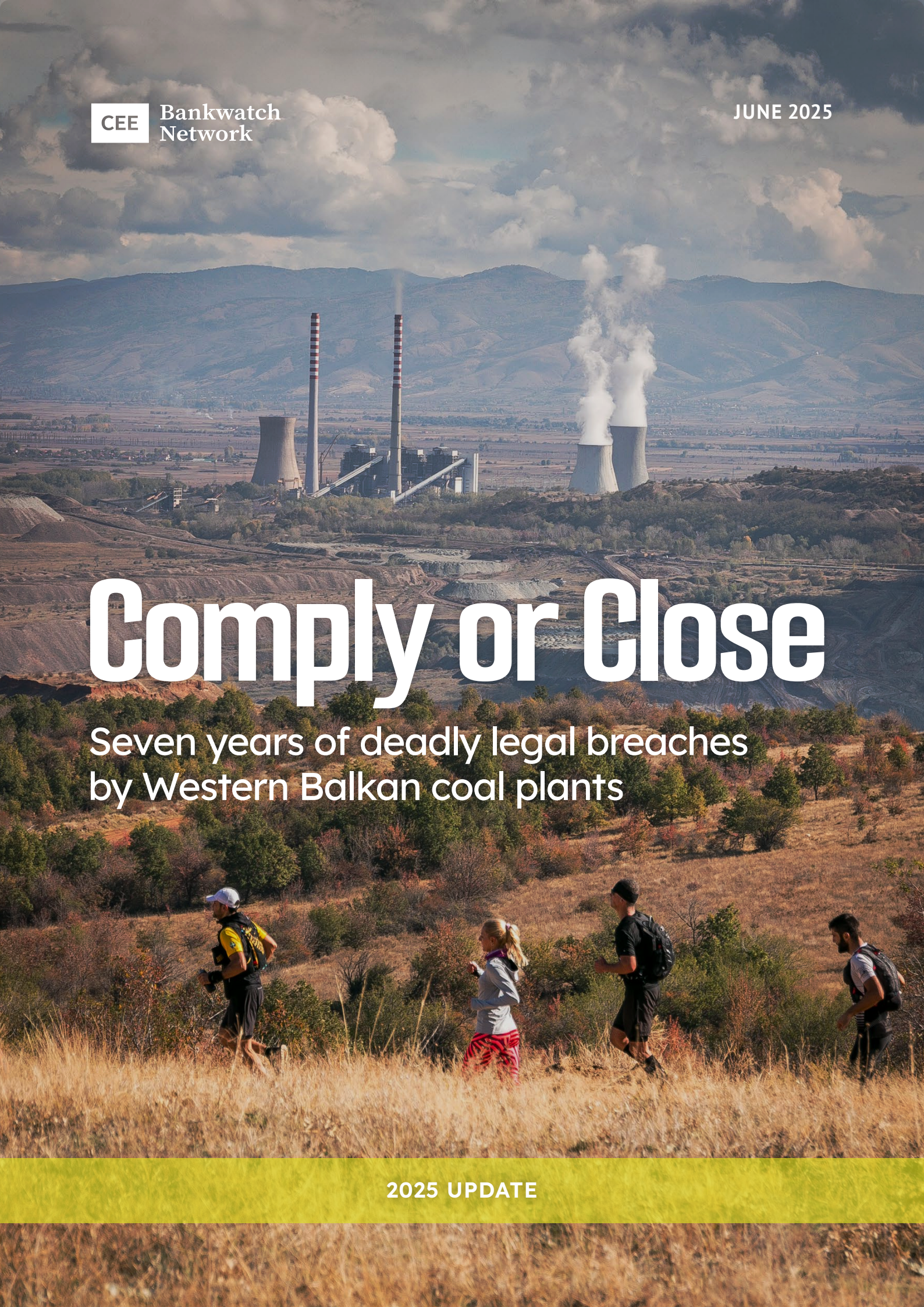

CEE Bankwatch Network

JUNE 2025

Comply or Close

Seven years of deadly legal breaches by Western Balkan coal plants

2025 UPDATE

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Bitola power plant, North Macedonia, Photo: CEE Bankwatch Network

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Hade coal mine, Obiliq, Kosovo

Photo: Matteo Trevisan, done as part of the More Necessary Than the Sun photographic project

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This report is endorsed by the following organisations:

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Comply or Close 2025

Seven years of deadly legal breaches by Western Balkan coal plants

www.complyorclose.org

Glossary

CBAM – Carbon Border Adjustment Mechanism. This tool aims to put a fair price on the carbon emitted during the production of goods from certain sectors, including electricity, that are entering the European Union (EU), and to encourage cleaner industrial production in non-EU countries. Its transitional phase started in 2023 and charges will be applied on the import of goods into the EU from 1 January 2026.

De-NO_x – Equipment for the reduction of nitrogen oxides emissions

De-SO_x – Equipment for the reduction of sulphur oxides emissions

ELV – emission limit value. This represents the permissible quantity of a substance contained in the waste gases from the combustion plant which may be discharged into the air during a given period; it is calculated in terms of mass per volume of the waste gases expressed in mg/Nm^3.

Energy Community Treaty – a treaty signed in 2005 that entered force in 2006 and aims to extend the EU energy market to its nearest neighbours, by applying EU energy, environment and competition legislation to their energy sectors. The Treaty currently includes the European Union, Albania, Bosnia and Herzegovina, Georgia, Kosovo, Moldova, Montenegro, North Macedonia, Serbia and Ukraine.

EU – European Union

IED – Industrial Emissions Directive – Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). Only Chapter lll, Annex V, and Article 72(3)-(4) of Directive 2010/75/EU are applicable in the Energy Community. In the EU, it has been updated by Directive 2024/1785 of 24 April 2024, but these amendments have not yet been transposed into the Energy Community Treaty.

LCP – large combustion plant. This is defined as a technical apparatus which is used to oxidise fuel in order to use the heat generated with a rated thermal input of equal to or greater than 50 megawatts (MW). This includes plants such as fossil fuel or biomass-fired power stations and combustion in petroleum refineries.

LCP BREF – Best Available Techniques Reference Document for Large Combustion Plants, the conclusions of which were made legally binding in Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, and – following a legal challenge on procedural grounds – again in Commission Implementing Decision (EU) 2021/2326 of 30 November 2021 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (notified under document C (2021) 8580).

LCPD – Large Combustion Plants Directive – Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants.

MWe – megawatts of electric power – the most common form of expression of a power plant's capacity.

MWth – total rated thermal input of a power plant – the rating used in EU legislation to define different size categories of power plants. In general, it is harder to achieve lower emissions concentrations from smaller power plants, so pollution limits are differentiated by size.

NERP – National Emissions Reduction Plan – a flexible implementation mechanism under the Large Combustion Plants Directive in the Energy Community whereby emissions can gradually be reduced by totalling their combined emissions and ensuring they are lower than the decreasing ceilings set for 2018, 2023, 2026 and 2027.

NO_x – nitrogen oxides

Opt-out – a flexible implementation mechanism under the Large Combustion Plants Directive whereby plants can delay investments in pollution control equipment as long as they limit their operating hours to 20,000 between 1 January 2018 and 31 December 2023. Any plants operating after that have to comply with the rules for emissions from new plants, not existing ones.

PM or **dust** – particulate matter

SO_2 – sulphur dioxide

[1] For further information, see Energy Community Secretariat, Energy Community acquis.

Executive summary

The end of 2024 marked seven years since the deadline passed for power plants in the Western Balkans to meet new air pollution standards. Yet the deadly air pollution from the region's mostly antiquated coal power plants has hardly decreased.

In 2024, total SO_2 emissions from plants included in the National Emissions Reduction Plans (NERPs)[2] of Bosnia and Herzegovina, Kosovo, North Macedonia and Serbia **were six times as high as allowed**. In absolute terms they had slightly decreased, but because the emissions ceilings for each country were somewhat lower in 2024, the breach was relatively higher than in 2023.

For the first time, Bosnia and Herzegovina's NERP coal plants were the highest SO_2 emitters in the region, with 212,840 tonnes, or **11.3 times as high as allowed**. This mainly resulted from an absolute increase in emissions, rather than a decreasing emissions ceiling. It was followed by Serbia, with 205,925 tonnes, or 4.6 times as high as allowed.

Absolute dust emissions also decreased slightly in 2024 compared to 2023, but were 1.9 times as high as allowed by the countries' NERPs, compared to nearly 1.8 times in 2023. Kosovo, Bosnia and Herzegovina and North Macedonia again greatly exceeded their national ceilings for dust.

Total emissions of nitrogen oxides from the NERP plants amounted to 1.4 times as much as allowed, due to a lack of investments in NO_x reduction and annually decreasing ceilings for NO_x in the NERPs. Kosovo, Bosnia and Herzegovina and Serbia once again exceeded their ceilings. Kosovo had the highest exceedance – 3.1 times as high as its national ceiling.

In absolute terms, long-standing offender Ugljevik in Bosnia and Herzegovina was once again the highest-emitting unit of SO_2 in the region in 2024, with 112,943 tonnes or **14 times as high as its individual ceiling**. Despite the installation of a desulphurisation unit, and an operating permit having been obtained for the de-SO_x in November 2021,[3] its SO_2 increased in 2024 compared to 2022 and 2023. Its operator admits that the de-SO_x is not working mainly because it is an 'economic burden', and it looks increasingly doubtful that this EUR 85 million project will ever be properly used to bring the Ugljevik plant into compliance. However, in January 2024 the operator reported record annual income for 2023.[4]

Although individual unit ceilings are not binding – only country-level ones are – looking at breaches of these unit-level limits can give a good indication of where particular action is needed. **In 2024, no fewer than six units exceeded their ceilings for sulphur dioxide emissions by more than 10 times** – Ugljevik, Gacko, Tuzla 6 and Kakanj 7 in Bosnia and Herzegovina; Kostolac A2 in Serbia; and Bitola B 1 & 2 in North Macedonia.

For dust, the absolute highest emitter in the region was Gacko in Bosnia and Herzegovina. It emitted 3,339 tonnes – 13.7 times as much as allowed. This was even more than in 2023, when it emitted 3,241 tonnes.

For nitrogen oxides, Nikola Tesla B in Serbia had by far the highest absolute emissions in 2024, at 12,418 tonnes – even higher than its 2023 emissions of 11,633 tonnes. In relative terms, Kosova A5 was the worst offender for nitrogen oxides in 2024, emitting 3.9 times as much as allowed, or 2,472 tonnes.

In December 2023, the Energy Community Ministerial Council confirmed the NERP breaches by Bosnia and Herzegovina, Kosovo and North Macedonia.[5] The Energy Community case against Serbia remains open but has not been escalated due to ongoing investments in pollution control equipment.

[2] As part of their obligations to comply with the Large Combustion Plants Directive under the Energy Community Treaty, four Western Balkan countries – Bosnia and Herzegovina, Kosovo, North Macedonia and Serbia – have drawn up National Emission Reduction Plans (NERPs) covering the period from 2018 to 2027. Instead of requiring each large combustion plant to comply with the emission limit values from the Large Combustion Plants Directive from 1 January 2018, these plans allow the countries to calculate national emissions ceilings for sulphur dioxide, nitrogen oxides and dust, and to gradually decrease their total emissions from selected pre-1992 large combustion plants until 2027. In 2027, all the plants included in the NERPs will individually need to be in compliance not only with the emission limit values from the Large Combustion Plants Directive, but also with Part 1 of Annex V to Directive 2010/75/EU on Industrial Emissions.

[3] Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, Decision no. 15.03-360-164/21, 11 November 2021.

[4] RiTE Ugljevik, 'Planovi ispunjeni 100%', *RiTE Ugljevik*, 5 January 2024.

[5] Energy Community Ministerial Council, Decision 2023/04/MC-EnC on the failure by the Republic of North Macedonia to comply with the Energy Community Treaty in Case ECS-7/21, Decision 2023/05/MC-EnC on the failure by Kosovo* to comply with the Energy Community Treaty in Case ECS-8/21 and Decision 2023/06/MC-EnC on the failure by Bosnia and Herzegovina to comply with the Energy Community Treaty in Case ECS-9/21, *Energy Community*, 14 December 2023.

The NERP breaches represent only part of the illegal pollution from coal plants. At the end of 2023, the deadline for closing the plants which fall under the 'opt-out' limited lifetime derogation expired. **All three countries in the Western Balkans with coal power plants subject to this provision – Bosnia and Herzegovina, Montenegro and Serbia – continued to breach it in 2024.** None of the plants have officially closed or completed retrofits to comply with the relevant emission limit values, though Tuzla 3 in Bosnia and Herzegovina reported zero operating hours during the year. These plants contributed to the region's massive coal pollution in 2024, but are not even part of the NERP-derived figures above.

Montenegro's Pljevlja plant has been operating illegally since late 2020, when it used up the 20,000 hours of operation allowed after 1 January 2018. In 2022, it was joined first by Bosnia and Herzegovina's Tuzla 4 and Kakanj 5 units and then by Serbia's Morava plant. Since the end of 2023, when all 'opt-out' units had to close, the Kolubara A plant in Serbia has also continued to operate. The closure dates for all of these units remain unclear.

Due to breaches of the opt-out provisions, the Energy Community Secretariat opened dispute settlement cases against Montenegro in April 2021,[6] Bosnia and Herzegovina in October 2022,[7] and Serbia in October 2023.[8]

Such breaches are a matter of life and death. As our 2021 report showed, out of a total of 19,000 deaths caused by Western Balkan coal plants from 2018 to 2020, the total number of deaths during this period caused by exceedances of NERP ceilings was nearly 12,000. There is no reason to expect that these numbers have decreased since then.

They are also a matter of rule of law: the national authorities have failed to enforce environmental regulations with regard to state-owned utilities. **Seven years after the Large Combustion Plants Directive (LCPD) compliance deadline passed in the Energy Community, not a single plant operator has been fined for these breaches.**

Despite increasing technical problems and coal supply problems in several cases, none of the countries has a clear, updated and realistic plan to ensure compliance and/or closure of all their coal power plants. Even North Macedonia, a regional leader in terms of solar installation, is deviating from its National Energy and Climate Plan (NECP), being distracted by new coal mines and costly plans for gas installations, letting its 2027 coal phase-out date slip to at least 2030, and doing almost nothing to address pollution.

The EU's Carbon Border Adjustment Mechanism (CBAM) will exacerbate the situation further, as from 1 January 2026, EU importers of electricity from the Western Balkans will pay fees based on the carbon intensity of the exporter's electricity supply. The countries have had more than five years to avoid CBAM's impacts by meeting the EU's conditions for exemptions, but they have failed to act.

Overall, the pollution levels seven years after the deadline for implementing the LCPD remain astonishingly high. Too much time has already been wasted and there is a serious danger of an unplanned coal phase-out, with unnecessarily harsh impacts on coal-dependent communities that could have been avoided with proper planning.

The Western Balkan governments must finally take responsibility for a managed coal phase-out and stop letting energy utilities endlessly procrastinate on emissions reduction. The need to cut pollution and ramp up energy efficiency and sustainable forms of renewable energy is greater than ever.

Governments and utilities need to honour their commitments: plants operating under the opt-out regime must close promptly,[9] and the NERP plants must comply with their ceilings. Most urgently, the Ugljevik and Kostolac B desulphurisation units need to start functioning properly. Ongoing investments in desulphurisation need to be speeded up, and in the meantime, operating hours need to be reduced to decrease the pollution burden.

[6] Energy Community Secretariat, 'Case ECS-15/21: Montenegro / Environment', *Energy Community*, accessed 19 May 2025.

