

THE WESTERN BALKAN ENERGY SECTOR: BETWEEN RUSSIA, THE EUROPEAN UNION AND THE GREEN TRANSITION

NINA VUJANOVIĆ, ROUVEN STUBBE AND MARIA CATARINA LOURO

To upgrade their energy sectors, Western Balkan countries should transition away from dependence on Russian energy, converge with the European Union through electricity market coupling and phase out coal. Significant strain characterises each of these transitions. Region-specific differences in each area are also pronounced: Serbia and Bosnia and Herzegovina still depend on Russian oil and gas, while Albania is the leader in the green transition, and Montenegro is relatively advanced in each of the three areas. Yet, all Western Balkan countries are behind on regulatory alignment with the EU, delaying market coupling that was initially planned for 2027.

There are strong reasons to accelerate this process, given significant EU/Western Balkan energy integration already: up to 70 percent of electricity flows in the Western Balkans pass between EU countries, for example. Given the strategic role of the Western Balkans as a major electricity transit corridor for the EU, faster integration would also enhance system efficiency, provide security against Russian interference and bring the benefits of complementary electricity markets to both the EU and the Western Balkans. Meanwhile, the region's green energy potential remains untapped and further investment is needed. Western Balkan countries should set goals on merging faster with the EU energy union, phasing out coal and benefitting from abundant solar and wind resources, in way that are conducive to their energy sector competitiveness and in line with the green transition.

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1 Introduction

Russia's full-scale invasion of Ukraine in 2022 has significantly impacted the entire European Union energy sector. Energy independence from Russia has become the EU's top energy priority. The EU needs to reduce its reliance on Russian gas and develop a more resilient, well-integrated electricity market.

This necessity also extends to the EU's immediate neighbours, including the Western Balkans – Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. These countries should also strive to reduce their energy dependence on Russia, for their own security and also to smooth their paths towards EU accession.

The European Commission has acknowledged the importance of integrating the Western Balkan electricity market into the EU market through market coupling. This should happen before these countries become EU members, with the process facilitated by the 2024-2028 EU Growth Plan for the Western Balkans (European Commission, 2023)¹. Integrating the Western Balkans countries more deeply into the EU's energy and climate policies would be beneficial for both the region and the EU. The region is already well-integrated into the EU electricity system: up to 70 percent of electricity flowing through the region ends up in the EU. Electricity market coupling would bring two main benefits:

1. First, reduced exposure of the Western Balkans to Russian fossil-fuel imports would diminish the threat of energy blackmail and enable more trust-based relations with the EU. Energy is a pragmatic area for cooperation, potentially contributing to trust-building between different countries within the region.
2. Second, deeper integration of the Western Balkan and EU electricity markets would enable the EU to better connect its southeastern region to the internal market, strengthening security of supply, enabling cost savings and reducing emissions.

Meanwhile, further development of the renewable electricity market has become crucial as part of the green transition. Deeper electricity market integration would also make it more resilient to external shocks (Zachmann *et al*, 2024). The electricity generation mix in the Western Balkans has changed significantly, though the region's renewable energy potential remains largely untapped. The green transition has not gained momentum in the region because of still high dependence on lignite coal.

We explore aspects of transition in the Western Balkans: away from dependence on Russia in the energy sector, towards a larger EU electricity market, and towards an electricity generation mix needed for the green transition. This paper is thus structured into three parts, each reflecting these three transitions across the six Western Balkan economies. The fourth section delves more deeply into the

¹ Similar packages exist for Moldova as of 2024 (also called the 'Growth Plan') and for Ukraine as of 2025 (under the 'Ukraine facility' package). For Moldova, see European Commission press release of 10 October 2024, 'Commission adopts €1.8 billion support package to underpin Moldova's economic growth plan on its path to the EU', https://ec.europa.eu/commission/presscorner/detail/en/ip_24_5124. For Ukraine, see European Commission, 'The Ukraine Facility', undated, https://commission.europa.eu/topics/eu-solidarity-ukraine/eu-assistance-ukraine/ukraine-facility_en.

market coupling benefits that could eventually facilitate all three transitions. We conclude the study with recommendations on how these transitions could be facilitated in the Western Balkans.

2 Western Balkan energy dependence on Russia

Russia remains influential for the energy sectors of Serbia and Bosnia and Herzegovina, primarily through oil refinery ownership and past reliance on Russian gas. By contrast, the energy sectors in Albania, Montenegro and Kosovo have no exposure to Russia, while North Macedonia has made significant efforts to reduce this dependence. After Russia's full-scale invasion of Ukraine, it became clear that depending on Russia in the energy sector is risky. Though the EU integration process does not demand the phase-out of Russian gas and oil explicitly, it is clear that trustworthy relations with the EU are harder if a country chooses to be dependent on Russia. While the EU has largely phased out Russian oil and gas since 2022, progress in the Western Balkans has been relatively slow and inconsistent. We examine Western Balkan dependencies on Russian oil and gas.

2.1 Russian ownership of Western Balkan oil refineries and US sanctions

There are three oil refineries in the Western Balkans²: one in Serbia and two in Bosnia and Herzegovina. Russian interests are the majority owners of all three refineries (Table 1), but only the Serbian refinery is profitable.

The Serbian refinery, Naftna industrija Srbije (NIS) – the largest in the Western Balkans – became majority-owned by Russia in 2009, after Russian state company Gazprom bought 51 percent of the company's shares. Since then, the shareholders have changed, but September 2025³ data shows that Russian ownership of NIS amounts to 56.15 percent, shared amongst Gazprom and another Russian company, JSC Intelligence. The two refineries in Bosnia and Herzegovina (Brod and Modriča), and the state distribution company, were privatised in 2007 and acquired by when a mix of Russian state-owned and private firms. This marked the largest-ever one-off foreign acquisition in Bosnia and Herzegovina. However, neither of these Bosnian refineries is profitable owing to poor business leadership⁴. Despite substantial accumulated debt, the two oil refineries have not been liquidated and receive ongoing financial support from their headquarters⁵.

² Albania previously had a state oil refinery, Ballsh Refinery, which had a small production capacity and was shut down in 2019.

³ See NIS, 'Shares and ownership structure', as of 19 September 2025, <https://ir.nis.rs/en/shares-and-dividend/shares-and-ownership-structure/>.

⁴ The two refineries' production was supposed to be expanded, but these investments never happened, for example.

⁵ *Slobodna Bosna*, 'AKUMULIRANI GUBICI PENJU SE NA VIŠE OD 900 MILIONA KM: Najveća rafinerija nafte u BiH sedam godina nije proizvela ni litar nafte', 17 November 2025, https://www.slobodna-bosna.ba/vijest/447480/akumulirani_gubici_penju_se_na_vise_od_900_miliona_km_najveca_rafinerija_nafte_u_bih_sedam_godina_nije_proizvela_ni_litar_nafte.html.

Table 1: Oil refineries in the Western Balkans and ownership structure

Country	Refinery	Capacity	Ownership structure
Serbia	NIS j.s.c. Novi Sad	1.6 million tonnes	Russian stakeholders 56.15% (44.8% Gazprom Neft and 11.3% JSC Intelligence), Serbian state 29.87%, other stakeholders 13.98%
Bosnia and Herzegovina	Brod	1.2 million tonnes	NeftGazinKor 91.9% (Russian company with a private and state-owned [Zarubezhneft JSC] ownership structure), other stakeholders 8.1%
	Modriča	69,000 tonnes	Russian stakeholders 91.92% (75.65% NeftegazInKor and 16.27% Nestro Petrol), other stakeholders 8.08%

Source: Bruegel.

Given the EU’s goal of ending dependence on Russian energy by the end of 2027, these ownership structures in Serbia and Bosnia and Herzegovina – both EU candidates – pose a threat to the security of those countries and to the security of the EU, once enlarged. The Serbian oil refinery’s ownership structure is perceived as risky because Gazprom is Russia’s state energy giant, suggesting that Russia exerts direct influence over Serbia’s energy sector. Gazprom has also provided direct financing and support for the Russian war in Ukraine⁶.

At the end of 2024, the US agreed to sanction Russian oil producers, including Gazprom, because of the war. The sanctions package came into effect only on 9 October 2025. The immediate effect was the loss of NIS’s primary customer for oil – Croatian state-linked pipeline operator JANAF, while the suspension of NIS’s operating licence and US threats of secondary sanctions led to a complete halt in production (Box 1). There could be significant long-term negative economic effects for Serbia if the situation is not resolved, as the refinery is profitable and a strategically important piece of infrastructure.

⁶ This Russian state-owned oil company is also known to be actively supporting the war in Ukraine by deploying staff to the frontlines. See Polina Ivanova, Christopher Miller and Max Seddon, “Stream” and “Torch”: the Gazprom-backed militias fighting in Ukraine’, *Financial Times*, 2 June 2023, <https://www.ft.com/content/4dd0aa0a-4b37-4082-8db0-0b969c539677>.

Box 1: Sanctions on Russian oil refineries affect Serbia's energy sector⁷

Serbia's NIS refinery was previously highly profitable, contributing 2.5 percent to Serbia's 2024 GDP and contributing roughly €2 billion to Serbia's 2024 budget. It provides up to 80 percent of motor fuels consumed in Serbia and employs 14,000 people.

Since the end of 2024, Serbia has faced the threat of a halt to oil refinery production because of US sanctions on Russian oil companies. NIS is listed on the US Specially Designated Nationals (SDN) list⁸. These sanctions were postponed eight times. Finally, on 9 October 2025, the US imposed sanctions on all Russian-owned refineries, including a ban on financial and business transactions with any SDN asset. Bosnia and Herzegovina is also indirectly affected by US sanctions on NIS: NIS owns petrol stations across Bosnia and Herzegovina. Because NIS part-owner Gazprom has been excluded from the financial system, these petrol stations are now limited to cash transactions only.

Secondary sections were announced: blockage of Serbia's entire payment system, managed by the Serbian central bank, as it permits payments to Gazprom within the country.

The NIS shut down involved two phases. First, Croatia's JANAF stopped buying oil from NIS. Then, the suspension of the licence and the threat of secondary sanctions led to a complete halt in NIS production.

To date, Gazprom has not agreed to sell its shares voluntarily. Serbia can thus use legal means to force the purchase, most likely relying on its Expropriation Law. These shares could then be sold via [foreign] acquisition.

