



Central and Eastern Europe beyond gas imports

As the summit for the Three Seas Initiative approaches, analysis finds that participating countries are planning to expand gas import infrastructure beyond what is needed to replace Russian gas or meet future demand.

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About

Central and Eastern Europe (CEE) has long been the arena of competing foreign interests. It plays a crucial role for NATO, acting as its eastern flank and a logistics hub for Ukraine aid. Additionally, CEE is tied with the United States and China through business interests while being dependent on Russia for fossil fuels. The region also serves as a transit hub linking Europe with the Caucasus, Middle East and Central Asia.

The Three Seas Initiative (3SI) negotiates CEE's role among these interests, gathering the governments of Estonia, Latvia, Lithuania, Poland, Czechia, Slovakia, Hungary, Slovenia, Croatia, Bulgaria, Romania, Austria and Greece, plus Ukraine and Moldova as partner participants. The upcoming Three Seas summit, set to take place in April, could be part of setting the direction of the region, potentially with large ramifications across Europe. Historically the initiative has resulted in investments in fossil fuel infrastructure, particularly gas. With the energy landscape rapidly transforming beyond the region, continuing on this path will mean locking in an unnecessary expansion in LNG.

CEE's gas appetite is becoming obsolete

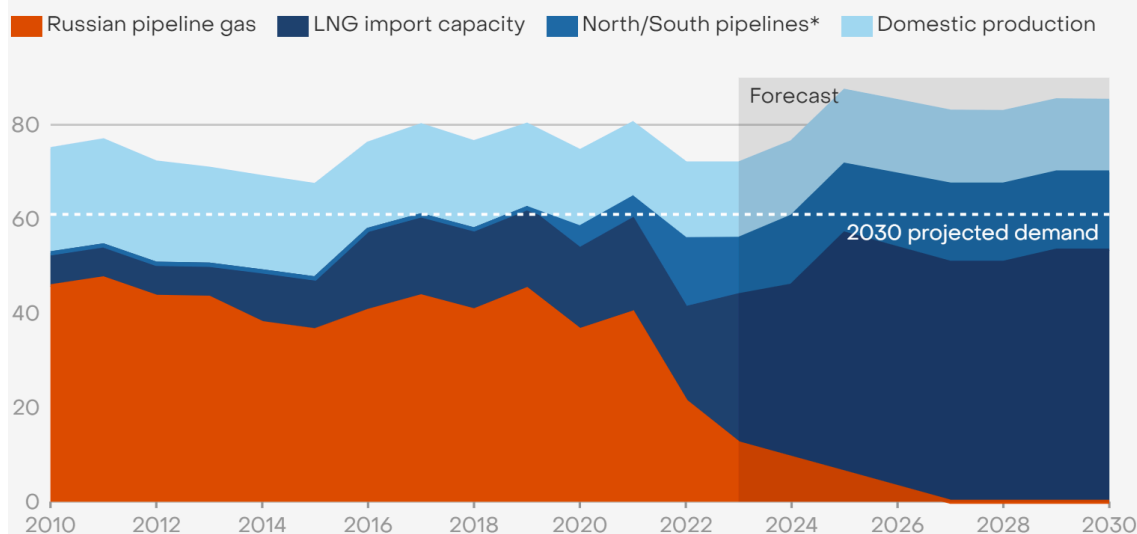
The gas focus of the 3SI has now become increasingly contentious, particularly as evidence mounts regarding the adverse [climate and environmental impacts of LNG](#), which can be much [worse](#) than coal, depending on the conditions. The move by the Biden administration to [suspend approvals for liquified natural gas \(LNG\) exports](#), in an effort to better align the US foreign policy with its climate ambition, raises significant [doubts](#) about the viability of further expansion of LNG import infrastructure in the CEE region.

In fact, global LNG infrastructure capacity appears to be growing far [more](#) than the actual [gas demand](#), certainly in Europe - the largest market for US LNG exports.

Data from Central and Eastern Europe shows that as early as 2025, LNG import capacity across 3SI countries will [exceed](#) historical imports of Russian pipeline gas. This means that LNG consumption in the region would have to not only replace Russian gas, but grow beyond that.

Gas import infrastructure across Three Seas is expanding beyond demand amid Russian gas phase-out

Imports and consumption of gas in 3SI against import capacity (bcm)



Source: Ember, Energy Institute, Gas Infrastructure Europe, Eurostat

*A conservative value is provided, with only Baltic Pipe, the Trans Adriatic Pipeline (into Greece and Bulgaria) and Balticconnector included.

