

New plans to hook the Western Balkans on gas will make the region's energy transition even harder

Plans for €3.5 billion worth of new gas-fired power plants, gas pipelines, and liquefied natural gas (LNG) terminals in the Western Balkans, promoted by European Union (EU) and U.S. institutions, would force countries to import far more gas than they have in the past and delay the region's shift toward clean, domestic energy production. In 2021, the Western Balkans consumed a mere 3.7 billion cubic meters (bcm) of gas, or 4% of what Germany used that same year. Half of these countries do not import any gas from international markets. By building costly new gas systems, in some cases from the ground up, these economies could introduce new economic and energy security risks into an already challenging energy transition.

In recent months, a slew of announcements related to prospective, new, and revived gas projects in the Western Balkans points to a growing push to integrate gas into the region's economies. In total, Western Balkan countries are home to €3.5 billion in plans to build new gas-fired power plants, gas pipelines, and LNG import terminals. The buildout appears to echo the EU's rush to replace Russian gas imports through new pipelines and terminals, recently described by Global Energy Monitor (GEM) in its 2023 [Europe Gas Report](#). However, most countries in the Western Balkans, unlike those in the EU, do not rely heavily on gas or face the same

urgency to replace existing gas supplies. After a year in which gas dependency became a major liability, the Western Balkans' counterintuitive pivot toward increasing gas consumption could introduce new economic and energy security risks into the region's energy transition.

The six countries of the Western Balkans—Albania, Bosnia and Herzegovina (BiH), Kosovo, Montenegro, North Macedonia, and Serbia—produce electricity primarily from [coal and hydropower](#). BiH, North Macedonia, and Serbia use gas mostly for district heating and several industries, and the latter two also use it for power. Albania, Kosovo, and Montenegro hardly use any gas at all; they have no infrastructure to import gas from international markets (see Figure 1) and no functional distribution networks. In 2021, [gas consumption](#) in the Western Balkans was 3.7 bcm, or 4% of what Germany used that same year.

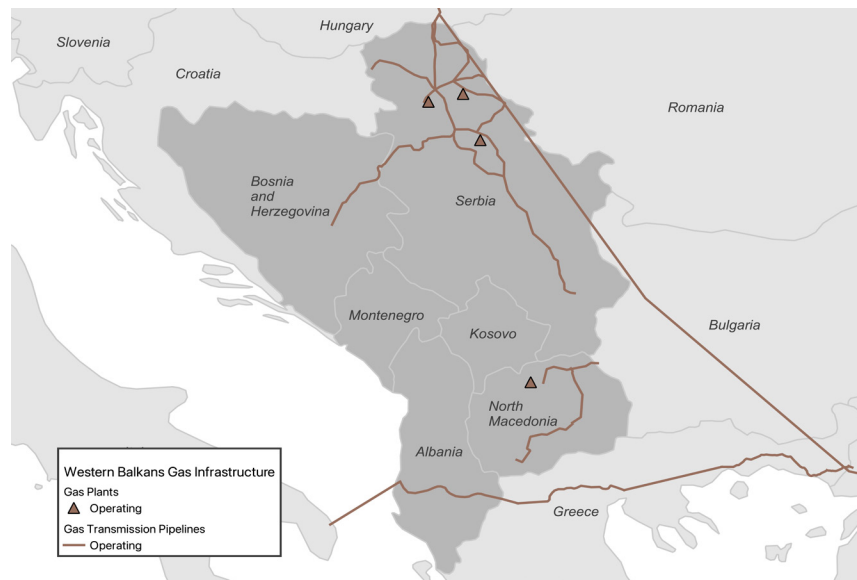
Figure 1 shows the existing gas transmission pipelines connecting BiH, North Macedonia, and Serbia to gas networks in neighboring countries, and Figure 2 shows the extent of gas projects in development.¹ New gas pipelines stretching 2,715 kilometers would draw gas into the Western Balkans from [Greece](#), [Croatia](#), and other neighbors; the region's first two LNG import terminals in [Montenegro](#) and [Albania](#) would increase its exposure to the LNG market with

1. Figures 1 and 2 only include segments of gas transmission pipelines that cross Western Balkan territory. For a complete map of mid-stream gas infrastructure in the region, see GEM's interactive [GGIT Tracker Map](#).