[7] Energy Community Secretariat, 'Secretariat launches dispute settlement procedure against Bosnia and Herzegovina for breaching Large Combustion Plants Directive in the case of Tuzla 4 and Kakanj 5', *Energy Community*, 28 October 2022.

[8] Energy Community Secretariat, 'Secretariat launches dispute settlement procedure against Serbia for breaching the Large Combustion Plants Directive in the case of TPP Morava', *Energy Community*, 23 October 2023.

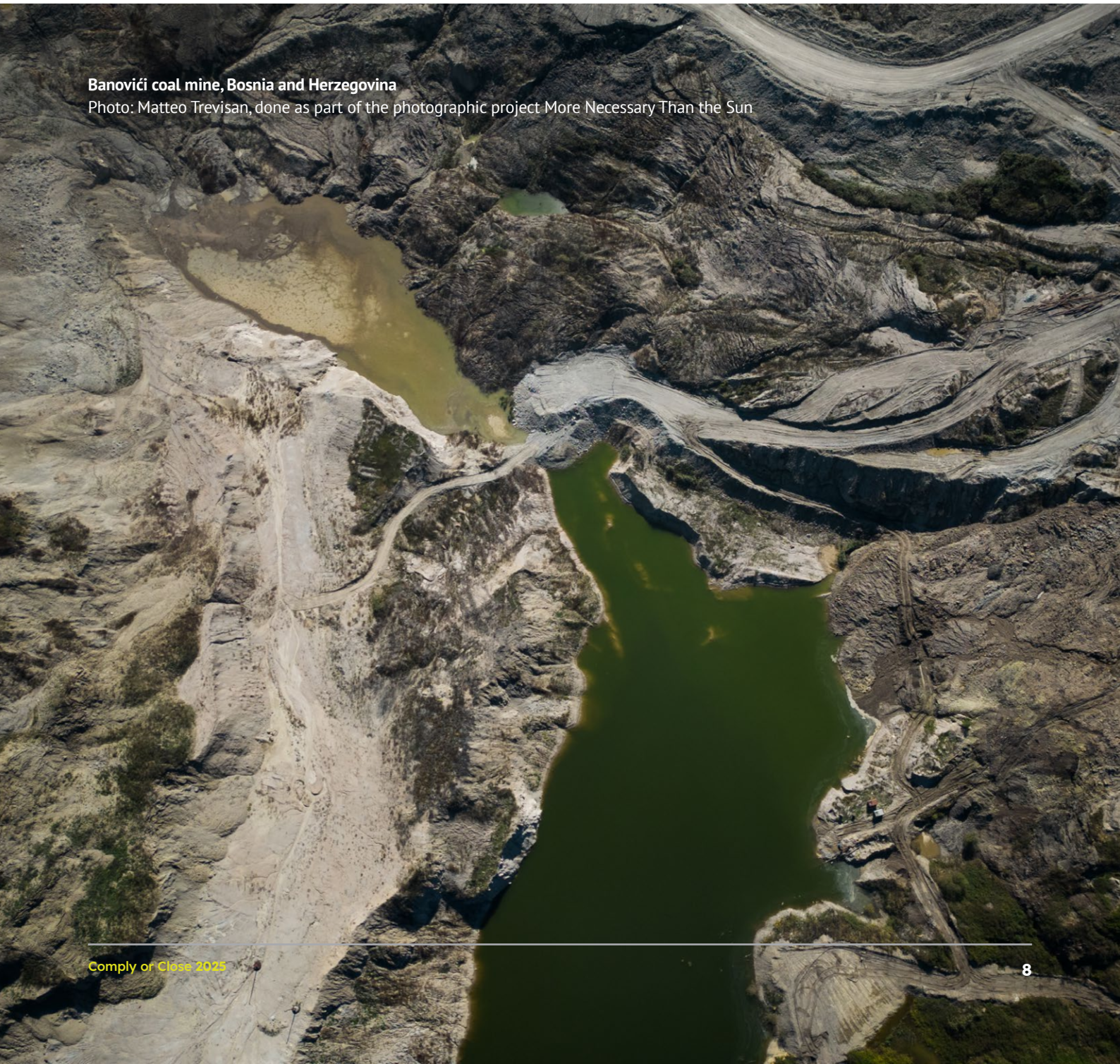
[9] The other option is to undergo major reconstruction to comply with the emission limit values for new plants under the Energy Community Treaty as the Pljevlja plant is attempting to do, but we are sceptical that this would be economically feasible.

Demand must also be reduced by other measures, both short-term and more systematic such as reducing distribution losses, insulating buildings, and the use of efficient heat pumps for heating instead of electrical resistance heaters. Such measures need to be given much higher priority than is currently the case.

The countries' final and/or updated NECPs need to contain realistic plans for a managed coal phase-out, based on their plants' real technical condition, the level of investment required to bring them into compliance with pollution control, and their lignite reserves and production capacity. North Macedonia and Montenegro in particular need to urgently clarify their coal phase-out dates, since they are likely to be first in the region.

Although the main responsibility is clearly with the Western Balkan governments, EU institutions need to step up their action as well, using all the tools at their disposal, such as conditioning EU financing and accession progress on compliance; sending clear, public political messages; and securing financing for a just transition of coal regions and switch to sustainable district heating.

The Commission also needs to propose stronger enforcement tools for the Energy Community Treaty, for the benefit of human health and the environment. If the Treaty is to further drive decarbonisation and market integration, its dispute settlement mechanism must be strengthened to include dissuasive penalties for breaches.



Banovići coal mine, Bosnia and Herzegovina
Photo: Matteo Trevisan, done as part of the photographic project More Necessary Than the Sun

Introduction

Since the implementation deadline for the Large Combustion Plants Directive (LCPD) under the Energy Community Treaty passed on 31 December 2017, we have analysed the Western Balkan countries' compliance with their National Emissions Reduction Plans (NERPs) in six editions of the Comply or Close report. This year, we look at the non-compliance in 2024 compared to the previous six years.

The LCPD was included in the Energy Community Treaty when it was signed in 2005. For a treaty whose aim is to open and unify the energy market of the EU with that of its immediate neighbours in southeast and eastern Europe, the inclusion of environmental legislation in the Treaty is crucial to level the playing field and prevent 'emissions leakage', in which countries with poorer environmental standards provide electricity to the EU.

NERPs allow countries to sum up emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x) and dust from some or all of their power plants and comply with a national level emissions ceiling, instead of having each plant comply with the emission limits stipulated in the annexes of the Directive. Developing a NERP was only one of the options for complying with the Directive; the countries chose whether to develop one or not.[10] The NERP allows combustion plants to derogate from individual compliance with the emission limit values (ELVs) for existing plants, set in Annex V, part 1 of the LCPD, until 2027. Instead, the NERP establishes periodic annual ceilings (2018, 2023, 2026 and 2027) which all plants' emissions combined must not go above, irrespective of their individual emissions. By 2027, each unit has to individually comply with the ELVs from Annex V, part 1 of the LCPD.

Until then, better performing plants for one pollutant can make up for worse performing ones, if the overall limit is met. Thus, NERPs already represent a compromise compared to full compliance by each unit: failure to even comply with NERP ceilings is thus extremely problematic.

Existing combustion plants also had an option to be exempted from the ELVs specified in the LCPD or from inclusion in a NERP if the operator opted for a limited lifetime derogation – a so-called 'opt-out'. This allowed the power plant to run for no more than 20,000 hours starting from 1 January 2018 and ending no later than 31 December 2023, without having to comply with emission limit values or ceilings. This derogation was applied to units for which either closure or complete refurbishment was planned. To operate beyond these time limits, the plants have to comply not only with the LCPD emission limit values but also with the newer and slightly stricter ones for existing plants from Annex V, part I of the Industrial Emissions Directive.

Coal plants which comply with the LCPD still have health impacts, but those which do not are increasing ill health and premature deaths unnecessarily and illegally. Complying with the NERP ceilings and opt-out conditions are therefore not just a matter of compliance, but of life and death. As demonstrated in our 2021 report, between 2018 and 2020, an estimated 19,000 people died as a result of pollution from Western Balkan coal plants, of which 12,000 were due to emissions breaches.[11] Unfortunately, the situation has changed very little since then and these figures most likely hold true today.

Taking action to reduce pollution is therefore imperative and long overdue. This seventh Comply or Close report looks at the official reported data for 2024 to see how the situation has evolved since 2018. It provides a regional overview of the results together with country profiles for Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia.

[10] Except Montenegro, which only has one large combustion plant and therefore cannot add up the total of several plants to make a national ceiling.

[11] CEE Bankwatch Network and Centre for Research on Energy and Clean Air (CREA), Comply or Close, *CEE Bankwatch Network*, September 2021.

Regional overview of pollutant emissions[12]

By 31 December 2017, the deadline for LCPD compliance in the Energy Community countries, the coal power plant operators in the Western Balkans should have invested in pollution control equipment to a sufficient degree to comply with the emission limit values from the Directive, or at least to comply with the national ceilings laid out in the National Emissions Reduction Plans. The countries had already had 12 years after signing the Treaty to do so, as the LCPD has been an integral part of the Treaty since it entered force in 2006.

But despite this, not one of the countries with large combustion plants[13] ensured that their coal power plants complied with the unit-level emission limit values from the Directive by the beginning of 2018, or even by the end of 2024, seven years later.

With the exception of Kosovo's temporary and largely unexplained compliance in 2023, from 2018 until the end of 2024, none of the four countries with NERPs – Bosnia and Herzegovina (BiH), Kosovo, North Macedonia and Serbia – complied with the ceilings for sulphur dioxide they had committed to in their NERPs either.

In March 2021, the Energy Community Secretariat opened dispute settlement cases against Bosnia and Herzegovina, Kosovo, North Macedonia and Serbia for failure to adhere to their NERP ceilings in 2018 and 2019.[14] In February 2022, it took the next step forward in the process by issuing reasoned opinions against Bosnia and Herzegovina, Kosovo and North Macedonia.[15] A reasoned opinion is the second step in the process, when the party is requested to rectify the identified issues of non-compliance within a time limit of two months. Depending on the reply from the relevant government, the Secretariat may submit the case to the Energy Community's Ministerial Council for a decision on the country's compliance with the Treaty.

On 13 July 2023, the Secretariat submitted a reasoned request to the Ministerial Council to make a decision confirming Bosnia and Herzegovina, Kosovo and North Macedonia's non-compliance, which it did in December 2023.[16] As the breaches have not been rectified, as of May 2025, the case remains open.[17]

The case against Serbia remains at the Opening Letter phase, but did not escalate due to uncertainties about the impacts of ongoing investments into pollution control equipment.

Alarmingly, the total aggregated figures reported to the European Environment Agency[18] by Bosnia and Herzegovina, Kosovo, North Macedonia and Serbia for 2024 show continued emissions breaches for all three measured pollutants – SO_2, dust and NO_x.

Although absolute sulphur dioxide emissions decreased somewhat in 2024, the sum of the emissions allowed by the countries' NERPs decreased as well, so **the overall breach was six times as high as allowed** – compared to 2023 when it was 5.7 times as high.

[12] Where available, we have used verified emissions figures from the European Environment Agency for 2018 to 2020, which may lead to some figures being somewhat different than those quoted in the previous Comply or Close reports.

[13] Albania has no functional large combustion plants. The 98 MW oil and gas plant at Vlora has never worked commercially due to technical problems.

[14] Energy Community Secretariat, Case ECS 07/21, North Macedonia/Environment, Case ECS 08/21, Kosovo*/Environment, Case ECS 09/21, Bosnia and Herzegovina/Environment, Case ECS 10/21, Serbia/Environment, *Energy Community*, accessed 26 July 2024.

[15] Energy Community Secretariat, 'Secretariat brings forward cases against three Contracting Parties for not reducing air pollution from thermal power plants', *Energy Community*, 23 February 2022.

[16] Ministerial Council of the Energy Community, Decision 2023/06/MC-EnC on the failure by Bosnia and Herzegovina to comply with the Energy Community Treaty in Case ECS-9/21, Decision 2023/05/MC-EnC on the failure by Kosovo* to comply with the Energy Community Treaty in Case ECS-8/21, Decision 2023/04/MC-EnC on the failure by the Republic of North Macedonia to comply with the Energy Community Treaty in Case ECS-7/21.

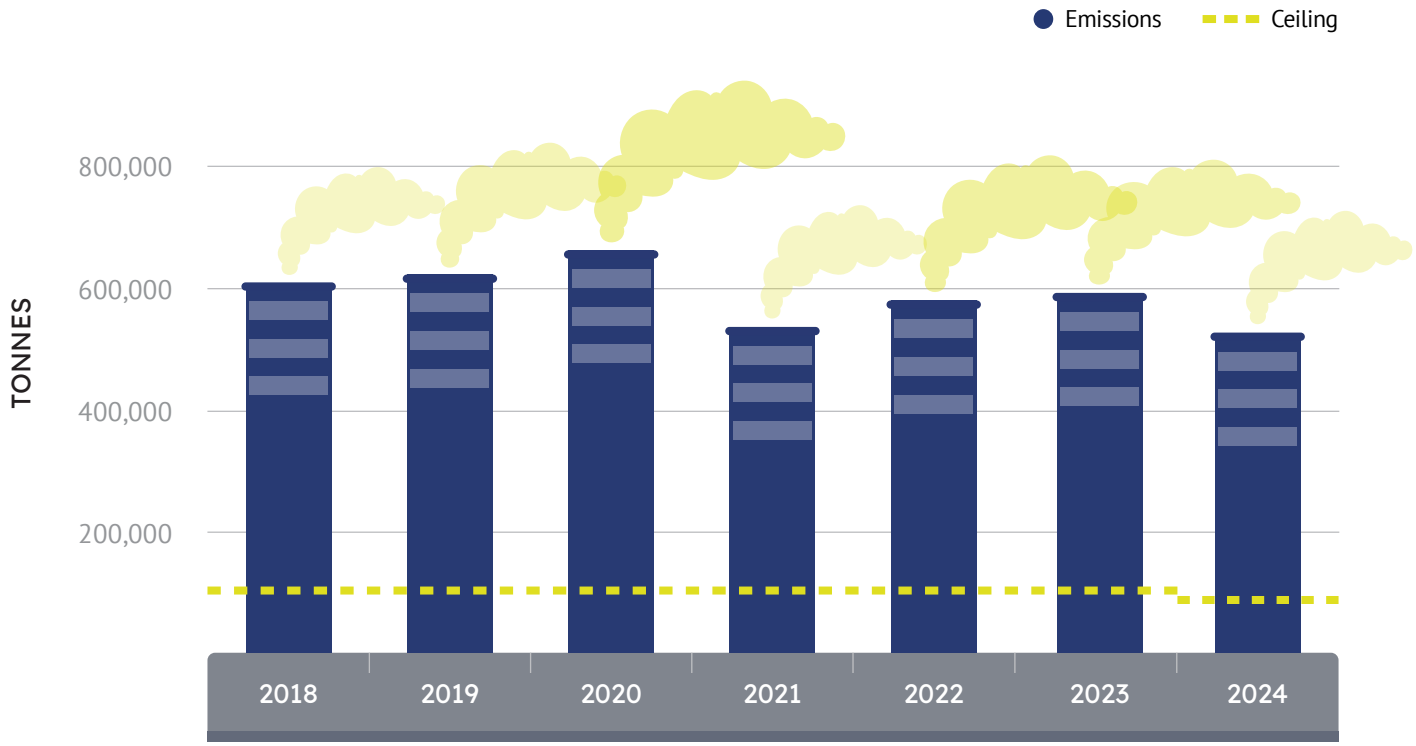
[17] Energy Community Secretariat, Case ECS 09/21, Bosnia and Herzegovina/Environment, *Energy Community*, accessed 26 July 2024.