Serbia should use this moment to remove its oil infrastructure from Russian control. This is important not only for the continued operation of the country's energy sector and of Serbian industry, of which the transport sector is particularly at risk.

2.2 Limited dependence on Russian gas, but without an optimal phase-out strategy

Western Balkan dependence on natural gas amounts to only 9 percent of the total energy supply, a limited share compared to the EU, where gas contributes one-fifth to the primary energy supply⁹. Montenegro and Kosovo do not rely on natural gas for their energy supply, while in Bosnia and

⁷ Sources: Sanja Kljajic, 'Serbia scrambles to ensure its winter energy security', *Deutsche Welle*, 20 November 2025, <https://www.dw.com/en/serbia-scrambles-to-ensure-its-winter-energy-security/a-74821041>; Thomas Grove, 'U.S. Sanctions Loosen Russia's Grip on Serbia by Forcing Sale of Oil Company', *Wall Street Journal*, 20 November 2025, <https://www.wsj.com/world/russia/u-s-sanctions-loosen-russias-grip-on-serbia-by-forcing-sale-of-oil-company-43065667>; Guy Delauney, 'Serbia's energy reliance on Russia comes unstuck facing US oil sanctions', *BBC*, 12 November 2025, <https://www.bbc.com/news/articles/c8032k0exnmo>.

⁸ See U.S. Department of the Treasury Office of Foreign Assets Control, 'Specially Designated Nationals (SDNs) and the SDN List', undated, <https://ofac.treasury.gov/faqs/topic/1631>.

⁹ See Eurostat, 'Complete energy balances', last update 11 December 2025, https://ec.europa.eu/eurostat/databrowser/view/nrg_bal_c_custom_13842645/default/table?lang=en.

Herzegovina and Albania, natural gas contributes only 3 percent and 2 percent of energy supply, respectively. The largest gas shares in energy supply in the region are in Serbia and North Macedonia: 14 percent and 11 percent, respectively.

Though the EU is more dependent than the Western Balkans on gas, its gas imports from Russia declined by 32 percentage points from pre-war times (2021) to September 2025. Russian gas imports now account for 12 percent of total EU gas imports, a figure planned to reach zero by January 2028.

Albania has never imported Russian gas. It expects to expand its gas import capacity through the Trans-Adriatic Pipeline (TAP), which supplies gas from Azerbaijan to Greece, Albania and Italy. However, all the gas consumed in Bosnia and Herzegovina, North Macedonia and Serbia was procured from Russia before the invasion of Ukraine. After the completion of the Balkan Stream pipeline in 2021, Russian gas was supplied via the TurkStream pipeline from Russia to the Turkish-Bulgarian border, and then delivered to Serbia and North Macedonia. Passing through Serbia, it was also then delivered to Bosnia and Herzegovina (Figure 1).

Figure 1: Gas pipeline system in the Western Balkans



Source: Bruegel based on Łoskot-Strachota *et al* (2021).

Since Russia's invasion of Ukraine, Bosnia and Herzegovina, North Macedonia and Serbia have made various efforts to cut Russian gas supplies. North Macedonia began the phase-out in 2023 and commenced full imports of gas from Azerbaijan in 2025. These gas supplies will be facilitated not only through Bulgaria (TurkStream) but also through the new Greece-North Macedonia gas interconnector, scheduled for completion in 2027, linking to the Trans Adriatic Pipeline (TAP) (Figure 1)¹⁰.

Serbia's dependence on Russian gas declined from 100 percent in 2021 to 82 percent in 2024, also owing to the established links with Azerbaijan's gas suppliers. Before the US sanctions took effect, there were talks in 2025 on extending Serbia's gas contract with Russia for an additional three to ten years at favourable prices, starting in September 2025. Tensions over the elimination of Gazprom's share in the NIS oil refinery in Serbia may lead Russia to squeeze gas supplies to Serbia as well.

Another point of geopolitical tension is that Azeri gas supplies may not fully resolve Russian leverage over gas supplies to the Balkans for several reasons. Azerbaijan has limited production capacity, and there is a risk that it imports gas from Russia to ensure export volumes to the West (Keliauskaitė and Zachmann, 2024).

Bosnia and Herzegovina was previously supplied with Russian gas through Serbia via the TurkStream pipeline. The Federation of Bosnia and Herzegovina (the Bosnia-Croatian entity) has been working towards building a southern interconnection between Bosnia and Herzegovina and Croatia, which would allow imports via a Croatian liquified natural gas (LNG) terminal in the Adriatic Sea and hence diversify away from Turkstream gas. The legislative framework governing this was adopted in January 2025. In November 2025, US companies showed interest in building the pipeline infrastructure¹¹. However, construction would take a decade, and Bosnia and Herzegovina might be better placed to reduce reliance on gas through the electrification of domestic heating and clean district heating¹².

Overall, the region's reliance on gas is limited, but long-term solutions to decouple from Russian gas should be pursued with different gas suppliers, an aspect important for the accession paths and security of EU candidates.

¹⁰ Kamran Gasimov, 'Minister: North Macedonia expects direct supplies of Azerbaijani gas in coming years', *Report*, 8 September 2025, <https://report.az/en/energy/minister-north-macedonia-expects-direct-supplies-of-azerbaijani-gas-in-coming-years-interview>.

¹¹ Daria Sito-sucic, 'Bosnia, US eye pipeline to cut Russian gas dependency', *Reuters*, 20 November 2025, <https://www.reuters.com/business/energy/bosnia-us-eye-pipeline-cut-russian-gas-dependency-2025-11-20/>.

¹² About 65 percent of gas used in Bosnia and Herzegovina is used for heating (individual heating and district heating), while 35 percent is used in industry.

3 The Western Balkan electricity market is already highly integrated with the EU

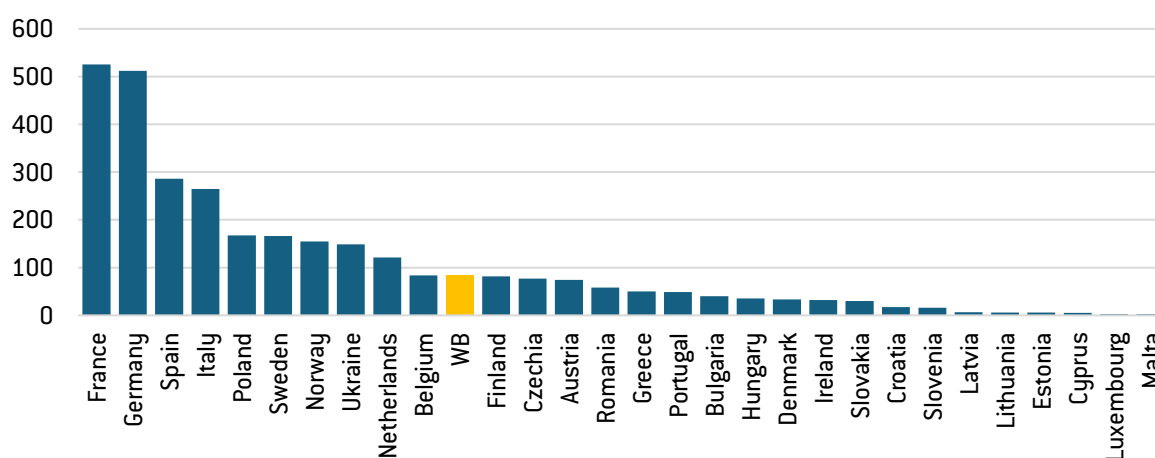
Western Balkan dependence on Russia in the energy sector could be reduced more effectively if Western Balkan economies couple with the EU electricity markets. After the Russian invasion of Ukraine, the European Commission set an ambitious 2027 deadline (European Commission, 2023) for integration of the Western Balkans into its electricity market, subject to the alignment of Western Balkan regulatory frameworks with the EU *acquis*. This is set to bring various benefits to both the EU and the Western Balkans. In addition to reducing exposure to Russian energy imports and interference, it will foster greater trust between the EU and the Western Balkans, and will bring significant economic benefits to both sides. An enlarged electricity market should bring lower prices and greater competitiveness, and will also be very conducive to the green transition. See section 5 for more discussion of these points.

This section examines how integrated the Western Balkan electricity market is with that of the EU. Integration is already significant, but is threatened by the EU carbon border adjustment mechanism (CBAM). In addition, we investigate Western Balkan wholesale electricity prices relative to those in EU countries, and domestic and corporate prices, the latter two being highly subsidised in the Western Balkans.

3.1 The Western Balkans are important for electricity transit and trade with the EU

The Western Balkan electricity market has a relatively small production capacity (84 TWh), or 3 percent of EU-produced electricity (2,750 TWh). In electricity terms, the Western Balkans are roughly the size of the Belgian or Finnish electricity markets, which are currently the ninth and tenth biggest individual EU electricity producers (Figure 2). Serbia generates half of the electricity produced in the Western Balkans. Montenegro's share is smallest (5 percent of the Western Balkan total). Kosovo and North Macedonia generate 8 percent each.

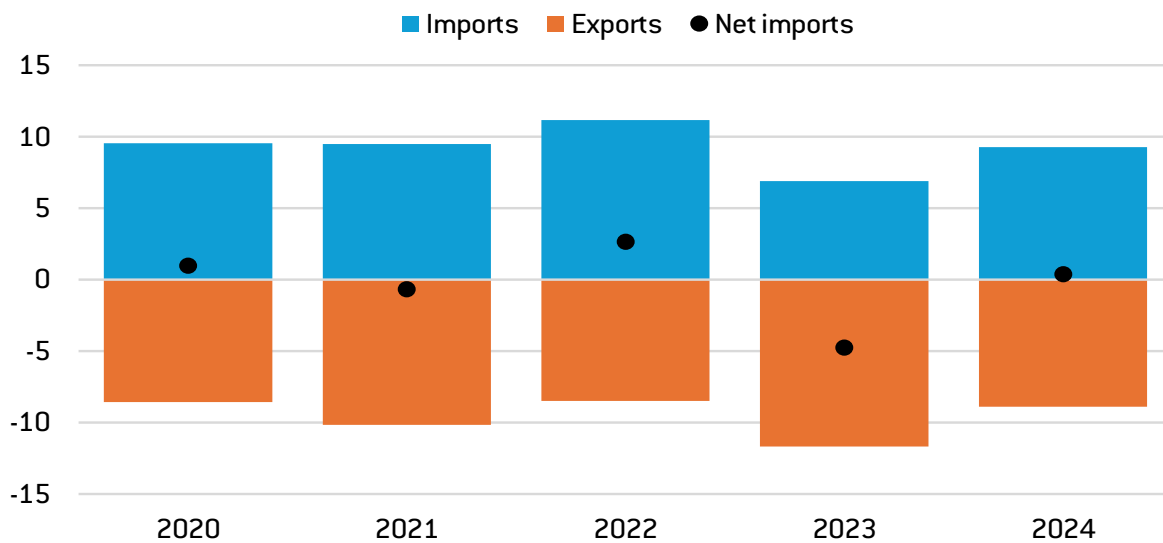
Figure 2: Electricity generation in the EU and Western Balkans, TWh



Source: Bruegel based on Eurostat nrg_ind_peh data.