3SI member countries include: Estonia, Latvia, Lithuania, Poland, Czechia, Slovakia, Hungary, Slovenia, Croatia, Bulgaria, Romania, Austria and Greece
2030 gas demand and production from ENTSO-E TYNDP 2022 Distributed Energy

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Stranded assets in the making

These plans are out of step with signals across the energy system. According to energy system planning scenarios from European power grid operators (ENTSO-E), total gas demand in 3SI countries is expected to decrease by 2030. Across 3SI members, the sum of domestic production and gas import capabilities through LNG terminals and pipelines from North and South directions will exceed demand by 40% (24 bcm).

This varies among countries. For instance, while Greece mostly uses its gas infrastructure to supply fuel to neighbours, but in Poland or the Baltic States, the oversized gas facilities might quickly become stranded assets and a waste of taxpayer money, especially looking down the road to 2040. Natural gas consumption will continue to decline as buildings become more efficient, consumers switch from gas boilers to heat pumps, and geothermal becomes more viable for district heating networks.

Built in security risks

Security concerns also arise due to unequal access to LNG among CEE and 3SI countries. Importers of LNG face risks from global fuel price fluctuations, contract renegotiations, and competition from wealthier buyers. Pakistan's experience in [2022 and 2023](#) highlights these challenges which could be amplified across the globe by any uptick in China's economic activity. The liberalisation of the global LNG market through short-term contracting of US LNG exporters allowed for the re-rerouting of cargoes to Europe in 2022, but it also means that gas can always be diverted to the highest bidder. On the other hand, the move by several European countries to sign 10-20 year [gas supply agreements](#) with Qatar contradicts net-zero commitments and will continue incurring costs for decades to come. The EU's gas import bill ran close to [EUR 400 billion](#) in 2022 alone – more than three times the level in 2021, showing how high the price of energy security can be if it's based on fossil fuels.

The Three Seas must help CEE adapt to these new realities, as well as a new political context. With Poland, its largest member state, witnessing a change in leadership towards a more pro-EU and pro-climate stance, the initiative's move away from gas could be further emphasised.

Balancing foreign interests with national ambition

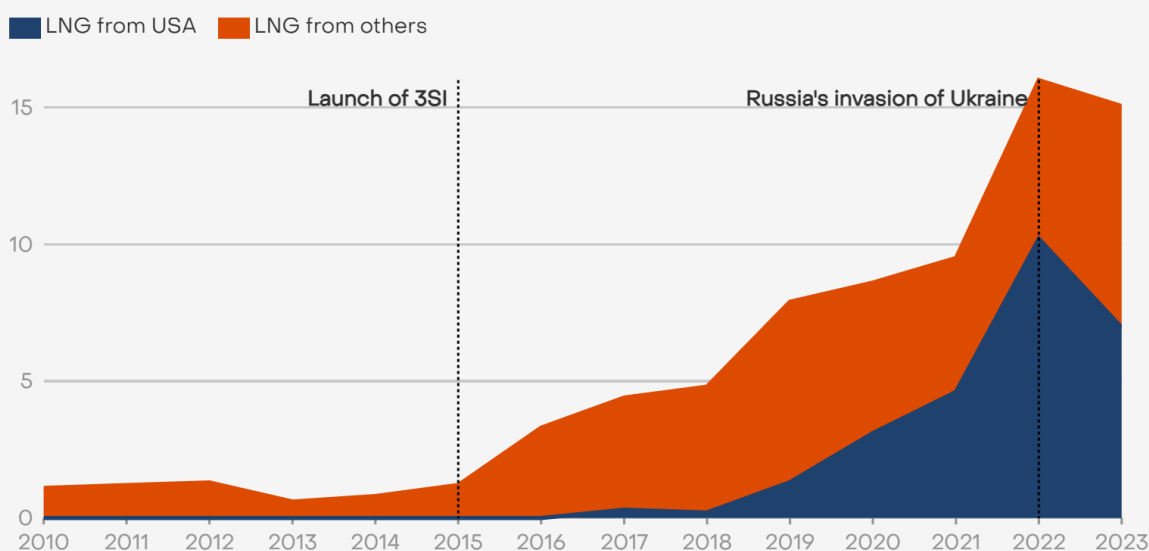
Decisions made in Central and Eastern Europe could have consequences across Europe. The region covers roughly 20% of the EU population and territory, contributes 15% of the EU's GDP and accounts for 17% of the electricity demand. However it also produces 25% of GHG emissions in the EU. Decisions made in CEE countries impact EU-level politics, especially with the upcoming Hungarian and Polish EU presidencies. Despite its influence in the Union, the region has struggled to find a vision of its own, prone to fossil fuel lobbying and exposing itself to energy security threats and a cost of living crisis.

