

The Vertical Gas Corridor

Strengthening Europe's Energy Security with US LNG

OVERVIEW: A NEW PATHWAY FOR U.S. LNG TO EUROPE

The Vertical Gas Corridor (VGC) is emerging as a strategic route for transporting liquefied natural gas (LNG) from Greece into Southeastern and Central Europe, including Ukraine. Built upon the newly operational Alexandroupolis Floating Storage and Regasification Unit (FSRU) and the existing Trans-Balkan Pipeline in reverse flow, the VGC links seven countries—Greece, Bulgaria, Romania, Hungary, Slovakia, Moldova, and Ukraine—via existing infrastructure and modest upgrades leading to 10 BCM in transit capacity. This route not only offers a viable alternative to Russian gas but also opens access to Europe's largest underground gas storage system, located in Ukraine.

The United States Energy Association (USEA) has worked in the region for over 30 years and holds a unique position as a nonpartisan convener of regional gas transmission system operators (TSOs), regulators, and policymakers. Through a signed Memoranda of Understanding with 11 TSOs, USEA is facilitating the technical and policy dialogue around the corridor's development.

INTRODUCING THE VERTICAL GAS CORRIDOR

Europe's historic reliance on Russian natural gas has long exposed the continent to significant energy security vulnerabilities. Considering recent geopolitical tensions and market disruptions, diversifying gas supply sources and routes has become an urgent strategic imperative for European policymakers. The EU's Third Energy Package created a liberalized, transparent gas market that enabled easier entry for external suppliers, laying the groundwork for increased U.S. LNG imports. REPowerEU accelerated this trend by prioritizing diversification away from Russian gas, expanding LNG terminals, and securing long-term contracts with U.S. exporters.

A key component in this diversification effort is the Trans-Balkan Pipeline, a legacy infrastructure system originally designed to transport Russian gas southward from Ukraine through the Balkans to Turkey. Today, the pipeline has been repurposed to operate in reverse flow—enabling gas to move northward from Greece into Central and Eastern Europe. This shift marks a critical transformation in regional energy dynamics. By facilitating reverse flow, the Trans-Balkan Pipeline strengthens Europe's energy resilience, enhances market integration, and opens the door to non-Russian supply sources.

WHY THIS MATTERS FOR U.S. LNG

- U.S. LNG demand in Europe is strong, particularly in countries seeking alternatives to Russian supply.
- The EU has signaled long-term commitment to LNG diversification, with U.S. gas seen as a market-responsive, commercially competitive partner.
- The Alexandroupolis FSRU, launched in December 2023, creates a new southern entry point into Europe for U.S. LNG.
- The Trans-Balkan Pipeline, now operating in reverse flow, connects Greece with Ukraine and Central Europe through Bulgaria, Romania, Hungary, Slovakia, and Moldova.
- By connecting to Ukraine's underground gas storage—the largest and most strategically positioned system in Europe—the corridor provides Europe with unparalleled seasonal flexibility, enabling the build-up of reserves in advance of winter and enhancing resilience against supply disruptions.

US LNG VIA ALEXANDROPOLOUS LNG TERMINAL

One of the most transformative developments supporting this shift is the commissioning of the Alexandroupolis Floating Storage and Regasification Unit (FSRU) in Greece in December 2023. This new entry point allows for the import and regasification of U.S. LNG, offering a flexible and geopolitically secure alternative to traditional supply routes. Together, the Alexandroupolis FSRU and the Trans-Balkan Pipeline provide the backbone of the Vertical Gas Corridor—enabling northbound flows of diversified gas supply and expanding EU access to Ukraine’s vast underground gas storage system, the largest in Europe.



KEY BOTTLENECKS: INFRASTRUCTURE AND REGULATORY CONSTRAINTS

While the Vertical Gas Corridor (VGC) is technically viable and strategically compelling, several critical bottlenecks must be resolved to unlock its full commercial potential, particularly for U.S. LNG imports:

1. Delayed Infrastructure in Bulgaria: Political and Commercial Resistance

While public focus remains on infrastructure near the Greek border, the true bottleneck is the 61-km segment between Rupcha and Vetrino. Completion of this segment—shovel-ready—would unlock reverse flow capacity of up to 15 bcm/year via the Trans-Balkan Pipeline, enabling U.S. LNG to reach Ukraine’s storage and Central Europe efficiently. This looping remains stalled due to entrenched interests benefiting from the Gazprom-controlled Balkan Stream.

The Opportunity:

Once completed, the looping will increase access to Ukraine’s gas storage and open the corridor to U.S. LNG, a major strategic gain for Europe and the U.S.

2. Legacy Contracts and Regional Market Entrenchment

Countries such as Serbia, Hungary, and North Macedonia continue to rely on long-term gas supply and transit agreements with Gazprom Export. Much of this is tied to the Balkan Stream pipeline, where all firm capacity is already booked under existing contracts that secure Russian flows into Europe. This arrangement effectively eliminates competition, blocks third-party access, and runs counter to EU regulations requiring transparent, non-discriminatory capacity allocation. While EU law mandates open access and diversification, such measures alone are unlikely to resolve the problem: entrenched contractual obligations, weak regulatory enforcement, and political reluctance to disrupt existing supply chains continue to preserve these distortions. Addressing them will require transitional solutions (such as phased capacity allocation or hybrid contractual models) rather than expecting a rapid termination of legacy agreements.

The Opportunity:

New EU regulations require that by 2027 all gas entering the European market must be accompanied by certificates proving it is not of Russian origin. While this rule is a step toward curbing Russian dominance, it will not by itself solve the problem: long-term contracts and firm capacity bookings on the TurkStream/Balkan Stream route via IP Strandzha 2—the only

operational Russian pipeline entry point into the EU—continue to guarantee Russian flows and exclude competitors. During the 2024–2025 winter, flows through IP Strandzha 2 even exceeded its technical firm capacity of 56.7 mcm/day, underscoring both physical bottlenecks and compliance risks under evolving EU rules. Meaningful progress will therefore require not only certification requirements but also structural reforms in capacity allocation, stronger enforcement of EU competition law, and the development of alternative routes such as the Vertical Gas Corridor, which can provide the diversified access point necessary to make these regulations effective in practice.

3. Tariff Barriers and Lack of Commercial Uptake

High transmission tariffs across the corridor undermine the competitiveness of alternate supply, including U.S. LNG. A bundled cross-border transmission product was recently introduced to streamline access, yet it failed to attract commercial interest because overall tariff levels remain significantly higher than those applied to competing routes. As a result, both LNG imports and pipeline gas transiting through the VGC are currently disadvantaged compared to alternative pathways, including Russian gas delivered under legacy contracts and lower-tariff intra-EU transmission routes. Without transparent, cost-reflective pricing, the corridor will struggle to attract traders and off takers or to support commercially viable flows.

The Opportunity:

Competitive, bundled transmission packages would make the VGC the most cost-effective overland route for U.S. LNG into Central and Eastern Europe, attracting long-term buyers and derisking offtake agreements.

THE VALUE OF USEA'S ROLE

These are not abstract policy recommendations. They are actionable, grounded solutions that USEA is already positioned to develop through its technical modeling, regional coordination, and neutral convening power. With modest support, the white paper and working group process will:

- Illuminate bottlenecks and pathways to resolution
- Clarify commercial risks and entry points for U.S. LNG exporters
- Generate momentum for reform aligned with EU energy objectives
- As a trusted partner, enable communication and dialogue with all stakeholders

Together, these efforts create the foundation for long-term U.S. LNG market share in Europe, backed by local storage, diversified delivery routes, and pro-competition regulatory alignment.