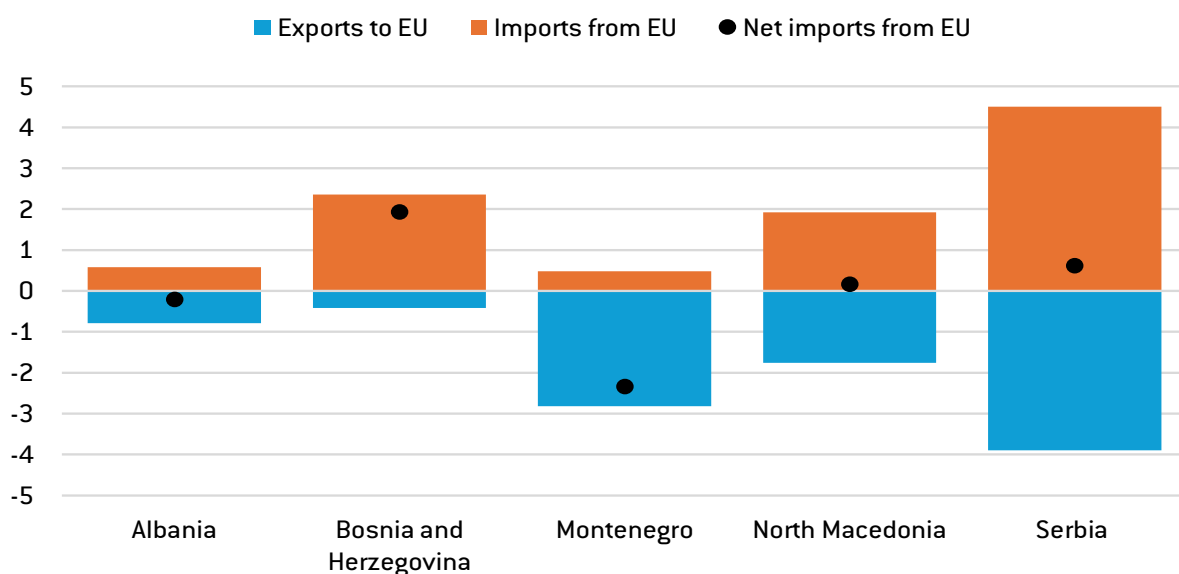
The importance of the electricity market in the Western Balkans far outweighs its size. The Western Balkan economies have a relatively balanced trade in electricity with their EU neighbours, with significant interannual variation, depending, among other things, on hydrological conditions in the region. In years with above-average rainfall, such as during 2023, the region was a significant net exporter of electricity, while during some drier years, it has been a small net importer (Figure 3). As with other energy-supply sources, differences across countries are significant, with Bosnia and Herzegovina, Serbia and North Macedonia being net electricity importers from the EU in 2024, while Albania and Montenegro were net exporters to Greece and Italy, respectively (Figure 4).

Figure 3: Western Balkan electricity imports and exports (TWh), 2020-2024



Source: Bruegel based on ENTSO-E data via energy-charts.info. Note: displayed are commercial exchanges.

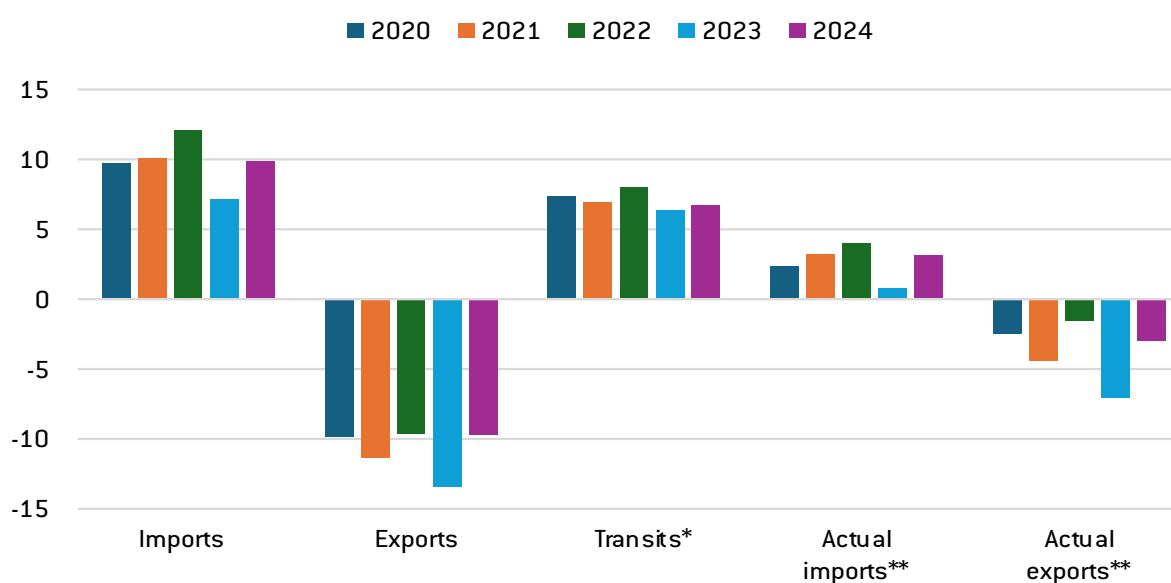
Figure 4: Western Balkan electricity imports and exports (TWh) from/to EU neighbours, 2024



Source: Bruegel based on ENTSO-E data via energy-charts.info. Note: displayed are commercial exchanges.

When considering concurrent imports and exports within the same hour, a proxy for transit flows, it becomes clear that between 60 percent and 75 percent of all cross-border flows are in fact transits of electricity from EU countries to other EU countries via the Western Balkans (Figure 5; see also Energy Community, 2025). Because of the region’s location between central eastern Europe (Hungary, Croatia), southeastern Europe (Bulgaria, Romania, Greece) and southern Europe (Italy), the Western Balkans acts as a transit hub for electricity, with plans to increase interconnector capacities for that purpose¹³.

Figure 5: Electricity imports/exports into and out of the Western Balkan region (TWh), 2020-2024



Source: Bruegel based on ENTSO-E data via energy-charts.info. Note: displayed are commercial exchanges; concurrent imports/exports are simultaneous imports into, and exports from, the region within the same hour. * Transits are proxied with concurrent imports and exports into and out of the Western Balkans in the same hour. ** Actual imports (exports) are imports (exports) net of transits.

Yugoslavia synchronised with the Continental European Synchronous Area (UCTE; a single electricity grid) in 1968. In 1991, during the Yugoslav wars, UCTE split into two, with southeastern Europe, including the Western Balkans (except for a part of Bosnia and Herzegovina), Greece, Romania and Bulgaria being in the second zone. In 2004, the two zones resynchronised and reunited. Since then, the Western Balkans has been well integrated with the EU electricity system¹⁴, more so than Ukraine and Moldova (McWilliams *et al*, 2025). However, this will be distorted by the CBAM, which will disincentivise electricity exports from the Western Balkans to the EU (Box 2). Furthermore, there is an

¹³ Harry Aposporis, 'Greece presents plan to export green energy to Europe through Western Balkans', *Balkan Green Energy News*, 23 March 2023, <https://balkangreenenergynews.com/greece-presents-plan-to-export-green-energy-to-europe-through-western-balkans/>; Igor Todorović, 'Montenegro, Italy sign memorandum on electricity market coupling', *Balkan Green Energy News*, 24 October 2025, <https://balkangreenenergynews.com/montenegro-italy-sign-memorandum-on-electricity-market-coupling/>.

¹⁴ This has been both good and bad, as the spillovers of long-lasting frequency deviations from the Serbia, North Macedonia and Montenegro control block (which at the time included Kosovo) to the entire Continental Synchronous Area in 2018-2019 attest. See for example ENTSO-E (2021).

open question on how in practice electricity transits can be identified and exempted from CBAM. This creates uncertainty over the transit flows from EU countries via the Western Balkans to other EU countries¹⁵.

Box 2: Impacts of CBAM on Western Balkan electricity trade and implications for market coupling

The EU carbon border adjustment mechanism (CBAM) seeks to reduce the risk of carbon leakage for certain goods, including electricity, that are subject to the EU emissions trading system (ETS). It replaces the system of free allocation of ETS allowances. From January 2026, EU importers of CBAM goods will have to purchase CBAM certificates at a weekly average price of EU ETS allowances, for the imported goods' embedded emissions.

The CBAM Regulation (Regulation EU 2023/956) allows the use of actual emissions for electricity imports in certain special cases, when calculating the required allowances. However, the conditions for this are exceptionally difficult to fulfil (Nies *et al*, 2025). In all other cases, default emission factors per country or region are applied to all electricity imports, regardless of the source of production. Default values are based on *“the weighted average of the CO2 intensity of electricity produced from fossil fuels within a geographic area”*. This leads to an expected average CBAM charge of €70-€80 per MWh for electricity imported from the Western Balkans (except maybe for Albania, if default values are applied on a country-by-country basis), dramatically reducing the competitiveness of Western Balkan electricity exports and distorting electricity trade in the southeastern Europe region¹⁶.

