?id=55920>

v <https://www.ogj.com/general-interest/economics-markets/article/14290197/woodmac-us-could-see-100-billion-in-new-lng-projects-over-next-5-years>

vi <https://www.chevron.com/newsroom/2021/q4/pavilion-energy-qatarenergy-and-chevron-launch-ghg-reporting-methodology-for-delivered-lng-cargoes>