over 0.5 bcm of regasification capacity; and a fleet of new gas-fired power plants would dramatically boost the region’s dependency on gas for electricity, adding 2,442 MW of gas-fired capacity to a region with only

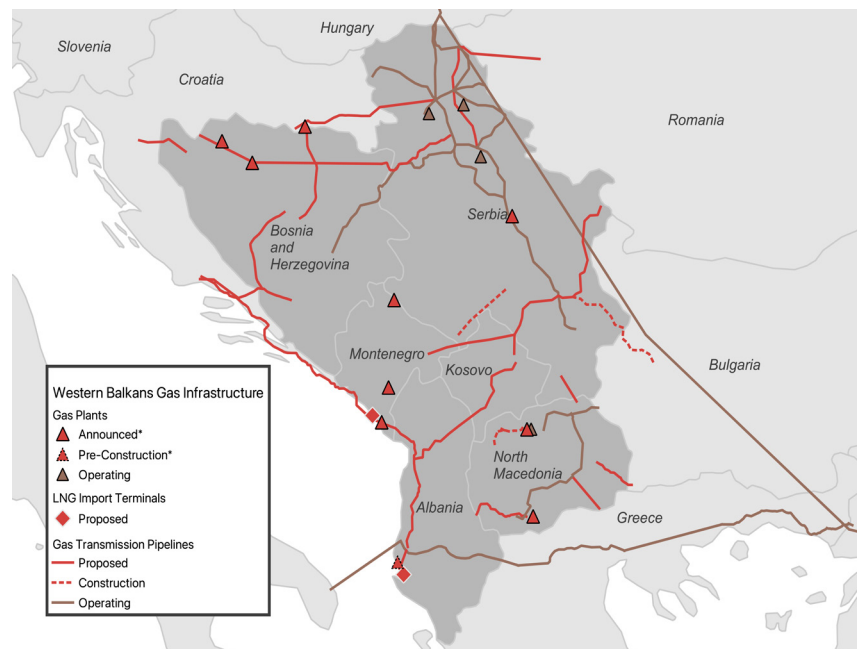
779 MW of such capacity today (see Figure 3 and Table 1). For all three types of infrastructure, Table 2 shows the amount of projects in development by country and Table 3 shows estimated investment.

Figure 1: Operating Gas Infrastructure in the Western Balkans



Source: Global Energy Monitor, Global Gas Infrastructure Tracker and Global Gas Plant Tracker

Figure 2: Gas Infrastructure in Development in the Western Balkans



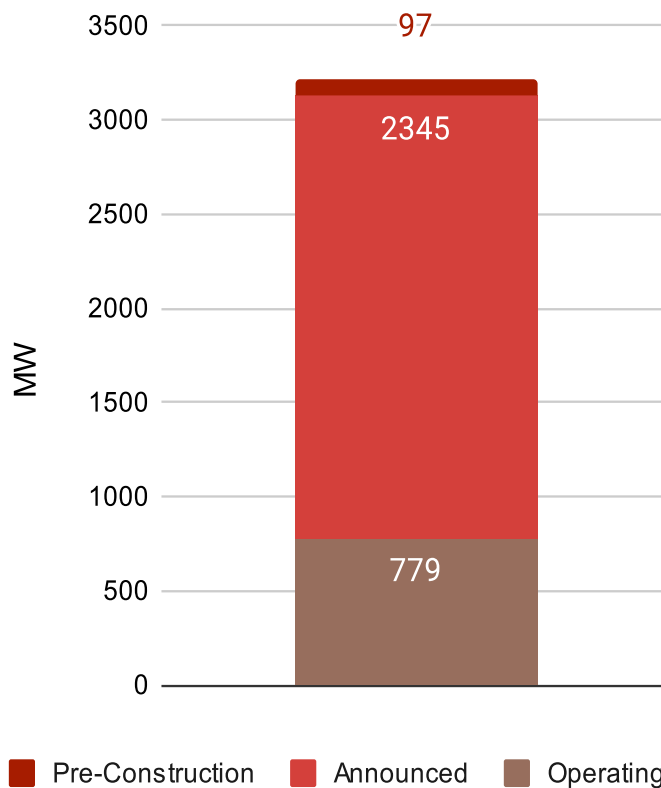
Source: Global Energy Monitor, Global Gas Infrastructure Tracker and Global Gas Plant tracker

*Note: “Announced” and “Pre-Construction” project statuses used by GEM to describe gas-fired power plants are, respectively, early-stage and late-stage subsets of the “Proposed” status used by GEM’s gas pipeline and LNG terminal trackers. See the [GGPT](#) and [GGIT](#) methodologies for more information.