Furthermore, CBAM is a barrier to electricity market coupling, as there is currently no technical solution to apply CBAM to electricity trade within a coupled market (as importers cannot be identified in an anonymous cross-border market). This means that third countries subject to CBAM, such as the Western Balkan countries, cannot join the coupled market without obtaining an exemption from CBAM for the electricity sector. Article 2(7) of the CBAM Regulation provides for such an exemption if certain conditions are fulfilled, including the introduction of an ETS in the power sector with an equivalent carbon price to the EU ETS by 2030. Only Montenegro, the smallest Western Balkan economy, currently has an ETS, but with a carbon price of €24/tCO₂, illustrating the difficulties in adjusting the price to the levels applicable in the EU, currently around €80/tCO₂.

¹⁵ Irina Breilean, 'INTERVIEW: Power market faces uncertainty as EU prepares final CBAM rules', *S&P Global*, 9 December 2025, <https://www.spglobal.com/energy/en/news-research/latest-news/energy-transition/120925-interview-power-market-faces-uncertainty-as-eu-prepares-final-cbam-rules>.

¹⁶ The European Commission has proposed a change to rules governing the default values, which would see average grid emission factors applied instead of default emission factors from fossil fuel-produced electricity only. This would reduce the impact to between approximately €35/MWh (Montenegro) to €80/MWh (Kosovo) depending on each country's electricity mix. This proposed change still needs to be approved by the European co-legislators. See European Commission, 'Questions and answers on the Carbon Border Adjustment Mechanism (CBAM)', 17 December 2025, https://ec.europa.eu/commission/presscorner/detail/en/qanda_25_3089.

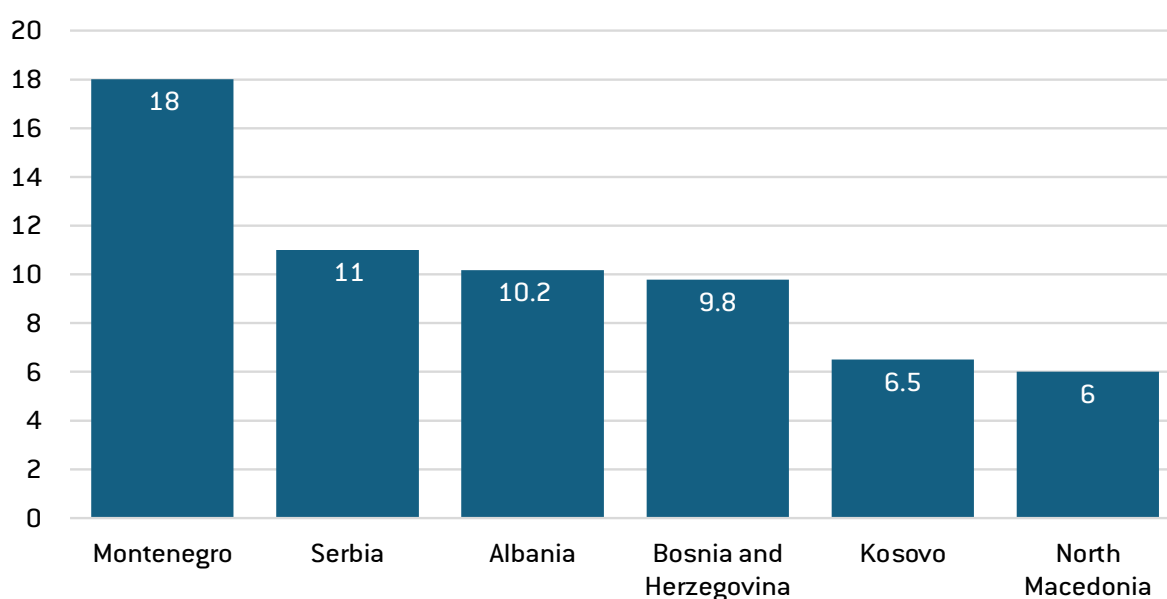
Considering that most Western Balkan electricity flows are attributed to EU-produced electricity transiting the region, understanding this market is crucial for the EU's future electricity market strategy. As electricity becomes the primary energy vector for EU strategic autonomy, we further examine the strengths and weaknesses of the electricity system in the Western Balkans.

3.2 Western Balkan electricity prices are regulated

State-owned energy companies play outsized roles in the Western Balkans. The assets of the countries' main electricity producers account for roughly 6 percent of GDP in North Macedonia and Kosovo, and as high as 18 percent in Montenegro (Figure 6)¹⁷. These high figures are largely determined by hydro power plants, which account for a substantial share of the energy sector's asset composition in the Western Balkans.

This state ownership leads to inefficiency in business conduct. The energy sector has not been subject to privatisation¹⁸, leading to a monopolistic power structure, lack of private investment and inefficient resource management.

Figure 6: Energy sector SOEs assets, % of GDP



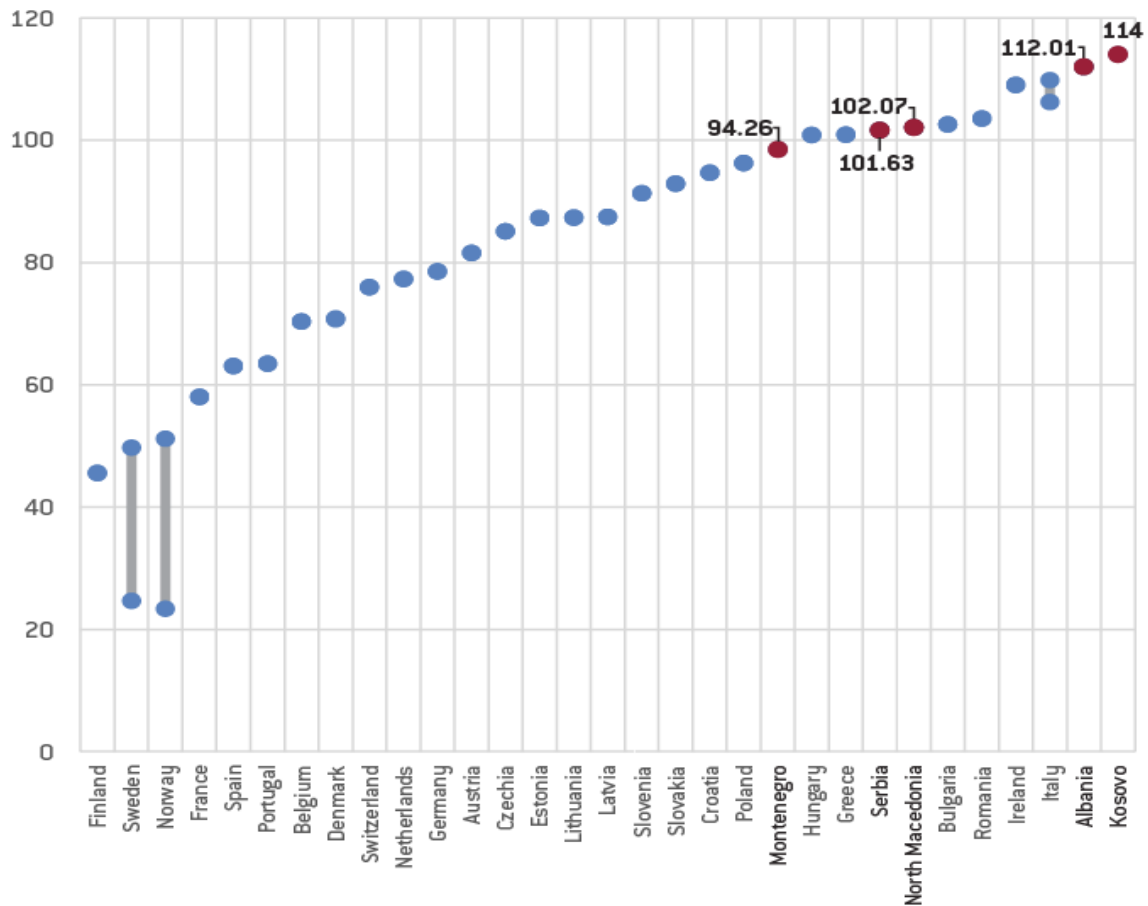
Source: Bruegel based on statistical offices and energy SOEs' websites. Note: data for Serbia, Bosnia and Herzegovina refers to 2024, data for Montenegro to 2023 and data for Kosovo to 2022.

¹⁷ The latter being also driven by a smaller denominator (GDP), as Montenegro is the smallest country in the Western Balkans, with a population of roughly 600,000.

¹⁸ One exception to this was the temporary privatisation in Montenegro by Italian A2A S.p.A. energy company, from 2009 to 2017.

One example of inefficiently managed resources is subsidised prices for households and firms. The day-ahead auction market shows that energy prices in the Western Balkan economies are amongst the most expensive in Europe, with the highest prices in Albania and Kosovo (Figure 7).