[18] See EIONET Central Data Repository under the country name > European Union obligations > Reporting on combustion plants

Figure 1:

Sulphur dioxide emissions from the Western Balkan NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024

	2018	2019	2020	2021	2022	2023	2024
Sulphur dioxide emissions	606,467	621,553	660,700	531,466	577,684	589,644	518,248
Sulphur dioxide ceiling	103,682	103,682	103,682	103,518[19]	103,518	103,518	87,126



In 2023, for the first time since the LCPD deadline passed, Kosovo reported SO_2 emissions lower than its ceiling. But this gain was undermined by increased emissions in Serbia, and was reversed in 2024 when Kosovo once again breached its SO_2 ceiling.

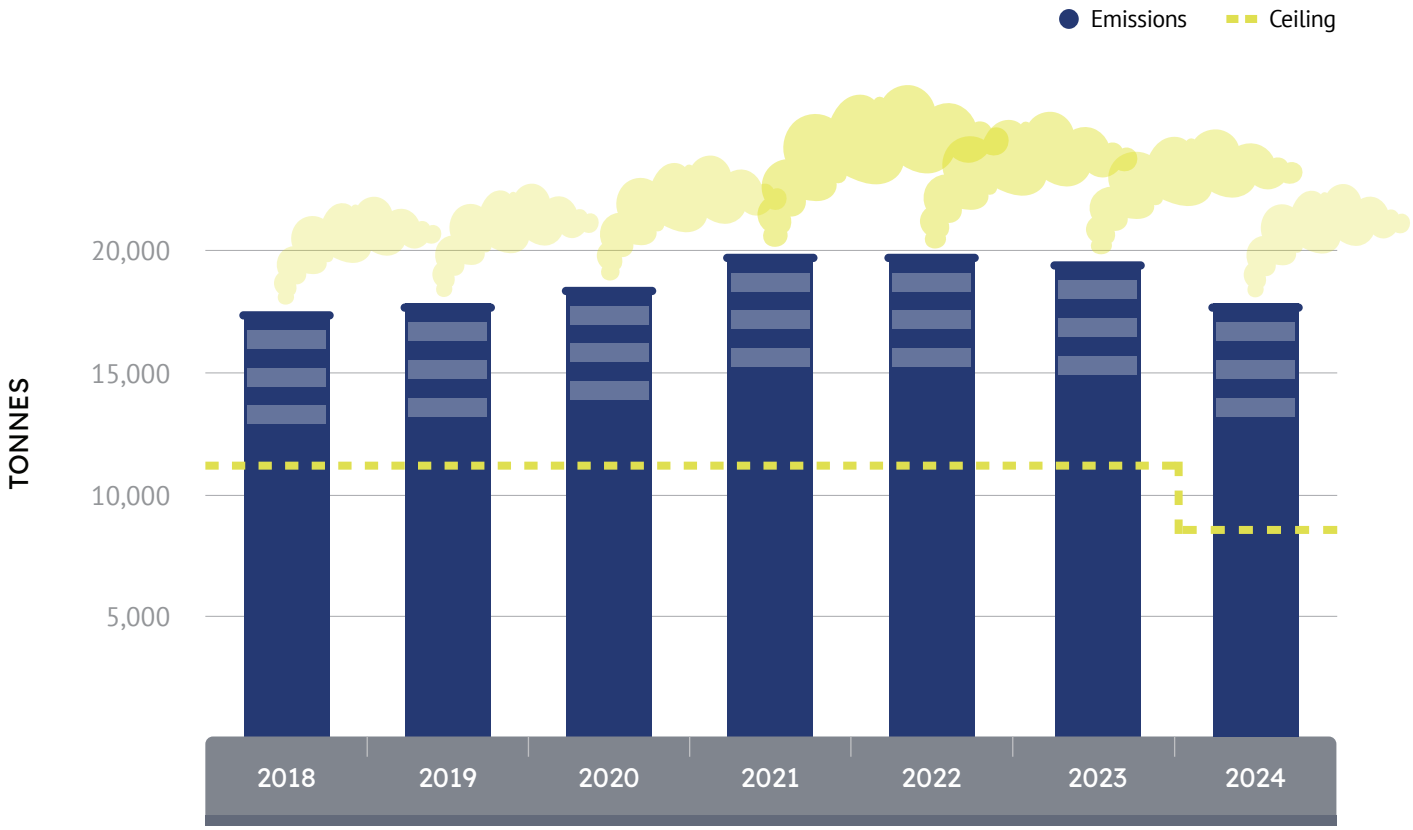
Dust emissions decreased slightly in 2024, but were 1.9 times as high as the countries' NERPs due to the decrease in ceilings.

[19] Kosovo's SO_2 ceiling dropped slightly in 2021.

Figure 2:

Dust emissions from the Western Balkan NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024

	2018	2019	2020	2021	2022	2023	2024
Dust emissions	17,414	17,557	18,246	19,808	19,859	19,611	17,348
Dust ceiling	11,200	11,200	11,200	11,180[20]	11,180	11,180	9,147



In 2023, for the first time since the LCPD deadline passed, Kosovo reported SO_2 emissions lower than its ceiling. But this gain was undermined by increased emissions in Serbia, and was reversed in 2024 when Kosovo once again breached its SO_2 ceiling.

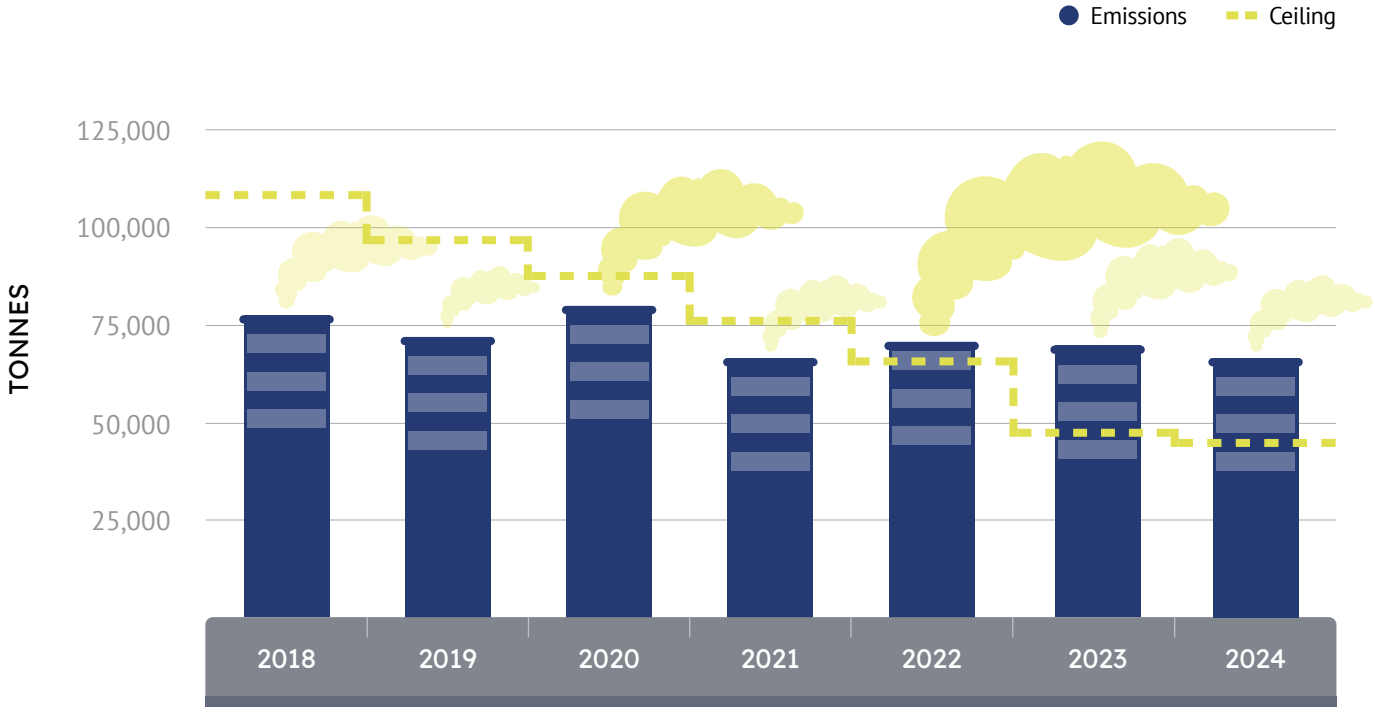
Dust emissions decreased slightly in 2024, but were 1.9 times as high as the countries' NERPs due to the decrease in ceilings.

[20] Kosovo's dust ceiling dropped slightly in 2021.

Figure 3:

Nitrogen oxides emissions from the Western Balkan NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024

	2018	2019	2020	2021	2022	2023	2024
Nitrogen oxides emissions	77,068	72,136	79,694	67,213	70,767	69,153	62,531
Nitrogen oxides ceiling	107,353	97,226	87,100	76,768	66,641	48,344	46,378



All of the above assumes that the emissions data is accurate. Yet many of the figures provided by the power plant operators are estimates rather than the result of continuous monitoring. The LCPD[21] obliges the countries to install and operate continuous emissions monitoring equipment, but to this day, almost half of the coal-fired power plants in the Western Balkans either have no such devices in place, or the devices in place do not work. Therefore, emissions data for all countries is at least partially based on estimates derived from once-monthly measurements and sometimes even measurements carried out once every three months.

In 2024, for the first time, Bosnia and Herzegovina's NERP coal plants were the highest SO_2 emitters in the region, with 212,840 tonnes, or **11.3 times as high as allowed**. This is a significant increase compared to the 181,807 tonnes emitted in 2023.

It was followed by Serbia, with 205,925 tonnes, or 4.6 times as high as allowed. Serbia's SO_2 emissions decreased compared to 2023, when they amounted to 296,011 tonnes.

[21] Article 12 of the Large Combustion Plants Directive.

In absolute terms, long-standing offender Ugljevik in Bosnia and Herzegovina was once again the unit with the highest SO_2 emissions in the region in 2024, with 112,943 tonnes. Despite the installation of a desulphurisation unit, its SO_2 increased compared to 2022, when the plant emitted 85,526 tonnes, and 2023, when it emitted 97,189 tonnes. The desulphurisation equipment clearly did not work regularly between 2022 and 2024, despite testing having reportedly finished successfully in August 2020[22] and an operating permit having been obtained for the de-SO_X in November 2021.[23] It looks increasingly doubtful that this EUR 85 million project will ever be properly utilised to bring the Ugljevik plant into compliance with its SO_2 ceilings and with the Industrial Emissions Directive limit values it needs to reach by 2027.

Nikola Tesla B in Serbia also had extremely high absolute SO_2 emissions in 2024 – 76,631 tonnes, representing only a modest decrease from 2023, when it emitted 92,260 tonnes. A desulphurisation unit is currently in the advanced stages of being installed[24] (see the section on Serbia), but the experience with Ugljevik and Kostolac B (see below) shows there is no guarantee that compliance will follow.

Although individual unit-level ceilings are not binding – only country-level ones are – looking at breaches of these unit-level limits can give a good indication of where particular action is needed.

In 2024, no fewer than six units exceeded their ceilings for sulphur dioxide emissions by more than ten times:

- Ugljevik, Bosnia and Herzegovina: 14 times
- Kostolac A2, Serbia: 13.2 times
- Tuzla 6, Bosnia and Herzegovina: 11.9 times
- Gacko, Bosnia and Herzegovina: 11.7 times
- Kakanj 7, Bosnia and Herzegovina: 11.7 times
- Bitola B 1 & 2, North Macedonia: 11.4 times

Kostolac B, one of the highest absolute and relative sulphur dioxide emitters from 2018 to 2020, finally started to decrease its emissions in 2024, but it still emitted 2.3 times as much as allowed, or 15,218 tonnes. Despite having a desulphurisation unit installed, after a decrease in 2021, its SO_2 emissions increased in 2022 and 2023. The de-SO_X, installed by the China Machinery Engineering Corporation (CMEC), was formally inaugurated in 2017, yet only obtained an operating permit in January 2023.[25]

For dust, the absolute highest emitter in the region was Kosova B2 in Kosovo. It emitted 3,798 tonnes – a large increase from 2,517 tonnes in 2022, and 9.2 times as much as allowed under Kosovo's NERP. This was even more than in 2023, when it emitted 3,241 tonnes, but still lower than in 2022 (3,649 tonnes).

Other very high dust emitters in the region are the Kosova B1 unit, which emitted 2,635 tonnes in 2024, or 6.4 times as much as allowed, and Kosova B2, which emitted 2,304 tonnes, or 5.6 times as much as allowed.

For nitrogen oxides, Nikola Tesla B in Serbia had by far the highest absolute emissions in 2024, at 12,418 tonnes – even higher than its 2023 emissions of 11,633 tonnes.

[22] RiTE Ugljevik, 'Izuzetni rezultati u zaštiti životne sredine', *RiTE Ugljevik*, 27 August 2020.

[23] Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, Decision no. 15.03-360-164/21.

[24] Joint Stock Company Elektroprivreda Srbije, 2024 Environmental Report, *JSC EPS*, 83, March 2025.

[25] Renewables and Environmental Regulatory Institute (RERI), Desulphurisation in the Western Balkans, *Renewables and Environmental Regulatory Institute (RERI)*, March 2023.

In relative terms, Kosova A5 was the worst offender for nitrogen oxides in 2024, emitting 3.9 times as much as allowed, or 2,472 tonnes.

All three countries with plants that entered the opt-out regime are still in breach of the LCPD.

Eight units in Bosnia and Herzegovina, Montenegro and Serbia entered the so-called 'opt-out' regime in 2018: Tuzla 3 and 4, Kakanj 5, Pljevlja, Morava, Kolubara A3 (boiler 1), Kolubara A3 (boilers 3, 4, 5) and Kolubara A5.[26] But not one of them has complied with the relevant ELVs, despite the 31 December 2023 deadline having passed long ago and most of them having exceeded their 20,000-hour limits. In 2024, only Tuzla 3 had no reported operating hours, but it has not been officially closed either (see the section on Bosnia and Herzegovina).

The Pljevlja plant in Montenegro is undergoing a retrofit, and the lifetime of Tuzla 4 and Kakanj 5 in Bosnia and Herzegovina was illegally extended by a decision of the Federation of BiH Parliament in March 2022.[27] In early 2023, Elektroprivreda Srbije (EPS) announced it would close the Kolubara and Morava plants at the end of 2024,[28] but this did not happen and the country's energy strategy now mentions 2030 (see the section on Serbia).

Due to breaches of the opt-out provisions, the Energy Community Secretariat opened dispute settlement cases against Montenegro in April 2021,[29] Bosnia and Herzegovina in October 2022,[30] and Serbia in October 2023.[31]

Overall, seven years after the LCPD compliance deadline passed in the Energy Community, the situation remains appalling. Since 2018, emissions covered by the NERPs have barely decreased for sulphur dioxide, nitrogen oxides or dust. None of the opt-out plants have permanently closed. Yet not a single plant operator has been fined for these flagrant breaches.

[26] Energy Community Secretariat, Energy Community Secretariat's Summary Report on the final list of opted-out plants, *Energy Community*, April 2018.

[27] Energy Community Secretariat, 'Environmental concerns increase with decision on lifetime extension of Tuzla 4 and Kakanj 5', *Energy Community*, 25 March 2022.

[28] Vladimir Spasić, 'EPS sets out plan for shutting down coal power plants', *Balkan Green Energy News*, 16 February 2023.