New gas infrastructure could increase the Western Balkans' exposure to the volatile prices and gas shortages experienced by much of Europe last year—perhaps the last thing the region needs, after a year in which it faced a “[quadruple energy crisis](#)” sparked by factors independent of Europe's gas shortage. In 2022, countries in the Western Balkans faced coal-fired power shortages due to technical and management issues at coal mines and power plants; low hydropower generation resulting from dry conditions; rising biomass costs; and, consequently, a

need to make up for shortfalls in electricity generation by importing expensive electricity from other European countries undergoing their own gas-fueled crises. Serbia experienced some of the highest electricity prices in Europe, and Kosovo was forced to implement [rolling blackouts](#). Had the region's primary electricity generating assets performed at full capacity, the Western Balkans might have been insulated from the energy volatility striking the rest of Europe.

Figure 3: Gas-Fired Power Capacity Operating and In Development in the Western Balkans



Source: Global Energy Monitor, Global Gas Plant Tracker

Table 1: Gas-Fired Power Projects in Development in the Western Balkans

Project	Location	Capacity (MW)	Status	Conversion / Replacement Project?
Fier power station*	Albania (Fier)	170	Announced	No
Vlora power station	Albania (Vlorë)	97	Pre-Construction †	Yes
Banja Luka power station	BiH (Banju Luka)	600	Announced	No
Bosanski Brod power station	BiH (Brod)	100	Announced	No
Prijedor power station	BiH (Prijedor)	600	Announced	No
Bar gas power station	Montenegro (Bar)	50	Announced	No
Pljevlja gas power station	Montenegro (Pljevlja)	200	Announced	No
Podgorica power station	Montenegro (Podgorica)	150	Announced	No
Bitola power station	North Macedonia (Novaci)	250	Announced	Yes
Skopje power station	North Macedonia (Skopje)	105	Announced	Yes
Morava power station	Serbia (Svilajnac)	120	Announced	Yes

Source: Global Energy Monitor, Global Gas Plant Tracker

*A GEM.wiki page for this project is not yet available.

†Note: This modernization project's status is considered Pre-Construction in the Global Gas Plant Tracker, although Vlora power station is an existing facility. It has never operated due to technical issues.

Building new gas projects will complicate the region's already difficult energy transition. At the November 2020 Sofia Summit, Western Balkan leaders committed to working toward the EU's "[2050 target of a carbon-neutral continent](#)." New gas pipelines, terminals, and power plants designed to operate for decades would conflict with net-zero scenarios from the Intergovernmental Panel on Climate Change (IPCC) and International Energy Agency (IEA) calling for gas consumption to peak in the 2020s. Gas projects currently in development in the

Western Balkans could therefore represent billions of euros in potential stranded assets.

In the near term, new fossil power in the region would further challenge accession efforts to the EU. The Western Balkans have agreed to the Energy Community¹ Treaty that entered force in 2006, which seeks to [integrate its energy markets](#) with those of the EU by, among other objectives, "[improving]... the environmental situation related to network energy..." Furthermore, the EU is in the final stages

1. The [Energy Community](#), which seeks "to create an integrated pan-European energy market," includes the EU, the six countries of the Western Balkans, and Georgia, Moldova, and Ukraine. Armenia, Norway, and Türkiye are Observers.

of adopting a [carbon border adjustment mechanism](#) that will penalize fossil electricity exporters such as BiH. The Energy Community Treaty also requires that Western Balkan nations reform their energy markets, which are highly fragmented and have limited [market mechanisms and private sector participation](#). According to the Western Balkans Investment Framework (WBIF), “The energy sector in the Western Balkans faces a [unique dual transition](#), a challenge without any precedent in the industry: transition from centralised state-controlled systems to open and competitive markets, and transition towards decarbonisation.”