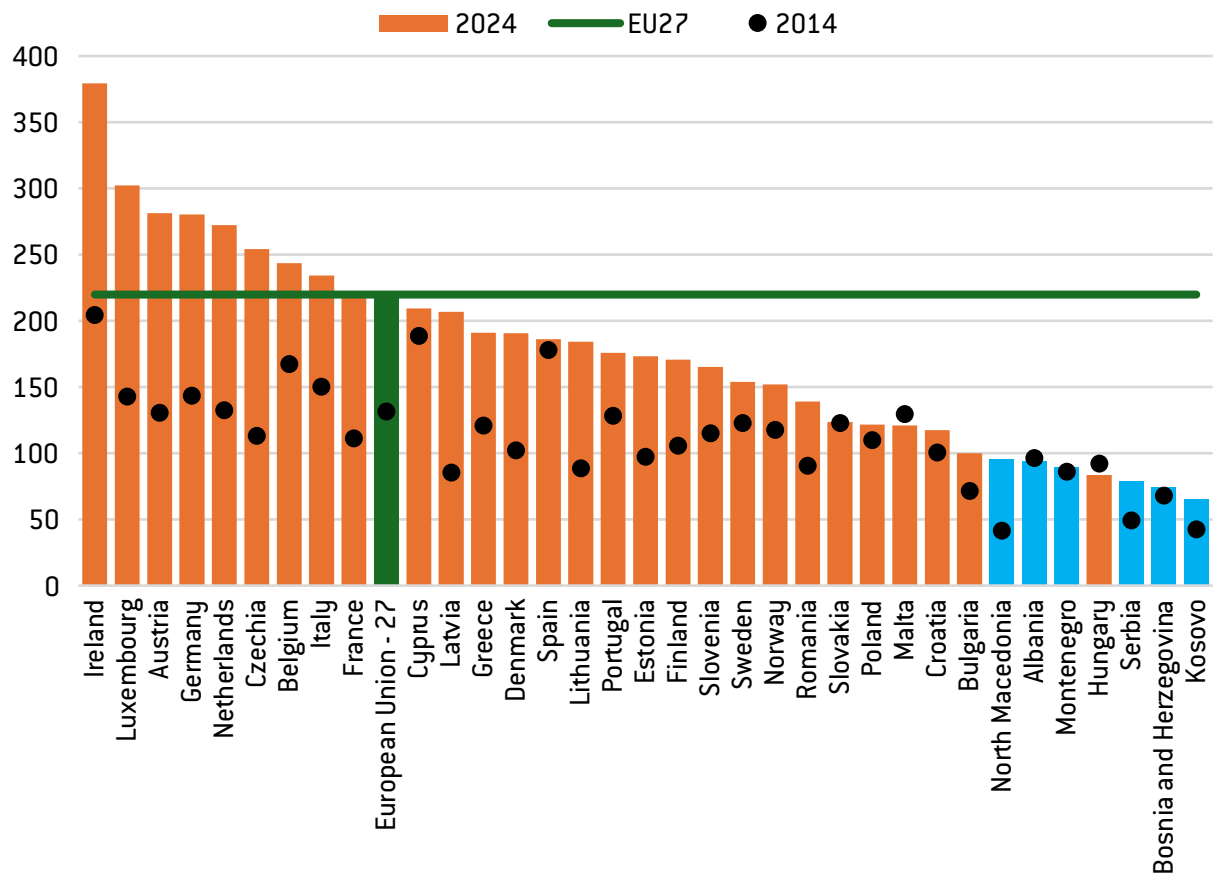
Figure 7: Day-ahead auction average prices (€/MWh), EU, Norway and Western Balkans, 2024



Source: Bruegel based on ENTSO-E average day-ahead auction prices via energy-charts.info, except for Albania and Kosovo, for which data is sourced from ALPEX. Note: prices for Sweden, Norway and Italy are shown as ranges because of multiple bidding zones in these countries. Bosnia and Herzegovina is missing because it is the only Western Balkan economy without a day-ahead market. The Italian bidding zone IT-SACODC was excluded because it represented an outlier.

However, consumer electricity prices are much lower in the Western Balkan economies than in EU countries, both for households and for industry, because of subsidy policies in the region. Domestic electricity prices (Figure 8) are roughly at the level of those in Hungary, the EU country that charges households the least. Domestic prices increased over the 2014-2024 period for most countries, but are still well below the EU average (Figure 8).

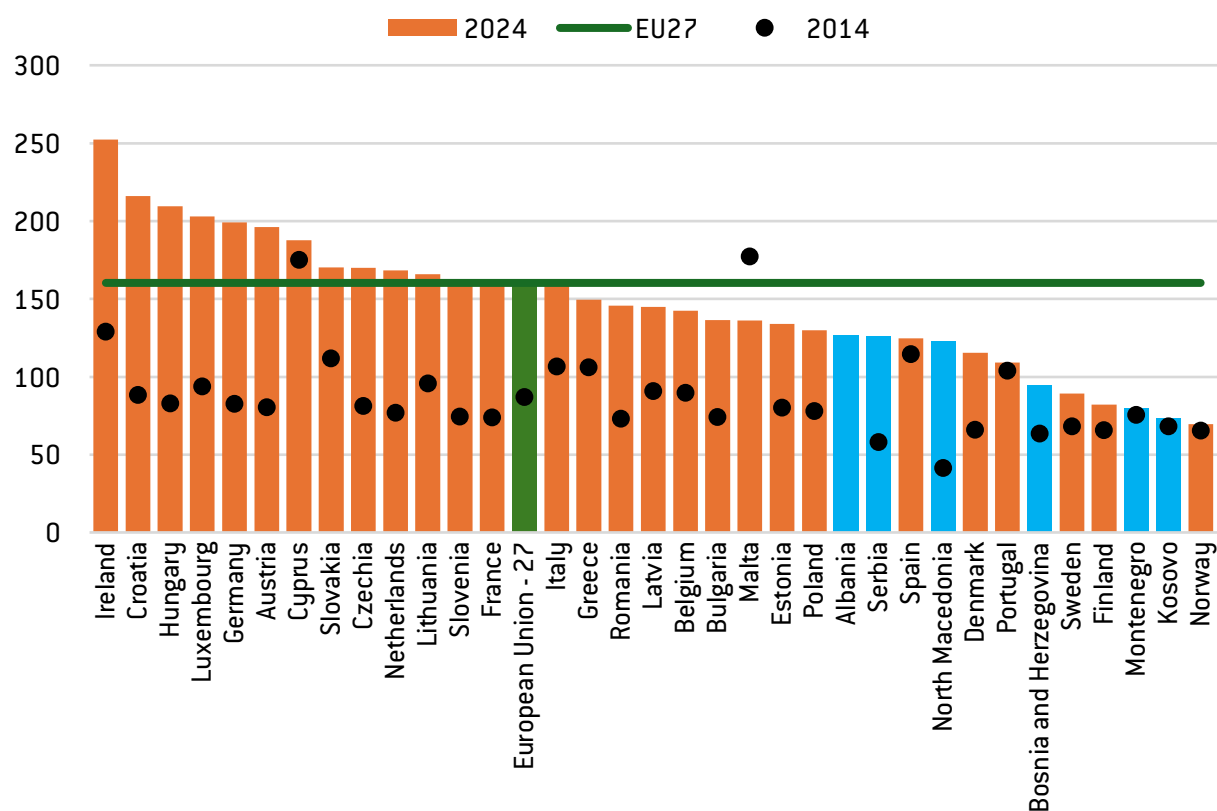
Figure 8: Domestic electricity prices (€/MWh), EU, Norway and Western Balkans, 2024 and 2014



Source: Bruegel based on Eurostat *nrg_pc_204_custom_17715062*. Note: biannual electricity prices for consumption band DC (2,500–4,999 kWh), excluding taxes and levies, reported in €/kWh and converted to €/MWh. Yearly averages are computed from biannual observations.

Electricity prices for industry in the Western Balkans are also well below the EU average, though the difference is less stark than for households (Figure 9). This shows that in the industry-households trade-off (Heussaff *et al*, 2025), Western Balkan governments opt more for households.

Figure 9: Electricity prices (€/MWh) for industry, EU, Norway and Western Balkans, 2024 and 2014



Source: Bruegel. Note: biannual electricity prices for consumption Band IC (500–1,999 MWh), excluding taxes and levies, reported in €/kWh and converted to €/MWh. Yearly averages are computed from biannual observations. Data for 2014 for Albania is missing.

The OECD (2025) assessed that between 2018 and 2025, social price regulations and state ownership policies saved Western Balkan final energy consumers roughly €19 billion compared to what they would have paid on the spot market. Obviously, the use of energy-sector revenues for subsidies takes away much of the potential for state revenues, while increasing the fiscal burden (OECD, 2025). More importantly, this practice makes state-owned enterprises less able to invest adequately in maintenance and new-generation capacity, including renewable energy. Low household electricity prices also disincentivise households from reducing their energy consumption (or increasing their energy savings).

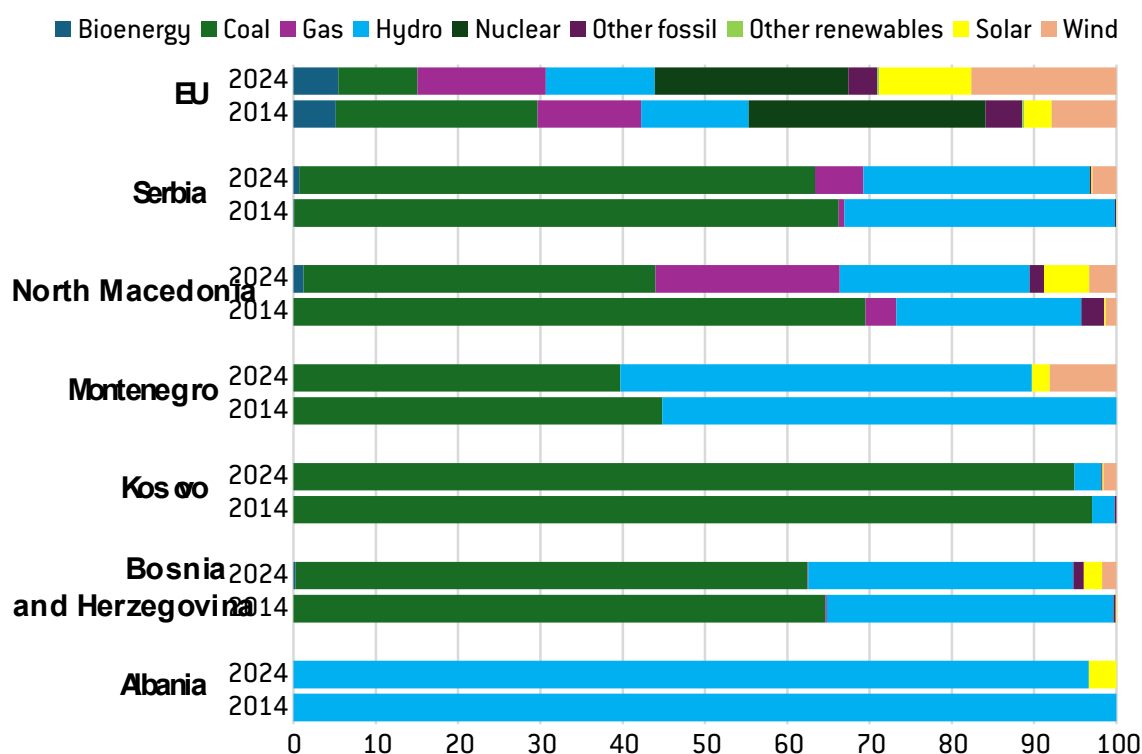
4 The green energy transition is not yet happening in the Western Balkans

The Western Balkans are very rich in renewable energy, with Albania and Montenegro surpassing the EU average (Figure 10). Yet the region also relies heavily on coal. Investment in renewables, especially wind and solar, is increasing, but there is also significant untapped potential that could benefit both the Balkans and the EU, especially in a context of market coupling.