[29] Energy Community Secretariat, 'Case ECS-15/21: Montenegro / Environment', *Energy Community*, accessed 19 May 2025.

[30] Energy Community Secretariat, 'Secretariat launches dispute settlement procedure against Bosnia and Herzegovina for breaching Large Combustion Plants Directive in the case of Tuzla 4 and Kakanj 5'.

[31] Energy Community Secretariat, 'Secretariat launches dispute settlement procedure against Serbia for breaching the Large Combustion Plants Directive in the case of TPP Morava'.

Kosova A power plant, Kosovo
Photo: Matteo Trevisan, done as part of the photographic project More Necessary Than the Sun

CBAM is coming, yet no country has a clear plan

Governments and utilities have for years presented coal as a reliable domestic source of energy in the Western Balkans, but this view is now outdated and at odds with reality. As of 2025, the average age of the region's coal power units is 48 years. Utilities are trying to squeeze every last drop of life out of them through expensive retrofits, like the EUR 137 million one announced for Kosova A3 in January 2025 or the EUR 80 million one ongoing at Pljevlja in Montenegro, but it is unclear whether they will succeed. Planned and unplanned outages at coal plants are increasingly common.

In recent years, coal supply has been a major issue for North Macedonia and Serbia, forcing them to turn to costly imports. In the winter of 2024 and 2025, the Ugljevik plant in Bosnia and Herzegovina also closed twice due to lack of coal, despite having a captive mine, and coal production reportedly halved between 2018 and 2023 in the Federation of BiH.[32]

Combined with other factors such as high reliance on climate-vulnerable hydropower, high gas prices that translate into high power import prices, and relatively late and slow development of wind and solar projects, the Western Balkans' power supply is under pressure. This has been used as an excuse by utilities and governments to illegally extend the lifetime of the Tuzla 4 and Kakanj 5 units in Bosnia and Herzegovina and to keep operating the Morava and Kolubara plants in Serbia and the Pljevlja plant in Montenegro. The immediate crises that hit some of the countries from 2021 to 2023 have been abated for now, but for how long remains unclear.

On the one hand, there have been some advances in wind and solar installation: 2023 and 2024 saw a speed-up in solar, particularly in North Macedonia, which reached almost 850 MW of installed solar capacity by the end of 2024, contributing 14 per cent of domestic electricity generation.[33] This, together with a slight decrease in demand, enabled the country to reduce annual net electricity imports from an average of 20-30 per cent of consumption to just 2.75 per cent in 2023.[34] However, this figure increased again to 11 per cent in 2024; the reasons for this are unclear.[35] Coal still made up 38 per cent of domestic generation in 2024 – yet according to its current NECP, the country should be phasing it out by 2027, or 2029 at the latest.[36]

Bosnia and Herzegovina and Montenegro are usually net electricity exporters but in the first quarter of 2025, BiH became a net importer[37] for the first time in decades. With the Pljevlja plant offline for seven and a half months starting at the end of March 2025, Montenegro will have to import for some time as well.

All this is without the EU's Carbon Border Adjustment Mechanism (CBAM) having even kicked in yet. From the beginning of 2026, coal's economic outlook in the Western Balkans will be even worse, as its electricity exports to the EU will be subject to CBAM charges based on the carbon intensity of their electricity mix. The impacts of this do not depend on the countries being net exporters, but rather on how much electricity they export overall and its share in their electricity mix.

For this reason, Bosnia and Herzegovina, Montenegro and North Macedonia are expected to be the worst affected. The first two have lower than usual exports at the moment, but they still exist and if the Pljevlja retrofit goes as planned and 2025 has sufficient rainfall, both countries are expected to become net exporters again. North Macedonia, on the other hand, is not a net exporter, but is bordered by two EU countries and trades a significant share of its generation with them.[38]

[32] Ermin Zatega, 'Kako je Bosna i Hercegovina postala ovisna o uvoznoj električnoj energiji?', *Radio Slobodna Evropa*, 1 May 2025.

[33] Energy, Water Services and Municipal Waste Management Services Regulatory Commission of the Republic of North Macedonia (ERC), Annual Report 2024, *ERC*, April 2025.

[34] Energy, Water Services and Municipal Waste Management Services Regulatory Commission of the Republic of North Macedonia (ERC), Annual Report 2023, *ERC*, April 2024.

[35] Energy, Water Services and Municipal Waste Management Services Regulatory Commission of the Republic of North Macedonia (ERC), Annual Report 2024.

[36] The final version contains an extra paragraph with an option to extend the deadline until 2029. Government of the Republic of North Macedonia, National Energy and Climate Plan of the Republic of North Macedonia, *Government of the Republic of North Macedonia*, 31 May 2022.

[37] Ermin Zatega, 'Kako je Bosna i Hercegovina postala ovisna o uvoznoj električnoj energiji?'.

[38] For more details, see Ioana Ciuta and Pippa Gallop, The Western Balkan Power Sector - Between crisis and transition, *CEE Bankwatch Network*, December 2022.

Since household electricity prices are regulated at lower than cost price in the Western Balkans, the utilities depend on higher-priced exports for their income, and any drop in exports will hit them significantly.

None of the countries can say they didn't see CBAM coming, as it has been discussed at the EU level at least since the European Green Deal was announced in December 2019. They could have been exempted from their electricity exports being subject to CBAM charges if they had coupled their electricity markets with EU ones, introduced carbon pricing at the level of the EU Emissions Trading System, and satisfied several other conditions, but progress has been slow.

Despite this perfect storm brewing, none of the countries has a clear and workable plan for how to deal with it.

Western Balkan governments had to submit their draft National Energy and Climate Plans (NECPs) to the Energy Community Secretariat by the end of June 2023 and their final plans by the end of June 2024. These should have finally clarified the countries' plans for their coal power plants to comply or close, but only North Macedonia and Albania had approved NECPs well before the deadline, and these need to be updated to reflect the Energy Community 2030 targets as well as the situation on the ground.

North Macedonia's first NECP[39] set the country's coal phase-out for 2027, with an option to extend this until 2029.[40] The draft update of the NECP from 2025 moves the coal phase-out date to 2030. According to the draft, Oslomej should be decommissioned in 2026, a seven-year delay compared to the country's energy strategy, and Bitola will close one unit every year in the period between 2028 and 2030. One of Bitola's units is planned to be replaced with a 200 MW combined heat and power (CHP) gas plant in 2028: considering the permitting and construction time, as well as the current availability of gas transportation infrastructure, this seems highly unlikely. It would also result in a new fossil fuel lock-in and dependence on imported and costly gas.

In July 2024, Serbia also approved a final NECP,[41] but this document is far from clear on how coal phase-out will happen. The country is also woefully unprepared for a just transition of its coal-dependent communities.

Bosnia and Herzegovina and Kosovo submitted draft NECPs in June and July 2023 but as of mid May 2025 have not yet adopted them. The drafts outlined some steps to be taken before 2030 regarding coal plants while leaving some details unclear. Neither of them named coal phase-out dates earlier than the overall 2050 EU carbon neutrality deadline.

Montenegro only submitted a draft NECP to the Energy Community Secretariat in December 2024,[42] and as of May 2025 has not even published it for public consultation. The country had previously committed to a coal phase-out date of 2035,[43] but the draft NECP names a variety of dates, including 2035 and 2040. Economic reality is likely to force closure before then, however, and the country's current wind and solar development is too slow to replace the existing capacity.

All the issues facing the Western Balkans coal sector need to be tackled in a coherent way, but this requires a good understanding of the EU political and economic landscape regarding energy, as well as political will and courage, all of which are sorely lacking among governments in the region, who are instead grasping at expensive and outdated plans such as gasification and desulphurisation.

Gasification would be a major and very costly mistake for a region which is much less dependent on fossil gas than the EU, and it threatens to distract attention from more relevant and future-proof technologies like appropriately sited solar and wind, heat pumps and geothermal.[44]

Desulphurisation and equipment for the reduction of nitrogen oxides emissions could have made sense if work started in earnest when the Energy Community Treaty entered force back in 2006, but the time has long since passed when legal compliance could be tackled on its own. Either the governments need to make plans for controlled closure and a just transition of coal communities right now, or an uncontrolled closure will happen on its own.

[39] Government of the Republic of North Macedonia, National Energy and Climate Plan of the Republic of North Macedonia, Draft, *Government of the Republic of North Macedonia*, July 2020.

[40] Government of the Republic of North Macedonia, National Energy and Climate Plan of the Republic of North Macedonia.

[41] Government of Serbia, Integrisani nacionalni energetski i klimatski plan republike Srbije za period do 2030. sa vizijom do 2050. Godine, *Ministry of Mining and Energy of the Republic of Serbia*, 1 August 2024.

[42] Energy Community Secretariat, Governance and National Energy and Climate Plans – Montenegro draft NECP, *Energy Community*, submitted 9 December 2024.

[43] Beyond Fossil Fuels, Europe's coal exit - Overview of national coal phase out commitments, *Beyond Fossil Fuels*, last updated 10 June 2024.

[44] With capture of any harmful gases and reinjection of the water.

Country profiles

Bosnia and Herzegovina (BiH)

Compliance with the NERP ceilings in 2024

Bosnia and Herzegovina's NERP[45] covers seven coal-fired units[46] and one smaller industrial power plant using heavy fuel oil. Of these, two units, Gacko and Ugljevik, are in Republika Srpska, and the Tuzla and Kakanj plants – which each have two units in the NERP – are in the Federation of Bosnia and Herzegovina (FBiH).

Another three units – Tuzla 3, Tuzla 4 and Kakanj 5[47] – were subject to limited lifetime derogations ('opt-outs') (see the section below).

BiH also has one newer plant which does not qualify for inclusion in the NERP – Stanari, in Republika Srpska, which officially started operations in September 2016 and was obliged to comply with LCPD limit values for new plants as soon as it started operating.

Once again in 2024, Bosnia and Herzegovina's NERP coal plants did not comply with the ceilings for any of the regulated pollutants: sulphur dioxide, dust or nitrogen oxides.

In fact, in 2024 **sulphur dioxide emissions from the NERP plants in BiH significantly increased** compared to the previous year. They reached more than eleven times as much as allowed – 212,840 tonnes, compared to the ceiling of 18,862 tonnes. In 2023 the NERP units emitted 181,807 tonnes of SO_2, or 8.2 times as much as allowed. Although BiH's allowed SO_2 ceiling was slightly lower in 2024 compared to 2023, the majority of the worsening is caused by higher absolute emissions rather than the lower ceiling.

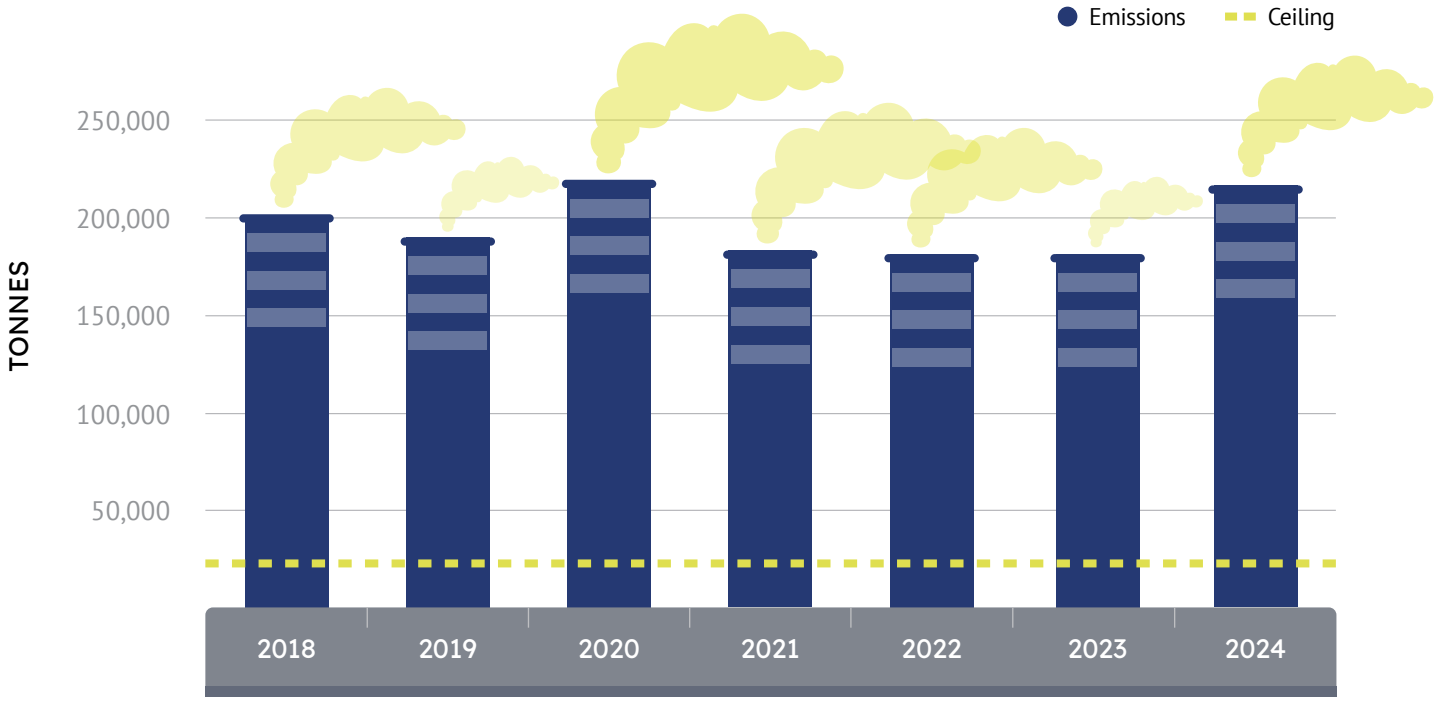
[45] USAID, Draft National Emission Reduction Plan for Bosnia and Herzegovina, *Energy Community*, November 2015.

[46] The NERP text also includes Kakanj 5 and Tuzla 4, but these were later approved as opt-out plants, so the real ceilings for BiH do not include the contributions of these plants.

[47] Energy Community Secretariat, Report on the final list of opted-out plants.