The [Three Seas Initiative](#) inception in 2015 was followed by a 12-fold expansion of liquified natural gas (LNG) imports into Central and Eastern Europe. Despite 3SI's original goal of enhancing North-South collaboration and connectivity, only one out of its [41](#) energy priority projects is dedicated to electricity interconnection. Instead, 20 are related to gas infrastructure expansion. This imbalance in 3SI priorities corresponds with a broader

hesitance of CEE governments towards the global climate agenda and their continued gas appetite, which is now being put to the test.

The launch of Three Seas coincided with the rapid expansion of LNG imports

Imports of (liquified) natural gas into 3SI countries (bcm)



Source: Ember, Eurostat, Orlen

3SI member countries include: Estonia, Latvia, Lithuania, Poland, Czechia, Slovakia, Hungary, Slovenia, Croatia, Bulgaria, Romania, Austria and Greece

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Alternatives are ready to be embraced

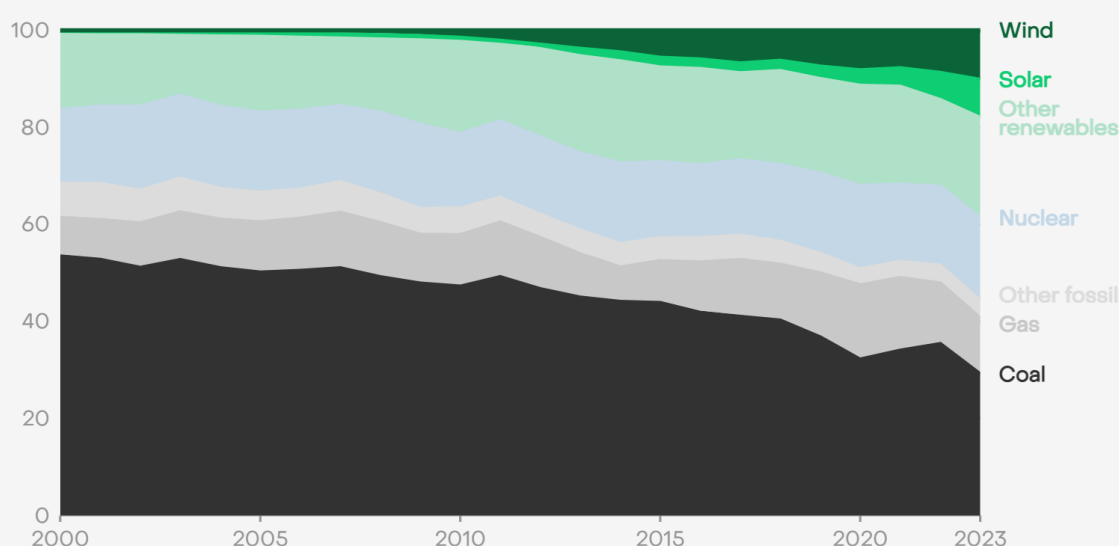
While gas and overall energy consumption are set to decrease with greater efficiencies and smart technologies, power demand will be on the rise with the electrification of buildings and transportation. The recent European Commission communication on [2040 targets](#) projects that the share of electricity in the EU's final energy consumption will double from 25% in 2023 to 50%.

This growing power demand is already being met by clean sources. In 2023, 57% of 3SI electricity came from clean sources and 39% came from renewables. The momentum won't stop there - Ember's [analysis](#) shows that 3SI countries can deploy 160 GW of solar, 60 GW of onshore wind and 23 GW of offshore wind capacity by 2030, a five-fold increase from the 2022 wind and solar capacity of 51 GW. This would allow the 3SI to increase the share of

renewables in electricity generation to 67% by 2030, leading to a 27% reduction in power prices and increased security compared to a current policy scenario.