4.1 The Western Balkans electricity generation mix is both a blessing and a curse

In 2024, the EU produced around 10 percent of its electricity from coal, 15 percentage points less than in 2014. Meanwhile, all Western Balkan countries except Albania remain heavily dependent on lignite, also called brown coal, a cheap source of electricity with high environmental and health costs. A significant number of lignite plants in the region would breach the EU Industrial Emissions Directive (IED, Directive 2010/75/EU) because of the lack of pollution-control equipment and/or exceedance of permitted operating hours under the opt-out rule¹⁹.

Figure 10: Electricity generation mix in the Western Balkans, 2014 and 2024



Source: Bruegel based on Ember. Note: data refers to 2014 and 2024 for all countries except Albania, for which the most recent available data is for 2023. MNE: Montenegro, NMKD: North Macedonia, BH: Bosnia and Herzegovina.

¹⁹ Under the IED, countries must either install pollution-control equipment (such as filters) or shut down their plants after a certain number of operating hours (opt-out-rule known as the 'derogation regime').

Yet, electricity generation in the Western Balkans is also very reliant on hydropower, with Albania producing close to all of its electricity from hydropower. Given this, all Western Balkan countries are expected to phase out coal-fired power generation in line with the 2020 Sofia Declaration on the Green Agenda for the Western Balkans²⁰ and the EU's 2050 climate-neutrality objective. For some countries, such as Albania, which is coal-free, the green transition is not tied to the electricity market. For others, the green transition is very complex and expensive, especially in Kosovo, which is almost fully dependent on coal (Figure 10).

Some progress in moving away from coal has been noted, albeit modest (Figure 10). Only North Macedonia has substantially decreased the share of coal in the electricity mix, by 26.8 percentage points from 2014 to 2024, but this has largely meant a greater dependence on gas, which now accounts for almost a quarter of the energy mix. A small increase in electricity from solar and wind generation is also notable in North Macedonia; this may change in the coming years with significant investment in wind power plants²¹. For other countries, the decline in coal in electricity generation has amounted to a few percentage points from 2014 to 2024, except for Montenegro, where coal's share declined by five percentage points because of the expansion of wind power.

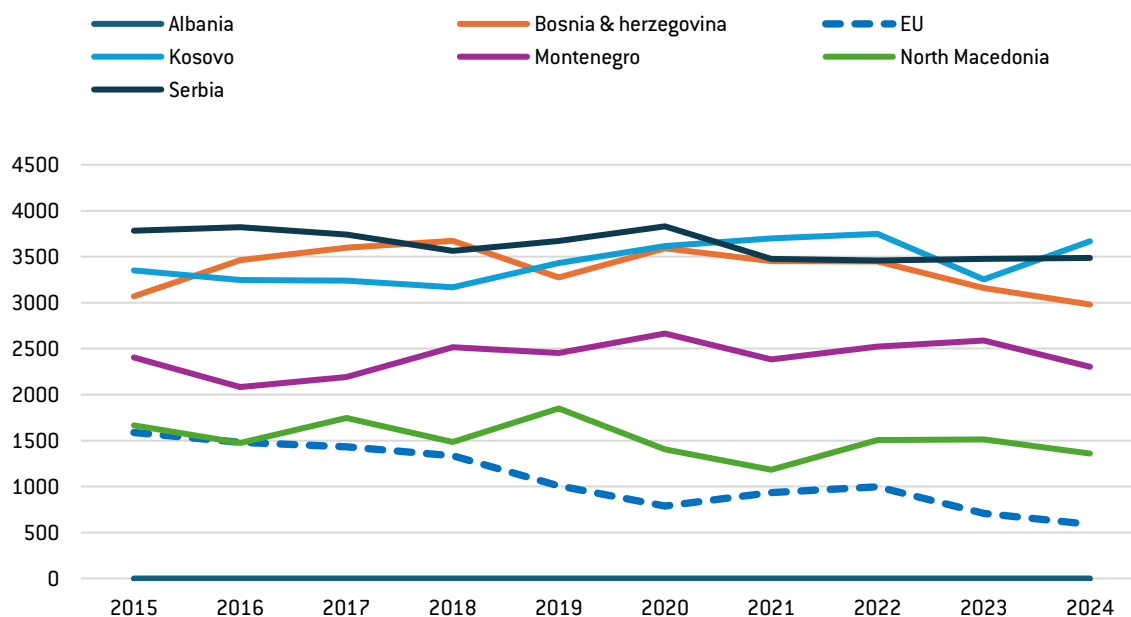
Overall, North Macedonia and Albania have expanded more their solar energy shares (with Albania not expanding in wind at all so far), while other countries have utilised their wind potential more effectively.

Therefore, though the electricity generation mix in the region has diversified slightly, the coal phase-out has not happened. There has been no downward trend in coal-based electricity *per capita* (Figure 11), with the exception of North Macedonia, where gas deployment may indeed have helped with progress on phasing out coal. There has been no downward trend in the Western Balkans like that in the EU over the past decade²².

²⁰ Available at <https://www.rcc.int/files/user/docs/196c92cf0534f629d43c460079809b20.pdf>.

²¹ Vladimir Spasić, 'Construction of largest wind farm in Western Balkans kicks off in Štip in North Macedonia', *Balkan Green Energy News*, 16 July 2025, <https://balkangreenenergynews.com/construction-of-largest-wind-farm-in-western-balkans-kicks-off-in-stip-in-north-macedonia/>.

Figure 11: Coal-based electricity generation *per capita*, Western Balkans and EU, 2014-2024, kWh



Source: Bruegel based on Ember (2025).

While the Sofia Declaration on the Green Agenda for the Western Balkans committed the region to alignment with the European Climate Law [Regulation (EU) 2021/1119] and the goal of climate neutrality by 2050 – which cannot be achieved without the phase-out of lignite for power production – most Western Balkans countries do not have a coal phase-out date, or lack a clear national coal phase-out plan. Such a phase-out would entail political costs, as cheap – and often additionally subsidised – lignite-based electricity generation by state-owned enterprises underpins low household electricity prices in the region.

The National Energy Climate Plans (NECPs) of Western Balkan countries confirm that the coal phase-out is not planned any time soon. Bosnia and Herzegovina, Serbia and Kosovo continue to depend heavily on coal and lack binding timelines. Only North Macedonia has an operational coal phase-out commitment, aiming to convert one coal-fired plant (TE Plant Oslomej) into a solar plant and to decommission the other (Bitola). Albania is already coal-free for electricity generation, and is exploring green hydrogen as an alternative to residual industrial coal²³. Montenegro plans the closure of its coal plant by 2040–2041, though it previously pledged 2035. The delay owes to the decision to invest €87.5 million in upgrading its single coal-plant (TE Pljevlja), which, together with wood burning for domestic heating and motor vehicles, has been causing severe health issues (Doderovic *et al*, 2021). While renovation may reduce the plant’s carbon footprint and, especially, emissions of local air pollutants, it conflicts with the end goal of the coal phase-out.

²³ The Albanian NECP specifies that the limited remaining coal consumption happens in industrial processes such as metallurgy and chemical reduction, not as a fuel source.

Table 2: Western Balkan coal phase-out plans

NECP status	Country	Coal phase-out date	Strategy
Adopted NECP	Albania	Already coal-free	Keep fully renewable electricity; expand solar/wind; decarbonise remaining sectors.
	North Macedonia	2030	Close all coal plants by 2030; replace with solar, wind, hydro and gas backup; upgrade grid and storage.
	Montenegro	~2041	Expand wind/solar; introduce district heating.
	Serbia	No date	Gradually reduce lignite; expand wind/solar; add gas capacity and efficiency measures.
Draft NECP	Bosnia and Herzegovina	No date	Maintain coal for now; expand hydro/solar/wind; reform fossil-fuel subsidies.
	Kosovo	No date	Reduce lignite over time; add new solar/wind; expand district heating.

Source: Bruegel based on adopted NECPs for Albania, North Macedonia, Serbia and Montenegro, and draft NECPs for Bosnia and Herzegovina and Kosovo. Note: when 2050 is mentioned as the date for the coal phase-out, we omitted it from the table because there is no clear commitment to phase out coal. Instead, the date is tied to the Green Agenda for the Western Balkans, rather than a national policy commitment.

With CBAM due to take effect, it is evident that the electricity exports of these economies, apart from Albania, will be impacted severely. The European Commission noted that CBAM will be implemented in a way that minimises economic costs for the region, though it remains unclear what this implies²⁴. One temporary solution could be diversification of Western Balkan electricity exports away from the EU towards third countries, such as Ukraine, Moldova, Turkey or Switzerland²⁵. However, exports to third countries transiting via EU countries could *de facto* also be subject to CBAM, depending on the strictness of the criteria for identification of transits.

Another solution would be to couple with the EU electricity market, in line with the Growth Plan for the Western Balkans (European Commission, 2023). However, market coupling is subject to regulatory alignment. This alignment mainly presumes the transposition and implementation of the Energy Community Electricity Integration Package (EIP, a bundle of nine legislative acts)²⁶, adoption of NECPs and establishment of a functioning day-ahead electricity market. Finally, each country must establish

²⁴ CdM, 'Šahmanović: Ohrabrujuće poruke iz Brisela, u narednim sedmicama slijedi analiza modela primjene CBAM', 8 December 2025, <https://www.cdm.me/ekonomija/sahmanovic-ohrabrujuce-poruke-iz-brisela-u-narednim-sedmicama-slijedi-analiza-modela-primjene-cbam/>.

²⁵ Switzerland has an ETS linked to the EU ETS but does not yet participate in CBAM. Considering that there are many bidding zones between Switzerland and the Western Balkan countries, this is a less likely partner for electricity exports, unless the transit rules are laxer.

²⁶ See Energy Community Secretariat, 'The Electricity Integration Package', undated, <https://www.energy-community.org/archive/implementation/package/EL.html>. The Energy Community is an intergovernmental organisation involving the Western Balkan countries, Ukraine, Moldova and Georgia to foster alignment with EU energy rules.

a certified and independent transmission system operator (TSO) for electricity (and gas, where applicable) and at least one nominated electricity market operator.