Figure 4:

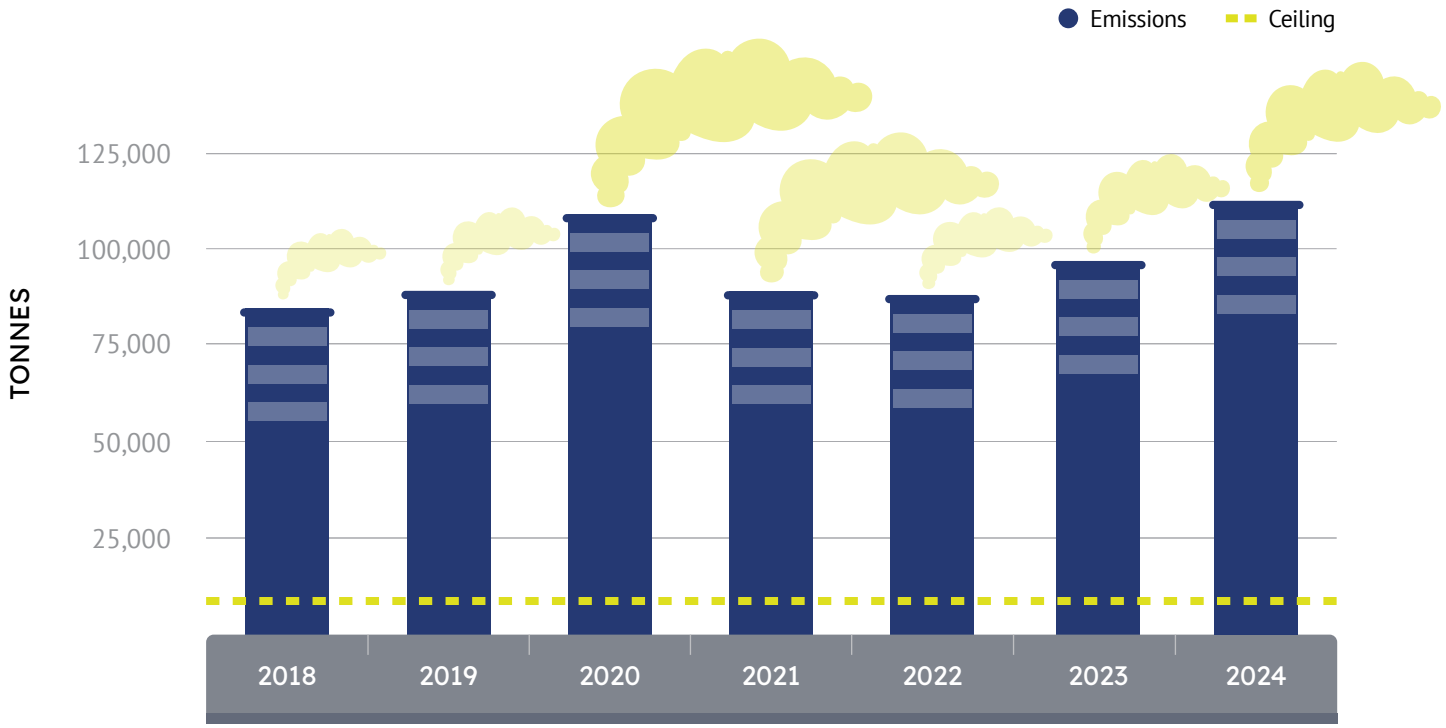
Sulphur dioxide emissions from Bosnia and Herzegovina's NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024



The worst offender in BiH and regionally in 2024 in terms of absolute emissions was once again Ugljevik, whose desulphurisation equipment clearly did not operate, despite an operating permit having been obtained in November 2021.[48] **Its 2024 emissions of 112,943 tonnes were at their highest level since the LCPD entered force in 2018.**

[48] Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, Decision no. 15.03-360-164/21.

Figure 5:
Sulphur dioxide emissions from Ugljevik, compared to the individual emissions ceiling, 2018 to 2024

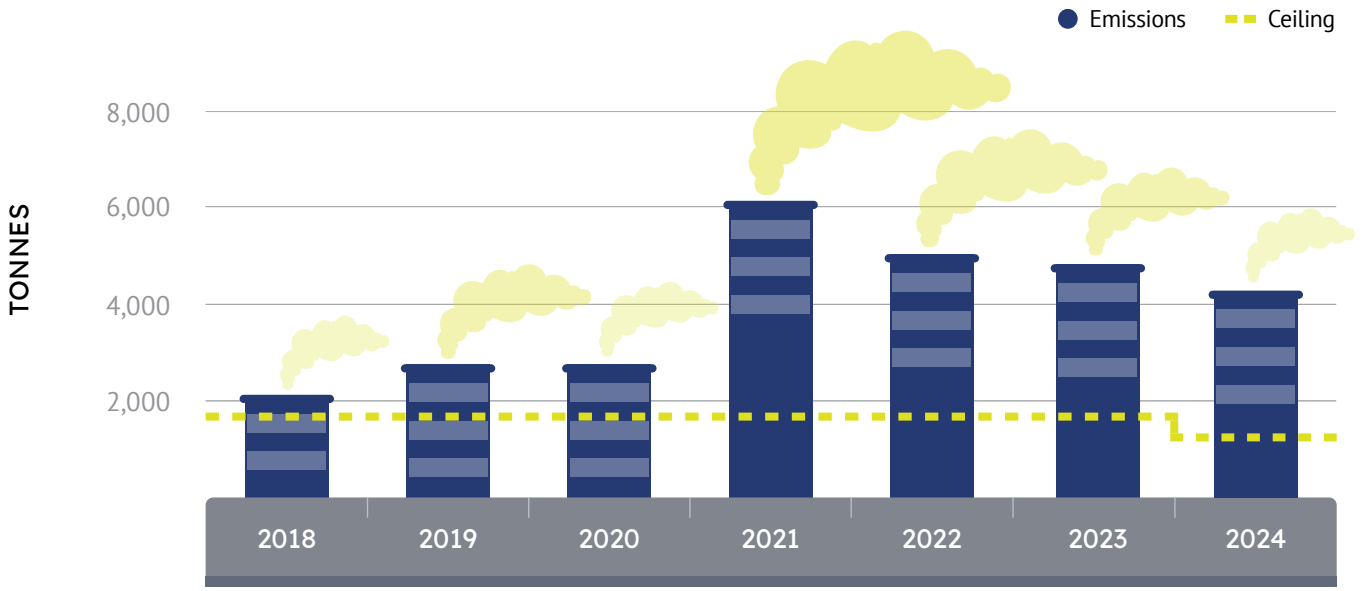


In 2024, Ugljevik also had the highest exceedance for sulphur dioxide in Bosnia and Herzegovina – 14 times as much as allowed. But Gacko, Kakanj 7 and Tuzla 6 also all emitted more than 11.5 times as much SO_2 as allowed.

In 2024, dust emissions from Bosnia and Herzegovina's NERP plants amounted to 4,146 tonnes. This was slightly less than in 2023 (4,647 tonnes) and represented a decrease from the 2021 peak of 6,040 tonnes, but was still massively more than the 2,686 tonnes emitted in 2020. Though the absolute emissions somewhat decreased in 2024, so did the allowed ceiling for emissions, so the overall exceedance was higher (3.1 times as much as allowed) compared to the previous year (2.8 times).

Figure 6:

Dust emissions from Bosnia and Herzegovina's NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024



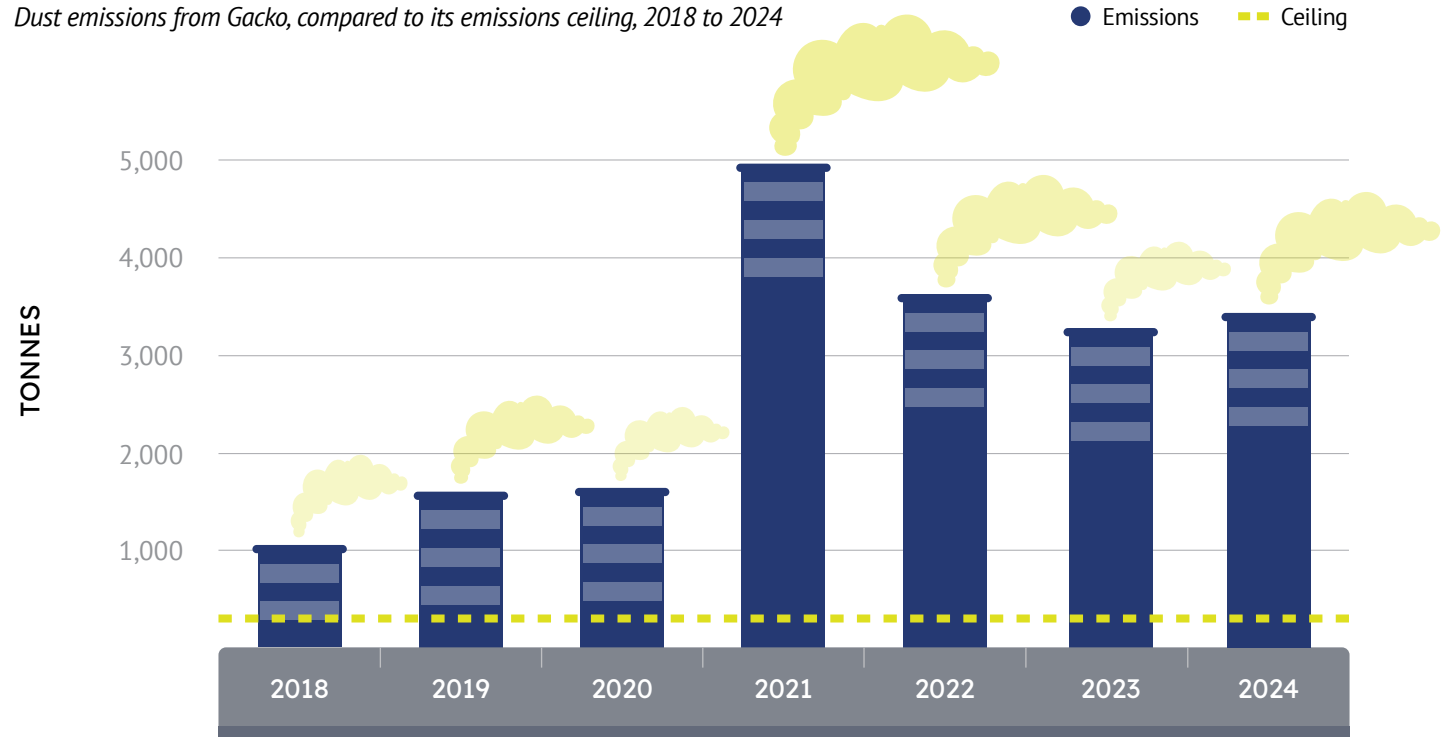
By far the main culprit was the Gacko plant, whose dust emissions amounted to 13.7 times as much as allowed in 2024. After people from the Nadinići area held a protest due to the pollution in May 2023,[49] it seemed that finally some attempts to resolve the problem were being made. By October 2023, some improvements could be seen. However, it was also warned that this was a temporary solution and further investments would be needed.[50] The 2024 measurements show that indeed, overall, the situation has barely improved.

[49] Kroz Staru Hercegovinu, 'RiTE Gacko: Saopštenje za javnost', *Kroz Staru Hercegovinu*, 16 May 2023.

[50] Radio Televizija Republike Srpske, 'Gacko: Privremeno riješen problem zagađenja vazduha', *RTRS Vijesti*, 28 October 2023.

Figure 7:

Dust emissions from Gacko, compared to its emissions ceiling, 2018 to 2024



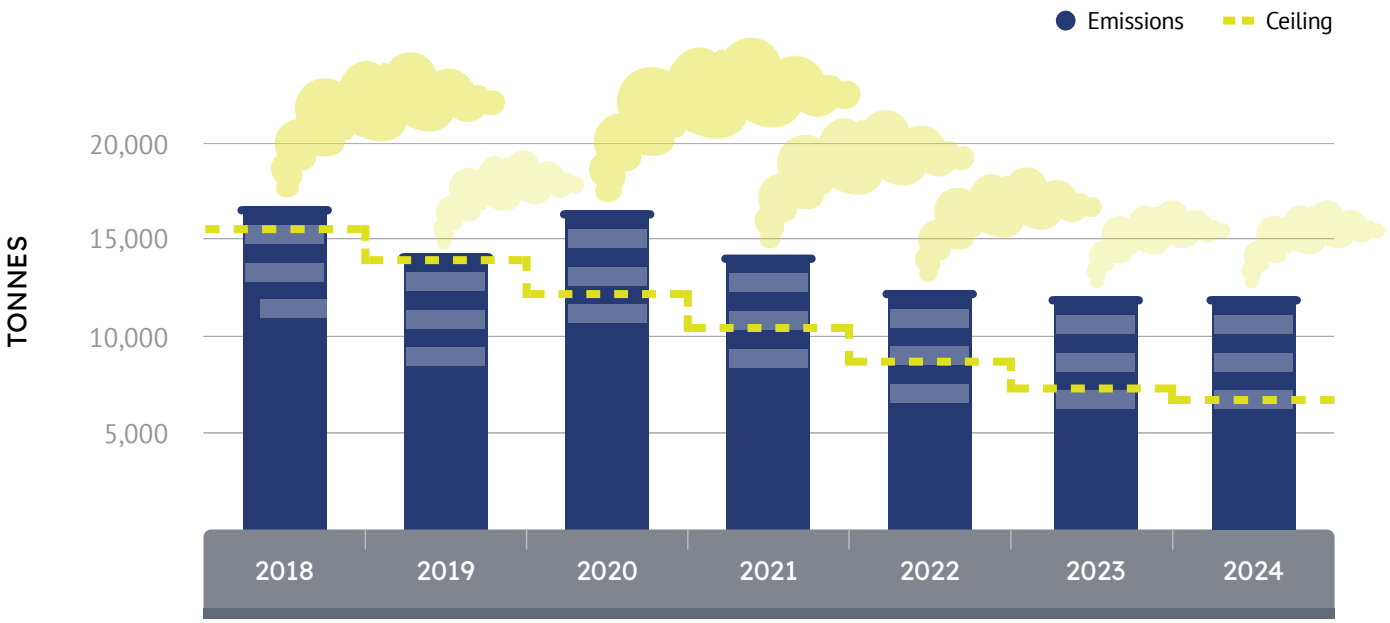
Nitrogen oxides emissions from BiH's NERP coal units in 2024 totalled 11,632, compared to the allowed ceiling of 6,867 tonnes. This was almost the same as in 2023 (11,752 tonnes).

Nevertheless, BiH's NO_x exceedances are continually increasing, because the NERP ceiling for NO_x drops steadily each year. In 2024, NO_x emissions were 1.7 times as high as the ceiling – slightly higher than 2023 when they were 1.6 times as high.

In 2024, Gacko had the highest exceedance for NO_x, with 2.6 times as much as allowed. Kakanj 7's NO_x emissions were also just over twice as much as allowed.

Figure 8:

Nitrogen oxides emissions from Bosnia and Herzegovina's NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024



Bosnia and Herzegovina (2024)

SO_2 ceiling[51]	SO_2 emissions	Dust ceiling	Dust emissions	NO_x ceiling	NO_x emissions
18,862	212,840	1,333	4,146	6,867	11,632

In March 2021, due to the breaches of the overall NERP ceilings, the Energy Community Secretariat opened a dispute settlement case against Bosnia and Herzegovina, along with cases against other countries. On 13 July 2023, the Secretariat submitted a reasoned request to the Ministerial Council to make a decision confirming non-compliance, which it did in December 2023.[52] As the breaches have not been rectified, as of the end of July 2024, the case remains open.[53]

Overall in Bosnia and Herzegovina, since 2018, sulphur dioxide and dust emissions from NERP plants have increased, while only nitrogen oxide emissions have decreased somewhat, despite a lack of investments in denitrification equipment.

[51] The original BiH ceilings in the NERP included Kakanj 5 and Tuzla 4, which were later included in the opt-out regime, so the calculations for the ceiling were based on the sum of the ceilings for the other plants.

[52] Ministerial Council of the Energy Community, Decision 2023/06/MC-EnC on the failure by Bosnia and Herzegovina to comply with the Energy Community Treaty in Case ECS-9/21.

[53] Energy Community Secretariat, Case ECS 09/21, Bosnia and Herzegovina/ Environment.

'Opting out' of compliance

As mentioned above, Tuzla 3, Tuzla 4 and Kakanj 5[54] were subject to so-called 'opt-out' rules, which allowed them to run for a total of 20,000 hours between 1 January 2018 and 31 December 2023. After this, they either had to close or comply with the emission limit values for new plants under the Industrial Emissions Directive.

By the end of 2023, Tuzla 3 had used up 19,476 hours since 1 January 2018, but due to the expiry of the deadline, had to close in any case. No operating hours were reported for 2024, but no announcements have been made about its closure either.[55] Controversial plans exist for its replacement by a biomass plant, but few details are publicly available.[56]

As explained in previous *Comply or Close* reports,[57] Tuzla 4 and Kakanj 5 have continued to work after their legal expiry date. After using up their 20,000 hours, they could only be operated if they met the emission limit values set out in Part 2 of Annex V to Directive 2010/75/EU.[58] Nowhere in the documentation provided by the plants' operator, Elektroprivreda Bosne i Hercegovine (EPBiH), to the government or in the documentation provided by the government to the FBiH parliament did it suggest that any investments are planned that would make such compliance possible.