Renewables are now producing 39% of electricity across Three Seas countries

Share of 3SI countries' electricity generation, by source (%)



Source: Annual electricity data, Ember
3SI member countries include: Estonia, Latvia, Lithuania, Poland, Czechia, Slovakia, Hungary, Slovenia, Croatia, Bulgaria, Romania, Austria and Greece

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To ensure that variable renewables continue along this growth trajectory and reach their full potential, massive grid investment and modernisation are needed to provide flexibility solutions. Interconnectivity is expected to be the [dominant](#) flexibility tool in Europe, playing an [important](#) role in allowing cheap renewable energy to flow to demand centres across borders, reducing electricity curtailment and power prices. Accelerating the deployment of electricity interconnectors is perfectly suited for the Three Seas Initiative - the focus of which was supposed to be exactly this - enhancing connectivity and regional collaboration.

The Three Seas Summit can be a turning point

This year's Three Seas Summit provides a unique opportunity for CEE governments to pivot away from foreign fossil fuel interests towards clean, cheap and secure renewables, backed by an expanded interconnector network. The opportunity is vast, especially for the Lithuanian 3SI presidency and its neighbours, who could deploy [15 GW](#) of offshore wind by the end of the decade. This is already creating hundreds of [jobs](#) and will attract further investments thanks to lower electricity prices. Going forward, the expansion of wind and solar can lead to independence from fossil fuel imports, and turn the CEE region into a clean energy and hydrogen hub.

Recommendations

The following goals need to be recognised ahead of the Three Seas Summit to ensure CEE and 3SI countries can capitalise on the clean power opportunity:

1. Embrace the fact that renewables will dominate the European market, and 3SI needs to capitalise on its wind, solar and electrification potential quickly instead of persisting with reliance on fossil fuels.
2. Work towards aligning offshore wind targets across the Three Seas with both projects already in development and the region's deployment potential
3. Include more power interconnection projects on the 3SI priority project list, facilitating cross-border collaborations, enabling their rapid financing and implementation.
4. Reevaluate the LNG infrastructure expansion plans and align them with projected gas demand.
5. Facilitate cooperation between energy consumers and renewable electricity providers, as well as between renewables developers and financing institutions.
6. Stimulate cleantech manufacturing in 3SI countries, aiming to increase local benefits of renewables and electrification projects.

Supporting Materials

Methodology

Historical data sources

Liquefied natural gas imports 2010-2022 from [Eurostat yearly data](#), 2023 data from [Eurostat monthly data](#), Poland 2023 data was taken from [national sources](#) due to gaps in Eurostat for Q4 2023.

Russian pipeline gas from [Eurostat yearly data](#), 2023 data from [Eurostat monthly data](#).

Data on LNG infrastructure from [Gas Infrastructure Europe](#). Pipeline infrastructure data from [ENTSO-G System Capacity Map 2024](#). To provide a conservative estimate, only pipelines from North and South directions were included: Baltic Pipe, Balticconnector and Trans Adriatic Pipeline. East and West import directions into 3SI were not included in the capacity estimate to account for their changing availability, especially post 2021-2022.

Historical gas production data 2010-2022 for Poland and Romania from Energy Institute's [Statistical Review of World Energy](#), for other 3SI countries from [Eurostat](#). Gas production by Polish entities in external locations (Norway) was included in the Baltic Pipe capacity.

Electricity generation data from [Ember's European Electricity Review 2024](#).

Gas production, demand and infrastructure forecasts

Assumption for 2030 gas consumption and inland production from [ENTSO-E TYNDP 2022](#). The TYNDP scenario that best aligns with updated national energy plans ([NECPs](#)) and [RePowerEU](#) targets - Distributed Energy, indicates a drop in 3SI gas demand from 70 bcm in 2023 to 61 bcm in 2030. Russian pipeline gas imports are assumed to reduce linearly to 0 by [2027](#), in line with the EU's Russian gas phaseout commitment.

Conversion factor bcm to TWh: 9.77.

Data on future LNG infrastructure from [Gas Infrastructure Europe](#), excluding the Tallinn LNG terminal that is under consideration. Future North-South pipeline infrastructure data from [ENTSO-G System Capacity Map 2024](#), the unavailability of Balticconnector between 2023 and 2024 was included, as well as the gradual expansion of TAP until 2027 (assuming an increase from 1 to 2 bcm allocation to each Greece and Bulgaria).

It is important to note that infrastructure capacity might not be 100% utilised and that gas infrastructure in 3SI countries might be used to supply fuel inland using the interconnected

gas system. To account for that, only pipelines from North and South directions were included in the analysis while the East-West transit routes were excluded, which makes the gas capacity estimate very conservative.

Acknowledgements

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