These regulatory steps are a heavy administrative task for these countries. As Table 2 shows, four of six countries have adopted NECPs. According to the latest implementation report from the Energy Community Secretariat (2025), the best-performing country with respect to readiness for market coupling, North Macedonia, has a regulatory readiness score of 61 percent, followed by Montenegro and Serbia with a 58 percent score, Kosovo at 46 percent, Albania at 41 percent and Bosnia and Herzegovina as low as 25 percent.

On the EIP, the package of laws and regulations necessary for electricity market coupling, Serbia is the frontrunner, having “*adopted a comprehensive set of primary and secondary acts aimed at achieving full transposition*” (Energy Community Secretariat, 2025). North Macedonia and Montenegro also show significant progress with partial transposition of the EIP, while Bosnia and Herzegovina has some of the relevant draft laws in parliamentary procedures, and Albania and Kosovo are both drafting relevant laws (Energy Community Secretariat, 2025). It should be noted, however, that the deadline for EIP transposition in the Energy Community was 31 December 2023, missed by all Western Balkan countries (and all other Energy Community contracting parties). After notification of transposition, the Energy Community Secretariat and the European Commission verify the transposition²⁷, after which an 18-month process of technical and operational preparation for market coupling integration may begin in coordination with the Market Coupling Steering Committee (MCSC), a body of Europe’s transmission system operators and nominated electricity market operators.

Considering the current state of transposition and the timeline after transposition, it is safe to conclude that electricity coupling between the EU and the Western Balkans by 2027, as foreseen in the countries’ growth plans, is not realistic. The economic benefits the region should gain from coupling (see section 5) will thus likely be delayed. Furthermore, electricity market coupling would require an exemption from CBAM for the electricity sector, either through an equivalent effective carbon price in the Western Balkans, or the exemption clause (Article 2(?) of the CBAM Regulation), which also requires introduction of an ETS for the electricity sector with an equivalent carbon price to the EU ETS by 2030 (Box 2).

4.2 Renewable energy potential in the Western Balkans: high, but untapped

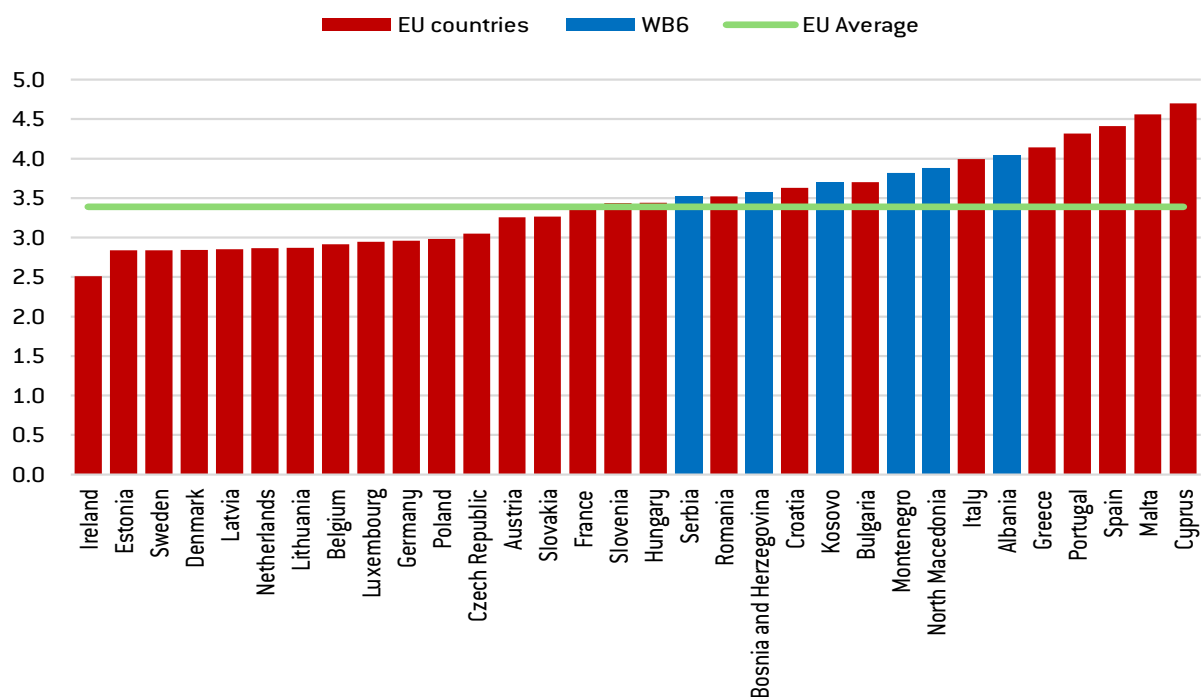
The Western Balkans could phase out coal through further investment in renewables, in particular wind and solar. Despite favourable potential and high profitability and efficiency (Codina *et al*, 2023), solar energy remains marginal in the region’s electricity mix. In 2024, solar accounted for less than five percent of total generation in most Western Balkan countries (Figure 10), compared to an EU average of 11.2 percent (Ember, 2025). This reflects years of underinvestment in the Western Balkans and, in

²⁷ Additionally, at this point, the country’s national regulatory authority needs to compliantly designate at least one nominated electricity market operator.

some cases, high utilisation of aging grid capacity (eg Montenegro)²⁸, which have prevented the region from translating its abundant solar resources into actual generation capacity. As a result, much Western Balkan solar potential remains underutilised, representing a significant area for growth and investment in the coming decade.

Figure 12 shows average yearly practical specific photovoltaic power output (PVOOUT). This measures each country's intensity and duration of solar irradiation, independent of infrastructure or technologies, by showing average daily electricity (in kWh) generated per kilowatt of installed PV capacity (1 kWp, equivalent to roughly three solar panels). In other words, PVOOUT indicates the electricity that could be produced per unit of installed capacity in a day (kWh/kWp/day).

Figure 12: Solar energy potential, yearly average photovoltaic power output, kWh/kWp/day



Source: Bruegel based on World Bank, ESMAP and Solargis (2020). Note: the figure shows the average practical photovoltaic power output (PVOOUT, kWh/kWp/day) in EU and Western Balkan countries, representing the solar resource potential under ideal conditions.

As expected, solar energy potential varies from north to south. While northern and central EU countries, such as Ireland (2.5 kWh/kWp/day) and Germany (3.0), receive substantially less solar energy than the EU average (3.4 kWh/kWp/day), the Western Balkans enjoy much stronger natural potential, with average values between 3.7 and 4.0 kWh/kWp/day. Only the southernmost EU member states (Cyprus, Malta, Greece, Portugal and Spain) are ahead of the Western Balkans on this measure.

²⁸ PVknowhow, 'Montenegro renewable energy: Critical 2024 Grid Upgrade', 11 October 2025, <https://www.pvknowhow.com/news/montenegro-renewable-energy-critical-2024-grid-upgrade/>.

On average, one kilowatt of solar capacity (roughly three solar units) in the Western Balkans produces 3.8 kWh of electricity per day, around 11 percent more than a single solar panel unit in the EU, underscoring the region's untapped solar energy potential.

Onshore wind expansion, despite being more costly in terms of infrastructure, has expanded more in the region than solar. All Western Balkan countries have wind farms, adding up to 14 in total at time of writing²⁹. Several more are being constructed. This owes to the high wind power capacity of this region in Europe (McKenna *et al*, 2022), though it is below that of Northern Europe. Despite generally lower mean wind speeds in the Western Balkans, their temporal patterns complement those of Northern European wind regimes, especially during “*severe lulls in the North Sea region*” (Grams *et al*, 2017). These synoptic (several days to several weeks) complementarities can improve cross-regional balancing and thus increase the efficiency with which electricity demand is met in both the EU and Western Balkans, especially over timescales difficult to balance using standard short-term storage or demand flexibility.

On the other hand, offshore wind farms face much higher construction costs and are only a topic of potential debate in Montenegro and Albania, the two Western Balkan countries with access to the Adriatic and (in the case of Albania) the Ionian Sea. Offshore wind farms are infrastructurally more demanding and financially very costly, even for more developed countries. There is very limited evidence on the offshore wind potential and limitations in terms of bathymetry (depth of seawater) along the shores of Albania and Montenegro. These two countries rely significantly on tourism, especially in summer and along their coastlines. This may be an additional factor of debate on the viability of offshore farms in the two countries.

²⁹ The figure of 14 excludes four very small wind farms in Serbia. The figure includes the following windfarms: five in Bosnia and Herzegovina (Mesihovina, Jelovaca, Podvelezje, Ivovik and Ivan Sedlo), two in Kosovo (Kitka and Selac/Bajgora), two in Montenegro (Krnovo and Mozura), two in North Macedonia (Bogdanići and Bogoslovec), three in Serbia (Čibuk, Kovačica, Pupin).

5 Electricity market coupling would foster the triple transition

Coupling of the EU and Western Balkan electricity markets would bring various benefits to both the EU and the Western Balkans. Taking into account the very small size and illiquidity of the Western Balkan energy sector, the benefits of coupling the Western Balkan economies are greater for the Western Balkans than for the EU. Table 3 summarises these benefits.

Table 3: Benefits of integrating the Western Balkans into the EU energy union

For the EU & Western Balkans	Greater energy security
	Less storage investment
	Less reliance on fossil fuels
	Lower prices and less price volatility
	More competition
	- More innovation
	- Lower energy prices
For the Western Balkans	Regulatory alignment with the EU and within the region
	More attractive for FDI
	Avoidance of CBAM
	Greater export potential
	Better use of renewable energy potential and faster coal phase-out
	Improved managerial efficiency and access to external knowledge
	Reduction of Russian interference in the energy sector
	Increased potential for trust-based relations with the EU

Source: Bruegel based on Zachmann *et al* (2024).

Deeper integration of Western Balkan and EU electricity markets would also enable the EU to better connect its southeastern region to its internal market, strengthening security of supply, enabling cost savings and lowering emissions. In this regard, the Western Balkan countries complement EU countries in several ways, including their relatively large hydropower capacities and negatively correlated wind regimes that would support cross-regional balancing and thus increase the efficiency with which electricity demand is met in both the EU and the Western Balkans.