In October 2022, the Energy Community Secretariat opened a second case against Bosnia and Herzegovina for non-compliance with the Large Combustion Plants Directive.[59]

Ongoing investments in pollution control

In 2024, the only potentially significant development regarding pollution control was the signing of a contract with Dongfang Electric International Corporation from China, ITC from Zenica, the State Power Investment Group Yuanda Environmental Protection Engineering Co. Ltd. from China, Saraj Inženjering from Sarajevo, Winner from Sarajevo and Firing from Visoko for the construction of a desulphurisation unit for Kakanj units 6 and 7. It is projected to cost just under EUR 63 million – considerably less than the EUR 85 million required for Ugljevik, even without taking inflation into account – and should be completed in 26 months.[60] However, based on the slow progress being made by a Dongfang-led consortium on the rehabilitation of Montenegro's Pljevlja plant and the price rises associated with the project (see the section on Montenegro), this may not be the final cost or deadline.

In the press release announcing the Kakanj desulphurisation deal, Elektroprivreda BiH also announced that a tender for desulphurisation for unit 6 of the Tuzla power plant is ongoing, but as of early May 2025 it does not seem to have been concluded.

EPBiH's latest business plan[61] expects the company to invest in the 'reconstruction' of Kakanj 7; desulphurisation and denitrification at Kakanj and Tuzla; and 'revitalisation' of Tuzla 4, which is already 54 years old and should have closed under the opt-out system. Together with some smaller projects, these are estimated to cost a total of BAM 528 million, or around EUR 264 million, most of which should come from the company's own funds.[62] Given the company's poor financial situation[63] and expected impacts of the EU's carbon border adjustment mechanism (CBAM), which will begin in 2026, this seems somewhat optimistic.

Bosnia and Herzegovina has so far not come up with a clear plan to phase out coal. Official projections[64] that several of the NERP plants will operate beyond 2030 are not realistic. Even counting the newer Stanari plant which opened in 2016, BiH's coal plants are on average 45 years old. The NERP plants have a slightly lower average of 43 years, but only Ugljevik has desulphurisation equipment, and even that is not being utilised. So it is hard to imagine that installing de-SO_x in the remaining plants makes sense, either economically or even environmentally, considering the country's deficiencies in the rule of law. But continuing with current pollution levels is extremely damaging to human health, as well as illegal, so interim solutions before closure need to be found.

[54] Energy Community Secretariat, Report on the final list of opted-out plants.

[55] The Elektroprivreda BiH *Business Plan 2025-2027* does not mention the unit. See Elektroprivreda BiH, Plan poslovanja za period 2025. - 2027. godina, *Elektroprivreda BiH*, 10 December 2024. On the other hand, the Independent System Operator's Indicative Generation Development Plan 2025 to 2034 states that it has been offline since 2024 but a smaller unit running on biomass is planned as a replacement from 2030 onwards. See NOSBiH, Indikativni plan razvoja proizvodnje 2025-2034, *Nezavisni operator sistema u Bosni i Hercegovini*, June 2024.

[56] Klix, 'Šta bi značio prelazak Bloka 3 Termoelektrane Tuzla na biomasu i kada bi se to moglo desiti', *Klix.ba*, 21 January 2024.

[57] CEE Bankwatch Network, Comply or Close 2022 report update, *CEE Bankwatch Network*, June 2022.

[58] Energy Community Ministerial Council, D/2015/07/MC-EnC: On amending Decision D/2013/05/MC-EnC of 24 October 2013 on the implementation of Directive 2001/80/EC of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from large combustion plants and on amending Annex II of the Energy Community Treaty, *Energy Community*, 16 October 2015.

[59] Energy Community Secretariat, 'Secretariat launches dispute settlement procedure against Bosnia and Herzegovina for breaching Large Combustion Plants Directive in the case of Tuzla 4 and Kakanj 5'.

[60] Elektroprivreda Bosne i Hercegovine, Potpisan Ugovor za projekat odsumporavanja u TE „Kakanj", *Elektroprivreda Bosne i Hercegovine*, December 2024.

[61] Elektroprivreda Bosne i Hercegovine, Plan poslovanja za period 2025 - 2027. godina.

[62] Ibid.

[63] Elektroprivreda Bosne i Hercegovine, 'Korigovan Finansijski izvještaj o poslovanju za 2023. godinu - gubitak 331 milion KM', *Elektroprivreda Bosne i Hercegovine*, 5 July 2024. Its financial report for 2024 does not seem to be available as of early May 2025.

[64] E.g. from the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina, Framework Energy Strategy of Bosnia and Herzegovina until 2035, *Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina*, 69, accessed 2 April 2025.

Banovići coal mine, Bosnia and Herzegovina
Photo: Matteo Trevisan, done as part of the photographic project More Necessary Than the Sun

Regarding Ugljevik, as mentioned above and discussed in more detail in previous editions of *Comply or Close*, the plant obtained an operating permit for the de-SO_x unit in November 2021.[65] But this has not resulted in a decrease in emissions, and it does not look likely that it will do so any time soon. The plant operator RiTE Ugljevik stated in an April 2023 response to the Center for Environment that the desulphurisation unit is not operating continuously because it represents an 'economic burden'. Although evidently non-compliant, the operator was granted a new environmental permit until 2029.

Pollution is also far from the only problem faced by the Ugljevik and Gacko plants at the moment. In the winter of 2024 and 2025, Ugljevik went offline twice due to a lack of coal, and in February 2025 Republika Srpska Minister for Energy and Mining Petar Đokić was quoted saying it would be cheaper to build a new coal power plant than to maintain the existing ones, as around EUR 357 million would be needed to modernise them.

But it is hard to see where the funds would come from for a new plant as well. Comsar Energy's Ugljevik III plant has repeatedly received approvals for environmental impact assessments and environmental permits—which have been disputed in court for years—despite obvious legal breaches in the process and gaps in the studies, but has failed to secure funds. The same goes for the Gacko II plant, promoted by Elektroprivreda Republike Srpske for at least ten years already, which is undergoing an environmental impact assessment process but has no confirmed sources of financing.[70]

[65] Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, Decision no. 15.03-360-164/21.

[66] RiTE Ugljevik, Letter no: 14047/23, 18 April 2023.

[67] Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, Renewal of Environmental Permit No. 15.4.1-96-73/24, 12 August 2024.

[68] Vladimir Spasić, 'Jeftinije izgraditi novu termoelektranu, nego održavati Gacko i Ugljevik', *Balkan Green Energy News*, 5 February 2025.

[69] CEE Bankwatch Network, Ugljevik III lignite power plant, Bosnia and Herzegovina, *CEE Bankwatch Network*, last updated January 2024.

[70] Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, Decision no. 15.4.1-96-150/23, 22 January 2024.

Kosovo

Compliance with the NERP ceilings in 2024

All of Kosovo's five coal-fired units (Kosova A3, A4 and A5 and Kosova B1 and B2) are included in the NERP.

In 2024 Kosovo's coal fleet was again in breach of all three pollutants' national ceilings, despite a slight reduction in SO_2 emissions in the previous year. Only Kosova A3 managed to comply with its SO_2 ceiling, but this had nothing to do with pollution control — rather, it can be attributed to lower operating hours.

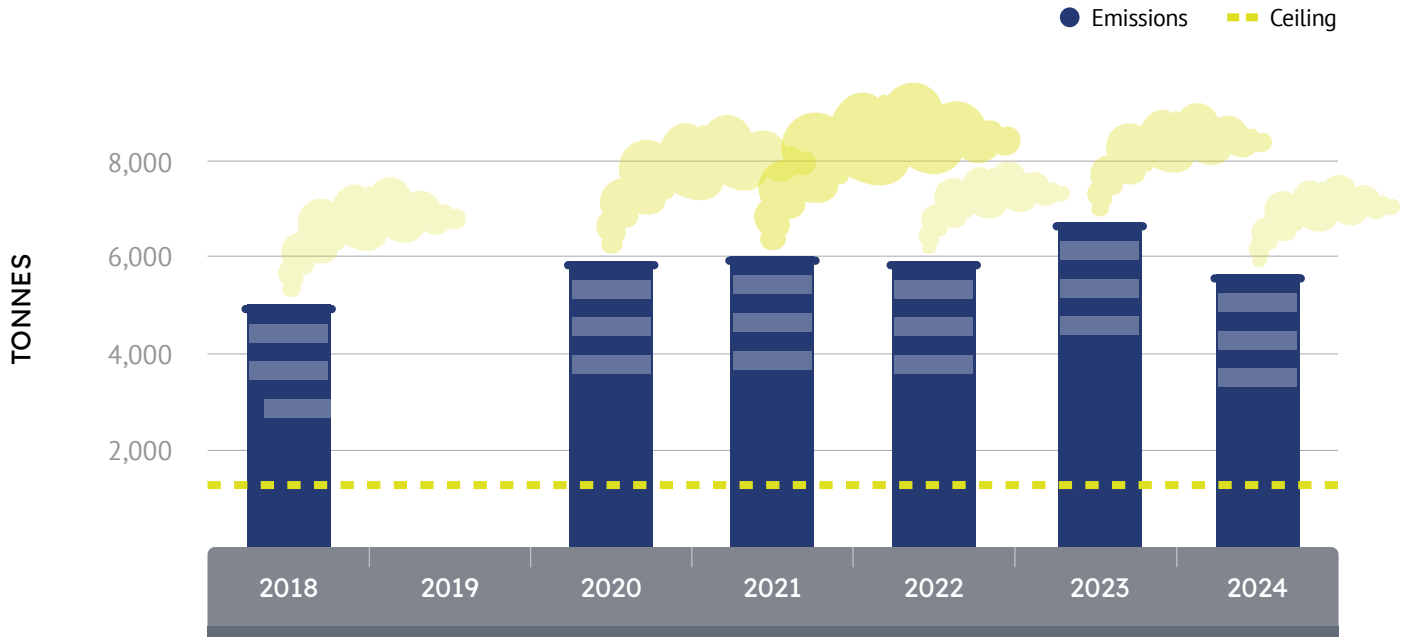
Dust emissions have always been the country's biggest pollution problem. In 2024 they continued to be unbelievably high, but interestingly, they were also the country's only emissions that are ever so slightly lower than those in 2023. **Both sulphur dioxide and nitrogen oxides emissions have increased compared to the previous year.**

Dust pollution was 4.1 times above the national level ceiling set out in Annex 2[71] of the NERP and totalled 5,606 tonnes. Kosova B1 alone emitted almost twice as much as the national dust ceiling in 2024, releasing a total of 2,635 tonnes into the atmosphere. Kosova B2, which emitted 2,304 tonnes of dust, reduced its pollution in 2024 compared to the previous year; this still amounted to 5.55 times as high as allowed, compared to its 2023 breach of 9.2 times.

[71] This annex is not part of the publicly available NERP and has been leaked to the authors of this report.

Figure 9:

Dust emissions from Kosovo's NERP coal plants, compared to the national emissions ceilings, 2018 to 2024
(2019 data is unavailable)

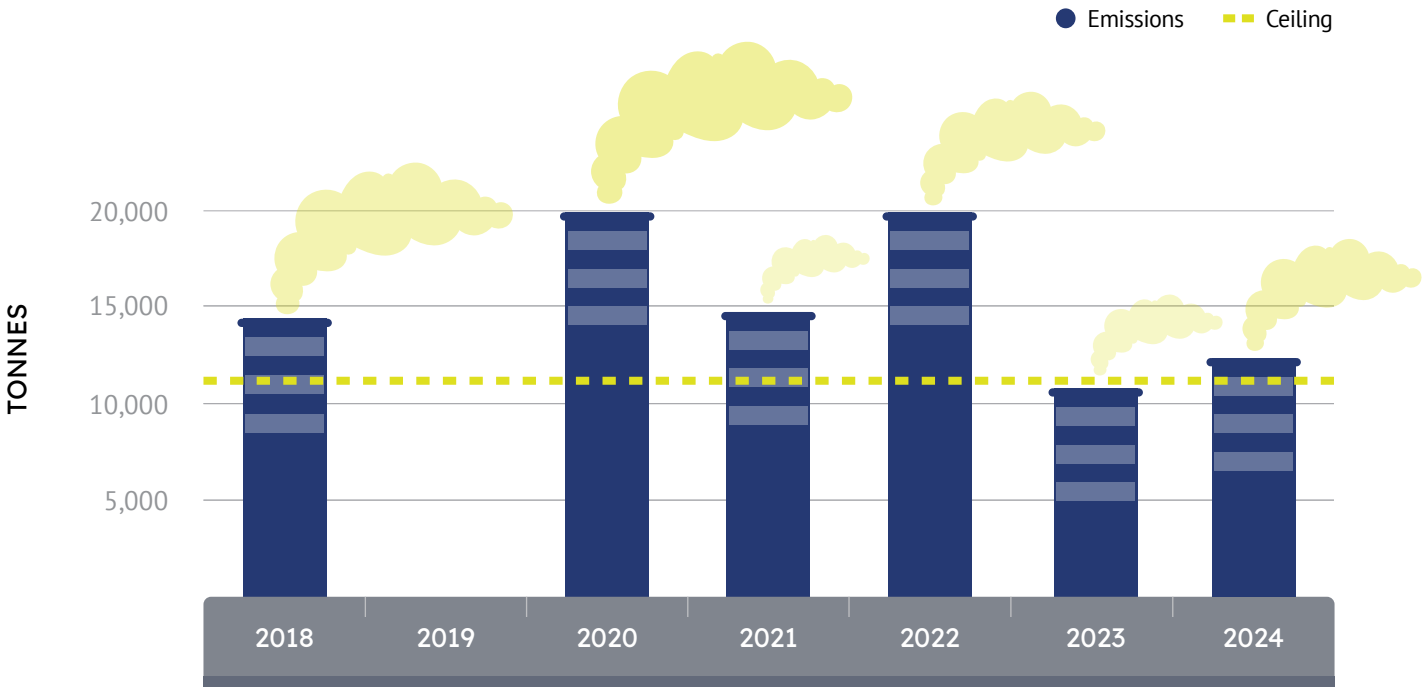


SO_2 emissions were 1.1 times as high as the national ceiling in 2024, or 11,713 tonnes. This follows a short-lived compliance in 2023, which was hard to explain, as no de-SO_x equipment had been fitted.

However, the country's reported emissions are actually estimates: Kosova A lacks continuous monitoring equipment and Kosova B's monitoring equipment is operational only at regular testing intervals, in between which emissions are calculated mathematically.