Despite the EU’s plans to slash the continent’s emissions to [net-zero by 2050](#), [replace gas imports with clean energy](#), and [welcome the Western Balkans](#) into the union, EU institutions have been encouraging the gas buildout in the Western Balkans. This advocacy has been ongoing for years and appears undeterred by the continent’s gas crisis. EU, Western Balkan, and Azerbaijan leaders met at a summit in February to promote [expanding gas exports from Azerbaijan](#) to the EU and Western Balkans. In January, Kosovo published a [gasification study](#) funded by the EU, which contradicts Kosovo’s own [energy strategy](#) by pushing for large-scale gas infrastructure development. In addition, the Energy Community is currently in discussions with the EU about [how much support to provide gas infrastructure](#) through its adapted version of the [TEN-E regulation](#), which funds large cross-border energy transmission projects.

U.S. companies and government agencies have also taken part in pushing Western Balkan gas projects, which would expand the market for U.S. LNG exports. In 2021, ExxonMobil and Excelerate Energy signed a memorandum of understanding with the Albanian government to conduct a feasibility study for the development of an [LNG import terminal](#). The U.S. Agency for International Development (USAID) [published a 2022 study](#) finding that Southeast Europe (including the Western Balkans) requires US\$50 billion in investment in new gas-fired power plants by 2030. The Millennium Challenge Corporation,

another U.S. government agency, offered a US\$200 million grant to a [pipeline project](#) from North Macedonia to Kosovo, although the government of Kosovo ultimately [shelved](#) the project in 2021.

As the countries of the Western Balkans grapple with electricity shortages, net-zero ambitions, and aspirations to join the EU, building new gas-fired power plants and gas networks would be a step backwards. The region has [strong potential for renewable energy](#), including wind and solar power, alongside [opportunities](#) to curb an [energy intensity three times that of the EU](#). An expanded fleet of renewable power from diverse sources paired with energy efficiency measures would hedge against key risks facing the Western Balkans—volatility in international energy markets and failures of domestic energy industries—while facilitating the region’s energy transition.

Project Spotlights

The [North Macedonia-Greece Interconnector Gas Pipeline](#) is a proposed gas pipeline that would supply gas from **Greece** to **North Macedonia**, providing direct connection to Greece's existing [Revithoussa LNG Terminal](#), bringing gas from Azerbaijan, and possibly providing transit for gas to Serbia. The project has received grants from the EU's technical assistance fund CONNECTA and the Western Balkan Investment Framework, as well as a €25 million loan from the European Investment Bank. The European Bank for Reconstruction and Development is also [considering financing](#). As of 2021, the pipeline was scheduled for completion in 2024; however, the project has still not yet reached financial close or begun construction.



Figure 4: North Macedonia-Greece Interconnector Gas Pipeline

The [Port of Vlorë FSRU](#) is a proposed LNG import terminal in **Albania**. In March 2021, Exceleerate Energy, ExxonMobil, and the Republic of Albania signed a memorandum of understanding to conduct a feasibility study for this project, which could include the development of an LNG import terminal, the conversion and/or expansion of the existing [Vlorë power station](#), and the establishment of small scale LNG distribution to Albania and the surrounding Balkans region, via connections which do not currently exist. The terminal's start date was initially targeted for 2023, although there are no indications that the project's sponsors have secured a floating storage and regasification unit (FSRU) vessel yet.



Figure 5: Port of Vlorë FSRU LNG Import Terminal

The [Morava power station](#) is a proposed coal-to-gas power plant conversion in **Serbia**. The original project is a one-unit coal plant that has been operating since 1969. In December 2021, the project's owner and operator, government-owned utility Elektroprivreda Srbije, announced that it intended to convert the power plant from coal to gas by the end of 2023. The coal plant is operating under an opt-out mechanism under the EU's Large Combustion Plants Directive (LCPD) which exempts power plants from meeting pollution limits; in exchange, the plant cannot be operated for more than 20,000 hours between January 1, 2018, and December 31, 2023.