Because of the greater resilience of an enlarged energy market, the need for investment in backup capacity would be reduced. This is important for Western Balkans, given that it lags in storage development (Frey, 2024). Benefits from reduced needs for backup capacity investment would be particularly promising in a low-carbon future, considering the temporal complementarities of the Western Balkan and Northern European wind regimes. In general, an enlarged electricity market would allow better use of renewable potential, thus reducing reliance on fossil fuels.

A larger energy market would offset price fluctuations and foster greater competition, which can drive down costs and electricity prices. As noted, electricity prices in the Western Balkans are among the highest in Europe, so any downward price trend would make the region more price-competitive – potentially the biggest benefit from market coupling. Competition can naturally promote new technological solutions in the energy sector too.

Alignment with the EU regulatory framework would also bring greater regional unity to the Balkans, which currently suffers substantially from misaligned regulations. The region's largely state-owned energy sector suffers from outdated technology, rendering the entire system highly inefficient, with profit rates threatened by continuous consumer price subsidies. Regulatory alignment with the EU *acquis* may potentially make the state sector more attractive for foreign direct investment in renewables and distribution system operators, which would also make the region's energy sector more competitive and potentially more innovative, in the long run.

With market coupling (and the introduction of an ETS for the electricity sector with an equivalent carbon price to the EU ETS), Western Balkan economies could sidestep CBAM for electricity exports, which applies fully in 2026 and could significantly reduce the attractiveness of electricity exports from the Western Balkans. CBAM costs for Western Balkan electricity exports will be quite high (Box 2), given the region's use of lignite (brown coal) for electricity generation. As the Western Balkan region is a net exporter, exporting potential will increase with market coupling too, in addition to the avoidance of CBAM.

Through a large energy market, the renewable energy potential of the Western Balkans could be better exploited: a geographically large energy market would facilitate the construction of renewable capacity in regions with greater renewable potential. At the same time, if national energy markets are coupled, countries that rely heavily on coal plants for electricity production can source energy from renewable resources available across Europe. For the Western Balkans, this would be the second main potential advantage of market integration, given that the region suffers from high use of coal, well above the EU average, while also offering untapped hydro, wind and solar power potential.

It is important to note that the Western Balkan energy sector is dominated by state-owned enterprises, characterised by managerial inefficiency as management structures are often subject to narrow party interests. However, if they were integrated with the EU energy union, Western Balkan energy SOEs would be exposed to knowledge spillovers from the EU. This would benefit the region, which lacks human capital and suffers from persistent out-migration (Ruer and Vujanovic, 2025).

Lastly, market coupling would offer Serbia and Bosnia and Herzegovina independence from Russian interference. The sanctions on Serbia's oil refinery have shown that this dependence can impose a high toll on the economy and energy supply for its core industries. Market coupling would reduce Western Balkan exposure to Russian fossil-fuel imports and could diminish the threat of energy blackmail and enable more trust-based relations with the EU. Furthermore, energy is a pragmatic area for cooperation, potentially contributing to trust-building between different countries within the region

and with the EU. The latter is also very important in the context of the European integration of Serbia and Bosnia and Herzegovina.

6 Policy implications

A number of shifts are underway in the Western Balkans in the three areas of energy transition: geopolitical (away from Russia), towards the EU (through electricity trade/transit and electricity market coupling) and the green transition. In addition, the region is very diverse, with some countries (those closer to EU accession, Albania and Montenegro) being more advanced than others in reorientating their energy systems.

This leads to three main policy considerations relevant for each point of transition:

First, the Western Balkans, in striving for EU membership, has to end its dependence on Russian oil and gas. Only Serbia and Bosnia and Herzegovina have oil refineries, currently owned by Russia. The Serbian oil refinery stopped production completely following US sanctions that targeted all Russian-owned oil refineries, leaving the Serbian transport sector at risk. Given Serbia's official EU candidate status, this could be the right moment for it to move away from its dependence on Russia and to reinforce relations with the EU. Nationalisation and divestment are options, but given the Serbian oil refinery's modernisation and investment needs, equity participation by EU firms is a better long-term option. Currently, only Hungary's MOL Group shows interest in investing. Given high profit margins and significant Russian security-related risks, a broader EU interest in FDI is conceivable and necessary. A clear task for Serbia would be to commit more to the EU-related reforms, regaining trust in its institutions, which have been subject to democratic backsliding (Ruer and Vujanovic, 2025b). Stronger and more democratic institutions would also help attract more FDI into the Serbian energy sector. The phase out of Russian ownership of oil refineries in Bosnia and Herzegovina is more complex. The liquidation of these two loss-making companies would be an option, but is subject to the Russian owner's providing continued financial help.

Imports of Russian gas have been partly phased out, facilitated anyway by the limited role of gas in the Western Balkan energy supply. Only Serbia, Bosnia and Herzegovina and North Macedonia were importing Russian gas by 2022. Since then, North Macedonia has replaced Russian gas with Azeri gas, though it may be re-labelled Russian gas. In Serbia, which is a gas corridor for gas supplies to Bosnia and Herzegovina, little progress has been made. For this change to happen, political will in Serbia is essential, but has been lacking.

Addressing this issue is necessary because the EU will completely phase out Russian gas by 2028. For Bosnia and Herzegovina, investment in new gas pipeline infrastructure is planned. But locking in substantial future gas consumption in Bosnia and Herzegovina through over-dimensioned, expensive and time-consuming gas infrastructure projects does not align well with competitiveness and sustainability considerations. More focus on renewables (solar and wind) and regional electricity-sector integration would be a cheaper, safer and cleaner alternative. Having said that, facilitating

access to global LNG markets for the existing gas grids in the region will help with diversification of gas supply, beyond Azeri gas.

Second, properly integrating the Western Balkans into the EU internal electricity market promises substantial economic, security and sustainability benefits. The Western Balkan region is a key transit corridor, with up to 70 percent of electricity flows attributed to electricity transit flows originating from the EU. Moreover, the current and potential future generation mixes of the different Western Balkan countries, and of their neighbours, are nicely complimentary, with great hydro, wind and solar potential in individual Western Balkan countries. The existing physical connections (synchronisation) provide a basis for efficient markets.

However, achieving market coupling by 2027 is unrealistic. Judging by the progress so far, uneven across the six Western Balkan countries, regulatory alignment is already a very heavy task. With CBAM, the region faces another regulatory requirement – the introduction of a carbon price equivalent to the EU's, currently around €80/tCO₂. Only Montenegro currently has an ETS, with a carbon price of €24 /tCO₂, suggesting that a price imposed by the EU could be very high for the region.

Moreover, problems are posed by the limited administrative, institutional and human capacities of local and governmental institutions in the Western Balkans, as consistently highlighted by European Commission reports³⁰, and by the complexity of the relevant regulations. To facilitate energy reforms, more funding support through the EU Instrument for Pre-Accession Assistance (IPA) is necessary, specifically targeting institutional capacities in ministries and regulatory authorities. Additional EU funding should be tied to strategic conditionalities, including continuously assessed performance benchmarks for electricity market liberalisation, carbon pricing and other key areas. This financial support needs to be in addition to the Growth Plan for the Western Balkans (European Commission, 2023), as the €6 billion in funds from the plan is already considered modest for the region's needs (Steinbach *et al*, 2025).

Third, the phase-out of coal from electricity production in the Western Balkans has to be prioritised with further investment in renewable electricity sources. The region has a diversified electricity mix, but the coal phase-out is not yet in sight. The state-led energy sector should be moved away from large-scale electricity subsidies that do not promote electricity savings and weigh on its revenues, and towards greening the energy sector through the expansion of renewables.

A commitment to phase-out coal is specified in NECPs only for Montenegro and North Macedonia, but not the other three coal-dependent countries (Kosovo, Serbia and Bosnia and Herzegovina). Policymakers in the region need to set this timeline and commit to it. The revised Green Agenda Action Plan for the Western Balkans (2025-2030; RCC, 2025) can be a good policy toolkit for Western Balkan

³⁰ See, for example, European Commission news of 4 November 2025, 'Commission reports on the progress of aspiring EU members', https://commission.europa.eu/news-and-media/news/commission-reports-progress-aspiring-eu-members-2025-11-04_en.

policymakers, particularly in the areas of tackling renewable energy (Action 13) and carbon pricing (Actions 1, 5, 14 and 8).

We also find that renewable expansion has been biased toward wind power plants in most Western Balkan countries, apart from Albania and North Macedonia. The region, however, has high solar power potential, surpassed, in Europe, only by Portugal, Spain, Malta, Greece and Cyprus. The expansion of renewable generation in the Western Balkans would be a rather easy win for EU companies, given the potential for a high rate of return.

For renewables to expand at a rate that matches the regional renewable electricity potential, grids must be expanded and upgraded to meet the rising electricity demand within the enlarged energy union. The EU can be an important stakeholder in grid renovation, through its Western Balkan Investment Framework³¹. Proper funding will be needed for the transmission system operator's investment needs, and should be linked to strategic conditionalities related to the Green Agenda for the Western Balkans. The region's governments should allocate funds for these needs and, in case of need, access loans from international stakeholders (ie international organisations). To date, these schemes have been used for expanding renewables, but only modestly for grid upgrading³². Grid expansion would also motivate private stakeholders to invest in renewables and diversify the state-led energy sector in the region.

To conclude, the Western Balkans is seeing significant change in terms of transition away from Russia and towards the EU (through electricity market coupling), and the green transition. The EU should provide greater support for regional regulatory alignment, which is necessary for market coupling, given the burden of CBAM. This support needs to be timely and substantial, in financial, technical and human capital terms. The phase out of Russian influence and the region's green energy transition also call for much more FDI. In an October 2025 visit to the region, European Commission President Ursula Von der Leyen called for more EU FDI in the region: *"If the EU does not invest, others will"*³³. We show that the energy sector has a plethora of green investment opportunities.

³¹ See <https://www.wbif.eu/>.

³² See European Bank for Reconstruction and Development, 'Our business sectors', undated, <https://www.ebrd.com/home/what-we-do/ebd-sectors.html>.

³³ 'Ursula von der Leyen: Montenegro Can Move Mountains — The 28th by 2028! In Tivat with PM Spajić', 14 October 2025, https://www.youtube.com/watch?v=bu9_3W2uP0s.

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