Figure 10:

Sulphur dioxide emissions from Kosovo's NERP coal plants, compared to the national emissions ceilings, 2018 to 2024
(2019 data is unavailable)

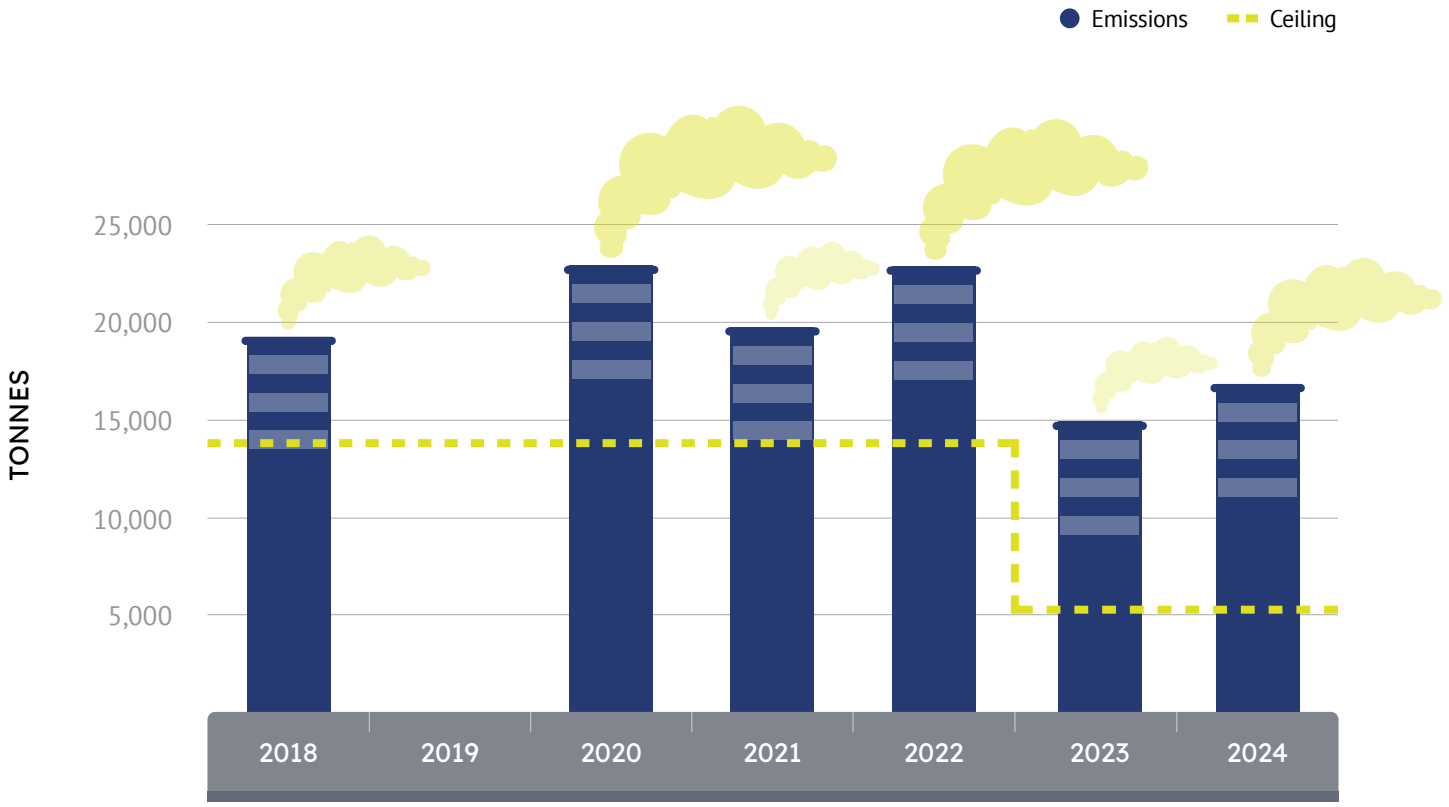


After reaching a historic low in 2023, Kosovo's NO_x emissions increased considerably in 2024 – to 16,851 tonnes. The country stands out regionally for the highest breach of its NO_x ceiling – 3.1 times as much as allowed. On the level of individual units, Kosova A5 had the highest breach of its individual ceiling, emitting 3.91 times as much as allowed, but all units in Kosovo breached their individual ceilings by at least 2.5 times.

Kosova B power plant, Kosovo
Photo: Matteo Trevisan, done as part of the photographic project More Necessary Than the Sun

Figure 11:

Nitrogen oxides emissions from Kosovo's NERP coal plants, compared to the national emissions ceilings, 2018 to 2024
(2019 data is unavailable)



The main feature of Kosovo's NERP is the inconsistencies between the ceilings for the three pollutants that appear in the main body of the document[72] and those calculated in Annex 2 of the NERP. This annex is not part of the publicly available NERP and has been leaked to the authors of this report.

The SO_2 ceilings listed in the main body of the NERP only follow a linear decrease until 2021, and then they increase slightly in 2022 and 2023. The NO_x ceiling also increases slightly in 2024 compared to 2023 – the opposite of what should happen. Therefore, in this report the authors have taken the ceiling values from the annex, because they appear more in line with the Energy Community's policy guidelines for the preparation of NERPs,[73] even though the ceilings for dust and NO_x are higher than those in the main body of the document.

[72] Government of Kosovo, National Emissions Reduction Plan: Kosovo, *Energy Community*, 2018.

[73] 'The ceilings for the years 2019 to 2022 shall be set providing a linear trend between the ceilings of 2018 and 2023. In practice, this means that the ceilings will not change between 2018 and 2023 except for NO_x.' Energy Community, Policy Guidelines 03/2014, *Energy Community*, December 2014.

Kosovo (2024)

	SO_2 ceiling	SO_2 emissions	Dust ceiling	Dust emissions	NO_x ceiling	NO_x emissions
Main NERP ceiling	9,497	11,713	475	5,606	6,129	16,851
Annex 2	10,894		1,362		5,446	

In December 2023, a Ministerial Council decision[74] declared Kosovo to be in breach of the Energy Community Treaty, along with Bosnia and Herzegovina and North Macedonia. The 2024 Energy Community Implementation Report[75] notes that 'significant breaches of the ceilings for nitrogen oxides and dust remain unaddressed and the related decision by the Ministerial Council was thus not complied with.

Ongoing investments in pollution control

Kosovo's draft National Energy and Climate Plan (NECP), submitted to the Energy Community Secretariat in July 2023, reinforces the country's Energy Strategy released a year prior[76] and claims that:

> *the power plant units of 'Kosovo B1 and B2' will be refurbished to maintain the security of supply and decrease emissions. The refurbishment of the Kosovo B1 and B2 units will be carried out in two stages, and by the end of 2025, and respectively 2026, both units will operate in a more efficient, reliable mode, meeting mandatory emission standards of the Industrial Emission Directive.*[77]

The budget planning of the National Energy Strategy foresees a total of EUR 178 million to be spent on the refurbishment of each of the two units of Kosovo B (Kosovo B1 and B2) between 2023 and 2025.

In April 2025, the website of the Prime Minister's office announced[78] the beginning of modernisation works at the Kosova B power plant, at an estimated cost of EUR 56.5 million, to be covered fully from the state-owned energy company's budget.

According to the NECP, part of the EUR 178 million budget will be provided by Kosovo Energy Corporation (Korporata Energjetike e Kosovës (KEK)) while another part will be covered by an EU grant. The grant money will be used to cover expenses for electrostatic filters and a de-NO_x installation.[79]

Yet already more than six years prior, Kosovo's NERP envisaged that Kosova B1 would undergo retrofitting by 2021[80] so that its dust and NO_x emissions would be compliant with the Industrial Emissions Directive emission limit values. It envisaged that unit B2 would follow suit and comply by 2022, with the use of a EUR 76.4 million grant under the European Commission's Instrument for Pre-Accession II (IPA II) signed in November 2019.

These works have been repeatedly delayed. The latest report from April 2025 states that the de-NO_x and electrostatic filters project has been postponed to 2026 for unit B1 and 2027 for unit B2, and that in 2025, unit B2's turbine will be modernised and its generator's bars replaced.[81]

Yet another proposal – for de-SO_x installation – was included on the indicative list of projects under the Western Balkan Investment Framework (WBIF) that the country submitted as part of its Reform Agenda to the European Commission in 2024.[82] The project description envisages an investment of EUR 105 million for the two units without indicating a concrete timeline, but noting that 'Preliminary design, detailed design, tender documentation, and construction contract signing have not started'. This is all the more worrying, as this move was made after seven years of non-compliance. The project is not likely to receive WBIF funding under the Reform and Growth Facility as no support for fossil fuels is allowed and it would not fit the spending timeline. However, the inclusion of this project on the list for financing shows that desulphurisation plans are in their infancy.

The country's Energy Strategy, worryingly, also mentioned that one of the Kosovo A units 'will be refurbished by the end of 2024, whereas the decision to refurbish or phase out the second unit will be made in 2024 at the latest.'[83] There are several problems with this, but the biggest concern is the age of these units – over 50 years.

74 Energy Community Ministerial Council, Decision 2023/05/MC-EnC on the failure by Kosovo* to comply with the Energy Community Treaty in Case ECS-8/21.

75 Energy Community, Annual Implementation Report 2024, *Energy Community,* 65, 1 November 2024.

76 Government of Kosovo, Energy Strategy of the Republic of Kosovo 2022-2031, *Government of Kosovo*, April 2022.

77 Government of Kosovo, National Energy and Climate Plan of the Republic of Kosovo 2025-2030 (first draft version), *Energy Community,* 82, 2023.

78 Office of the Prime Minister of Kosovo, Works to modernize Kosovo B Power Plant begin – investment worth 56.5 million euros by Kosovo Energy Corporation, *Office of the Prime Minister of Kosovo*, 28 April 2025.

79 Ibid.

80 Government of Kosovo, National Emissions Reduction Plan: Kosovo, 11.

81 Government of Kosovo, Progress report for 2024 of the Kosovo energy strategy implementation program (KESIP) for the period 2022 – 2025, *Government of Kosovo*, April 2025.

82 European Commission, DG ENEST, Reform and Growth Facility for the Western Balkans, Reform Agenda of Kosovo, version of 6 September 2024.

83 Government of Kosovo, Energy Strategy of the Republic of Kosovo 2022-2031.

The 2024 deadline proved impossible to meet, but in early January 2025 the Prime Minister's office made a surprise announcement[84] that they were beginning the 'procurement activity (phase I Pre-qualification) of the capital project *Rehabilitation and Modernization of Unit A3* of the Kosovo A Power Plant.' The announced cost is at EUR 137 million, already EUR 17 million more expensive than estimated three years before in the Energy Strategy, raising additional concerns about the increased burden on the public budget. The announcement also mentioned an expected 20-year lifetime extension of the plant, which is hard to imagine from a safety point of view, let alone environmental and economic considerations.

The Energy Strategy estimates a further EUR 120 million would be needed to rehabilitate a second unit at Kosova A, additional to the EUR 137 million at Kosova A3. Again, it is not clear whether Kosovo could secure this funding.

Montenegro

Pljevlja coal plant legal breach enters its fourth year

Montenegro only has one large combustion plant, the 225 MWe Pljevlja lignite power plant, which only has one unit. Therefore, it could not be subject to a National Emissions Reduction Plan. Instead of making sure it was LCPD-compliant by 2018, the 'opt-out' option was chosen, in which Pljevlja could operate for a total of 20,000 hours between 1 January 2018 and 31 December 2023. After that, as explained above, it either had to close or to undergo a retrofit that would at minimum bring it into compliance with emission limit values for new plants from Annex V part 2 of the Industrial Emissions Directive.

According to its integrated environmental permit,[85] issued in March 2018, it had to comply with the latest EU LCP BREF standards by 2023, and was the first existing plant in the region that was required to do so.

However, the management of the state-owned power company Elektroprivreda Crne Gore (EPCG) used the available 20,000 hours as quickly as possible and the plant had already exceeded this limit by the end of 2020.[86] But it did not stop there, operating for 6,450 hours in 2021[87] and 6,949 more in 2022.[88] Its report for 2023 lists 6,949 more hours,[89] and in 2024 it operated for 6,813 more hours.[90]

In April 2021, the Energy Community Secretariat opened an infringement case against Montenegro,[91] and in February 2023 it issued a reasoned opinion,[92] followed by a reasoned request to the Ministerial Council in July 2023.[93] A decision by the Ministerial Council confirming the breach has yet to be taken, despite it being a clear-cut case.

As described in previous editions of *Comply or Close*, successive governments in Montenegro have failed to take any action against the plant operator EPCG.

Emissions in 2024

In 2024, Pljevlja's sulphur dioxide emissions amounted to 39,140 tonnes, slightly less than in 2023 (44,017 tonnes) and 2022 (46,504 tonnes). Its dust emissions in 2024 decreased to 793 tonnes from a record high of 1,130 tonnes in 2023, but this was still higher than any other year since 2018. Its NO_x emissions – 3,682 tonnes – stayed almost the same as in 2023 (3,982 tonnes) and 2022 (3,954 tonnes).[94,95]

Since 2018, each of the three pollutants has experienced a different trend. SO_2 emissions have increased and decreased, and the reasons are not entirely clear. They are not fully accounted for by annual differences in operating hours.

[84] Office of the Prime Minister of Kosovo, Kosovo Energy Corporation invests 137 million euros for the rehabilitation and modernization of Unit A3 of the Kosovo A Power Plant, *Office of the Prime Minister of Kosovo*, 24 January 2025.

[85] Environmental Protection Agency of Montenegro website, last accessed 24 May 2021. The permit is no longer online; only the list of measures to be taken is still available online, but the announcement about the permit is still up.

[86] Operating hours from Montenegro reports to the European Environment Agency, EIONET, Central Data Repository, for 2018, 2019 and 2020.

[87] European Environment Agency, EIONET, Central Data Repository, *EIONET*, reported 15 April 2022.

[88] European Environment Agency, EIONET, Central Data Repository, *EIONET*, reported 13 April 2023.

[89] European Environment Agency, EIONET, Central Data Repository, *EIONET*, reported 8 July 2024. It is possible that this figure was not updated from 2022, since it was the same figure then as well.

[90] European Environment Agency, EIONET, Central Data Repository, *EIONET*, reported 13 March 2025.

[91] Energy Community Secretariat, 'Case ECS-15/21: Montenegro / Environment'.

[92] Energy Community Secretariat, 'Secretariat sends Reasoned Opinion to address non-compliance of TPP Pljevlja with the Large Combustion Plants Directive', *Energy Community*, 15 February 2023.

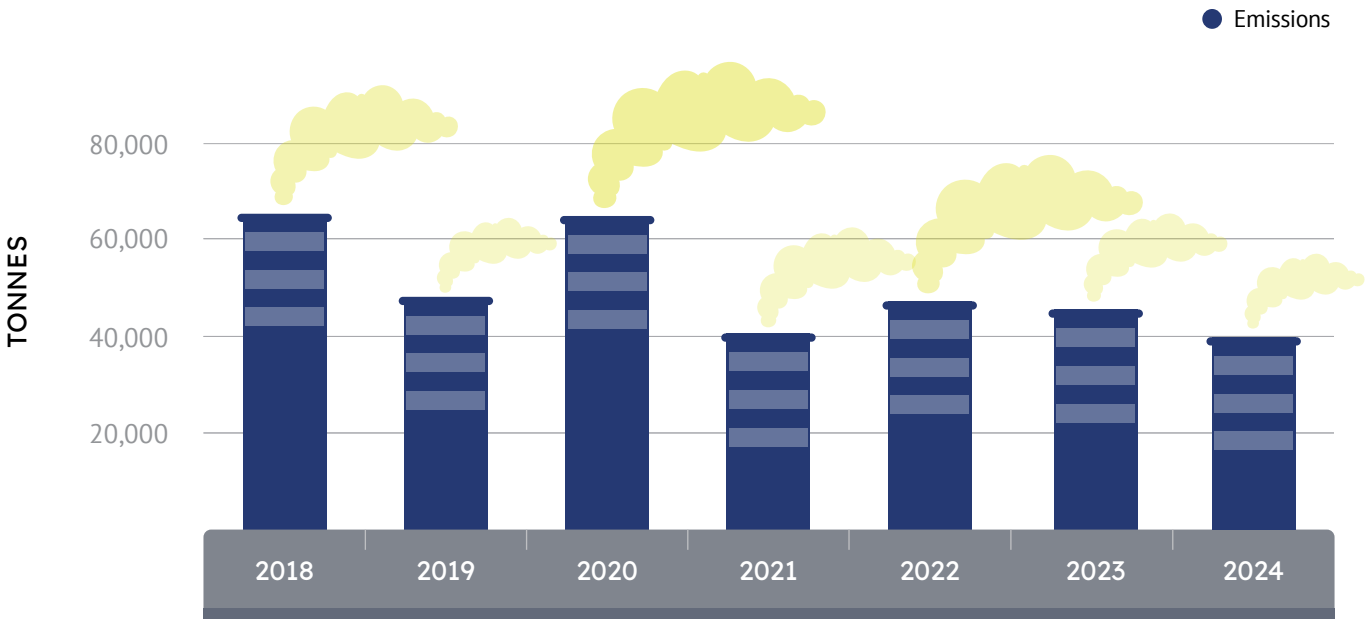
[93] Energy Community Secretariat, Case ECS 15/21: Montenegro/ Environment, *Energy Community*, accessed 11 July 2024.