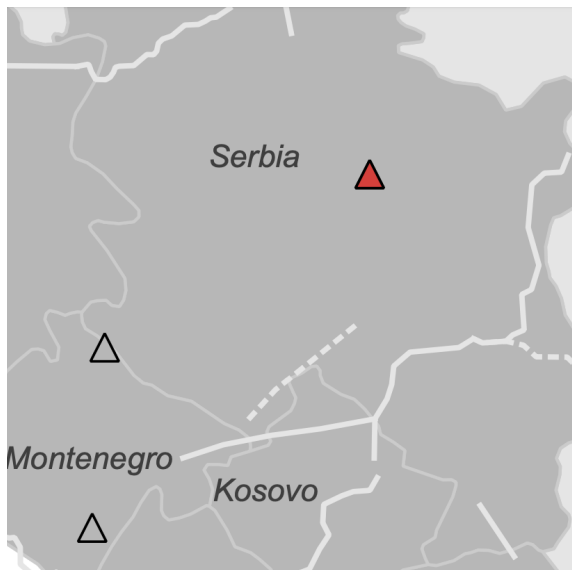


Figure 6: Morava power station

Table 2: Gas Infrastructure in Development in the Western Balkans

Country	Power Plants (MW)		Transmission Pipelines (km)		LNG Import Terminals (bcm)		
	Announced*	Pre-Construction*	Construction	Proposed	Construction	Proposed	Construction
Albania	170	97		326		> 0†	
Bosnia and Herzegovina	1,300			677			
Kosovo‡							
Montenegro	400			141		0.5	
North Macedonia	355			317	179		
Serbia	120			864	211		
Total	2,345	97	0	2,325	390	> 0.5†	0

Source: Global Energy Monitor, Global Gas Infrastructure Tracker and Global Gas Plant Tracker

*See note under Figure 2.

†Albania has an LNG import terminal under development, [Port of Vlorë FSRU](#), but the capacity of the project is still unknown.

‡Kosovo does not have any active plans for new gas infrastructure, but its newly approved [Energy Strategy](#) states that it may invest jointly in gas-fired power plants with Albania, Greece and/or North Macedonia on their territory so that they could be completed more quickly.

Table 3: Investment in Gas Infrastructure in Development in the Western Balkans

	Power Plants (million €)		Transmission Pipelines (million €)		LNG Import Terminals (million €)		Total (million €)
	Announced*	Pre-Construction*	Construction	Proposed	Construction	Proposed	
Albania	133	76		189		> 0†	> 398
Bosnia and Herzegovina	1,014			393			1,407
Kosovo‡							0‡
Montenegro	302			82		77	461
North Macedonia	277			184	104		565
Serbia	94			502	123		719
Total	1,819	76	0	1350	226	> 77†	3,548

Source: Global Energy Monitor

*See note under Figure 2.

†See note under Table 2.

‡See note under Table 2.

Methodology

Data on LNG terminals and gas pipelines are based on GEM's [Global Gas Infrastructure Tracker](#) (GGIT) as of January 2023, and data on gas-fired power plants are based on GEM's [Global Gas Plant Tracker](#) (GGPT) as of March 2023.

Cost estimates for LNG terminals in development are based on averages of reported costs in GEM data for onshore and floating terminals in Europe, which amount to €141.6 million per billion cubic meters per year (bcm/y) and €78.8 million per bcm/y, respectively. For gas pipelines, reported costs of projects in development in the Western Balkans

were used where available, and unknown costs were estimated using an average cost per length calculated from Western Balkans project data, €580,637 per kilometer. GEM's methodology for estimating the cost of gas-fired power plants is described in the GGPT [summary tables](#).

Announced and Pre-Construction project statuses used by GEM's gas-fired power plant database (GGPT) are, respectively, early-stage and late-stage subsets of the Proposed status used by GEM's gas pipeline and LNG terminal trackers (GGIT). See the [GGPT](#) and [GGIT](#) methodologies for more information.

Acknowledgments

This briefing was written by Robert Rozansky (GEM) with support from Pippa Gallop (Bankwatch), Gligor Radečić (Bankwatch), and Greig Aitken (GEM). Maps were developed by Scott Zimmerman; layout was

designed by Carolina Chau; and editing contributions were provided by David Hoffman, Julie Joly, and Baird Langenbrunner.

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MEDIA CONTACTS

Pippa Gallop

Southeast Europe energy advisor, CEE Bankwatch
Network

pippa.gallop@bankwatch.org

Robert Rozansky

Research Analyst, Global Energy Monitor
rob.rozansky@globalenergymonitor.org

Gligor Radečić

Gas Campaigner, CEE Bankwatch Network
gligor.radecic@bankwatch.org