[94] European Environment Agency, EIONET, Central Data Repository, *EIONET*, reported 8 July 2024.

[95] European Environment Agency, EIONET, Central Data Repository, *EIONET*, data for 2018, 2019, 2020 and 2021.

Figure 12:

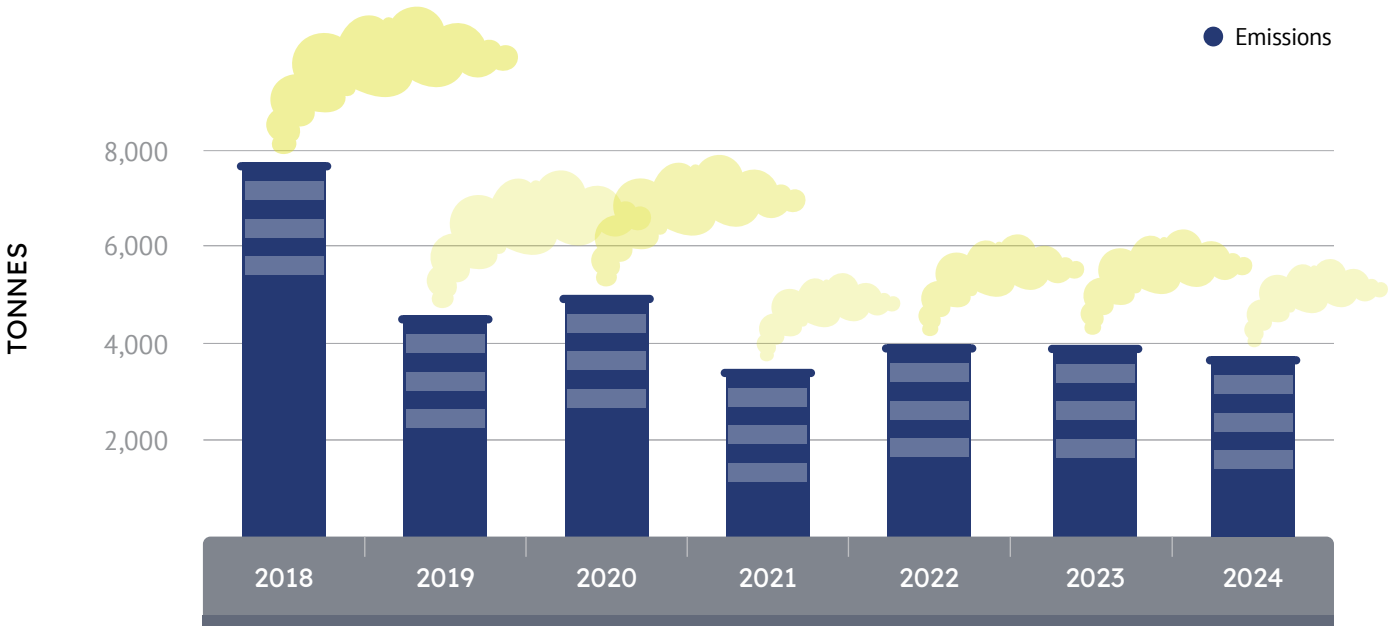
Sulphur dioxide emissions from Montenegro's Pljevlja coal plant, 2018 to 2024



NO_x emissions declined sharply in 2019 but have been hovering around similar levels since then. Again, the reasons are unknown and are not explained by operating hours or investments.

Figure 13:

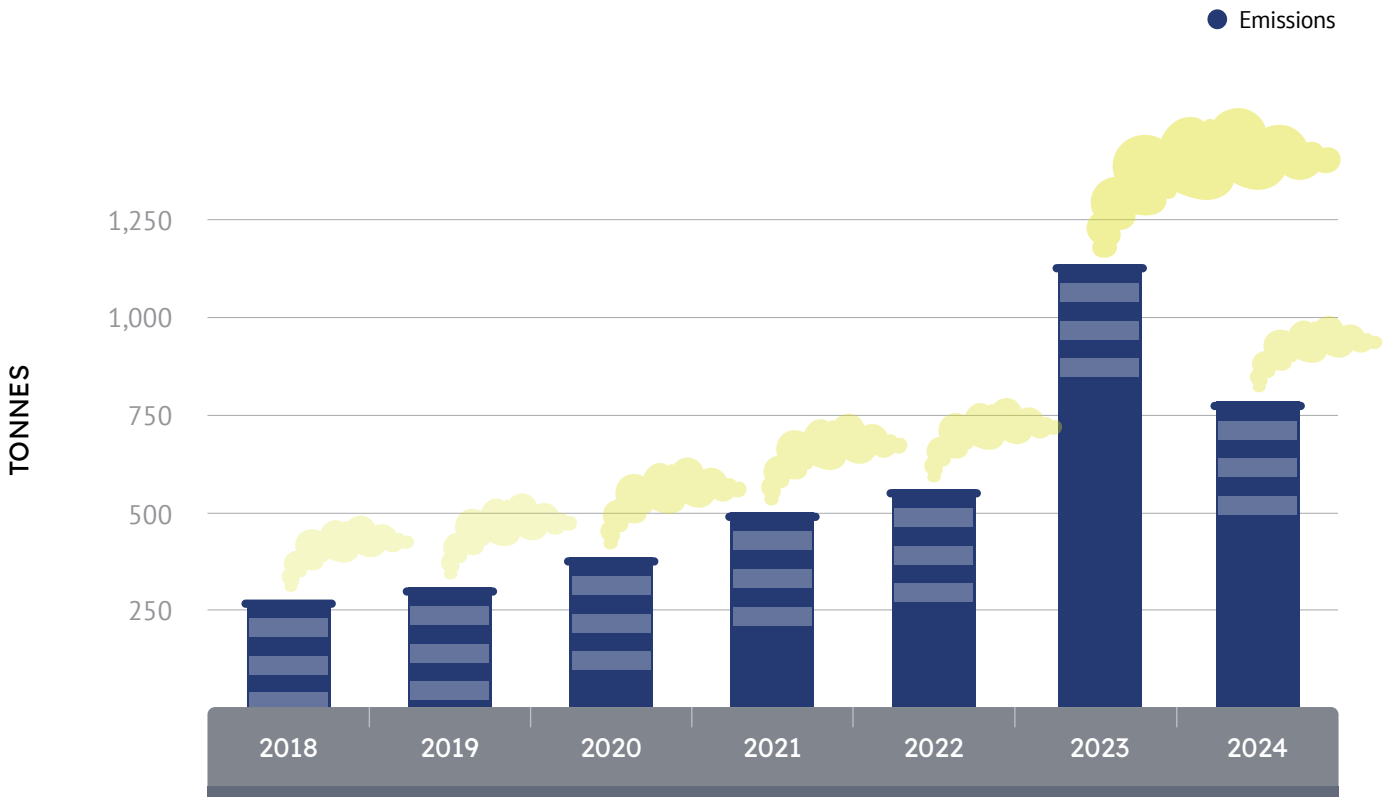
Nitrogen oxides emissions from Montenegro's Pljevlja coal plant, 2018 to 2024



Dust emissions, however, have been on an upward – rather than downward – trend since 2018, and took a massive jump upwards in 2023, only somewhat declining again in 2024.

Figure 14:

Dust emissions from Montenegro's Pljevlja coal plant, 2018 to 2024



Ongoing investments in pollution control

As of early May 2025, a modernisation project is ongoing at the Pljevlja plant, supposedly to bring it into line with the EU's LCP BREF standards.

In June 2020, Montenegro's then government signed a contract with a consortium led by China's Dongfang (DEC International) to retrofit the plant, which also included well-connected local companies Bemaks, BB Solar and Permonte.[96]

The process has been plagued with irregularities, as discussed in previous editions of Comply or Close,[97] and it is far from clear whether the project will bring the promised improvements. Works only started in April 2022, nearly two years after the signing of the contract.[98] At that point, the end of the works were expected in October 2024. In March 2023, it was reported that the equipment was about to arrive from China to be installed after the preparatory works had taken place.[99] After further delays, at the end of March 2025, it was finally announced that the plant was going offline and would remain so for seven and a half months.[100]

Already when the contract was signed with Dongfang in 2020, civil society organisations questioned the absence of a feasibility study for the modernisation project.[101] The plant was built in 1982, so its further lifetime will be limited and it is far from clear whether it would pay off to install expensive desulphurisation equipment. The tender procedure also raised questions, as it did not require bidders to explain which technical solution they would use, but only to comply with specific emission limit values. Dongfang's bid of EUR 54 million was substantially lower than that of the competing consortia, and one of them – Hamon-Rudis – questioned whether it was possible to achieve this goal with such a low bid.[102]

[96] Balkan Green Energy News, 'EPCG signs agreement on TPP Pljevlja environmental overhaul', *Balkan Green Energy News*, 10 June 2020.

[97] CEE Bankwatch Network, Comply or Close 2022 report update.

[98] Vladimir Spasić, 'EPCG započela ekološku rekonstrukciju TE Pljevlja', *Balkan Green Energy News*, 24 April 2022.

[99] Saša Bezarević, 'Stiže oprema iz Kine, rekonstrukcije Termoelektrane Pljevlja pri kraju', *RTCG*, 4 March 2023.

[100] Elektroprivreda Crne Gore, TE Pljevlja ulazi u završnu fazu ekološke rekonstrukcije, *EPCG*, 31 March 2025.

[101] Radio Televizija Crne Gore, 'Objaviti studiju ekonomske opravdanosti rekonstrukcije TE Pljevlja', *Radio Televizija Crne Gore*, 24 July 2020.

[102] Pippa Gallop, 'NGOs expect Energy Community infringement procedure on Montenegrin coal plant', *CEE Bankwatch Network*, 19 April 2021.

Hamon-Rudis turned out to be right, as the price of the project was later increased to EUR 70 million due to boiler adaptation works.[103] More recently, EUR 80 million has been cited in the media.[104] It remains to be seen what the final price will be and whether the 42-year-old plant will be capable of meeting the EU LCP BREF standards afterwards.

Despite the June 2024 deadline for final NECPs to be submitted, Montenegro's draft was only submitted to the Energy Community Secretariat in December 2024.[105] Even now, the country's coal phase-out date remains unclear. In June 2021, Montenegro announced it will wean itself off coal by 2035 at the latest,[106] and the NECP mentions this date once, but also other, later, dates such as 2040.

Even 2035 seems unrealistically late for the plant to close in reality. Electricity exports to Italy, made possible by the opening of an undersea cable in late 2019, are likely to decrease starting 1 January 2026 due to CBAM charges, depriving the Pljevlja plant of a lucrative source of income and closing a loophole which is incentivising its illegal operation. Montenegro can avoid its electricity being subject to CBAM fees by, among others, increasing its carbon price to the level of the EU Emissions Trading System by 2030. This means it would need to gradually increase the price from its current minimum of EUR 24 per tonne, but so far it has not made any commitments to do so.

Given the small size of the country, it would only take a few more utility-scale solar and wind farms to cover Montenegro's electricity demand, but progress has been slow in recent years.

The bright spot is rooftop solar, which has advanced thanks to EPCG's Solari schemes. These had resulted in the installation of 70 MW of solar photovoltaics on more than 7,000 buildings by April 2025.[107] But utility-scale solar is lagging, with the first plant of 4.42 MW starting operations only in December 2023.[108] Many more utility-scale plants are planned,[109] but it remains to be seen how many will be built. No new wind farms have started operating since 2019, though the Gvozd wind farm is currently under construction, and according to EPCG, testing may start as early as the end of 2025.[110]

[103] Elektroprivreda Crne Gore stated that the additional EUR 15 million was for a separate project for boiler adaptation, but admitted that it was connected to the modernisation project. Draško Milačić, 'Rekonstrukcija Termoelektrana će koštati oko 70 miliona', *Dan*, 18 December 2021.

[104] Radio Televizija Crne Gore, 'Građane Pljevalja čeka bolja i zdravija budućnost', *Radio Televizija Crne Gore*, 6 March 2024.

[105] Energy Community Secretariat, Governance and National Energy and Climate Plans – Montenegro draft NECP.

[106] Balkan Green Energy News, 'Montenegro announces coal phaseout by 2035', *Balkan Green Energy News*, 1 July 2021.

[107] Elektroprivreda Crne Gore, 'Prvi put pozitivno poslovanje', *EPCG Solar Gradnja*, 15 April 2025.

[108] Ekovjesnik, 'S radom počela prva solarna elektrana u kopnenom dijelu Crne Gore', *Ekovjesnik*, 27 December 2023.

[109] See for example Vladimir Spasić, 'Vlada Crne Gore dala zeleno svetlo za četiri solarne elektrane snage 127 MW', *Balkan Green Energy News*, 17 March 2025.

[110] Marija Mirjačić, 'Gvozd testira turbine do decembra: EPCG gradi pristupne puteve za transport opreme za vjetroelektranu na Krnovu', *Vijesti*, 29 March 2025.

Pljevlja power plant, Montenegro
Photo: CEE Bankwatch Network

North Macedonia

Compliance with the NERP ceilings in 2024

North Macedonia's NERP was adopted in 2017, without any public consultations or a strategic environmental assessment. It covers all eight existing large combustion plants from the energy sector, out of which three are coal-fired, one uses heavy oil and two are fossil gas heating plants that have been at least partially operational during the plan's implementation period. The remaining two are boilers in the old oil refinery which, although not officially closed, has not been operational for more than ten years.

During the seven years since the LCPD compliance deadline passed, the country has only managed to move further away from compliance, both in emissions reduction and in monitoring. None of the coal-fired power plants have continuous monitoring in place yet, and so far they have only reported based on calculations made from measurements done once a month. In 2023, the situation further deteriorated. Because the monthly monitoring was unreliable and showed great variations in its measurements, the authorities reported that they used the emissions factors from previous years in combination with the thermal energy input in terajoules to produce an estimate of emissions from coal combustion. However, it is highly unlikely that these estimates accurately represent real emissions.[111] The same explanation remains in the emissions reporting table for 2024, but the text and the years have not been updated so it is unclear whether this situation has been resolved or not.

In addition to this, public electricity utility Elektrani na Severna Makedonija (AD ESM) has made no investments in pollution control for the coal-fired power plants since 2013, when Bitola's units 2 and 3 were retrofitted to reduce NO_x emissions. With the lowering of the ceilings for all pollutants starting from 2024, the country's non-compliance is even more exacerbated.

[111] Ioana Ciuta, Pippa Gallop and Davor Pehchevski, Comply or Close 2024 update, *CEE Bankwatch Network*, 32, September 2024.

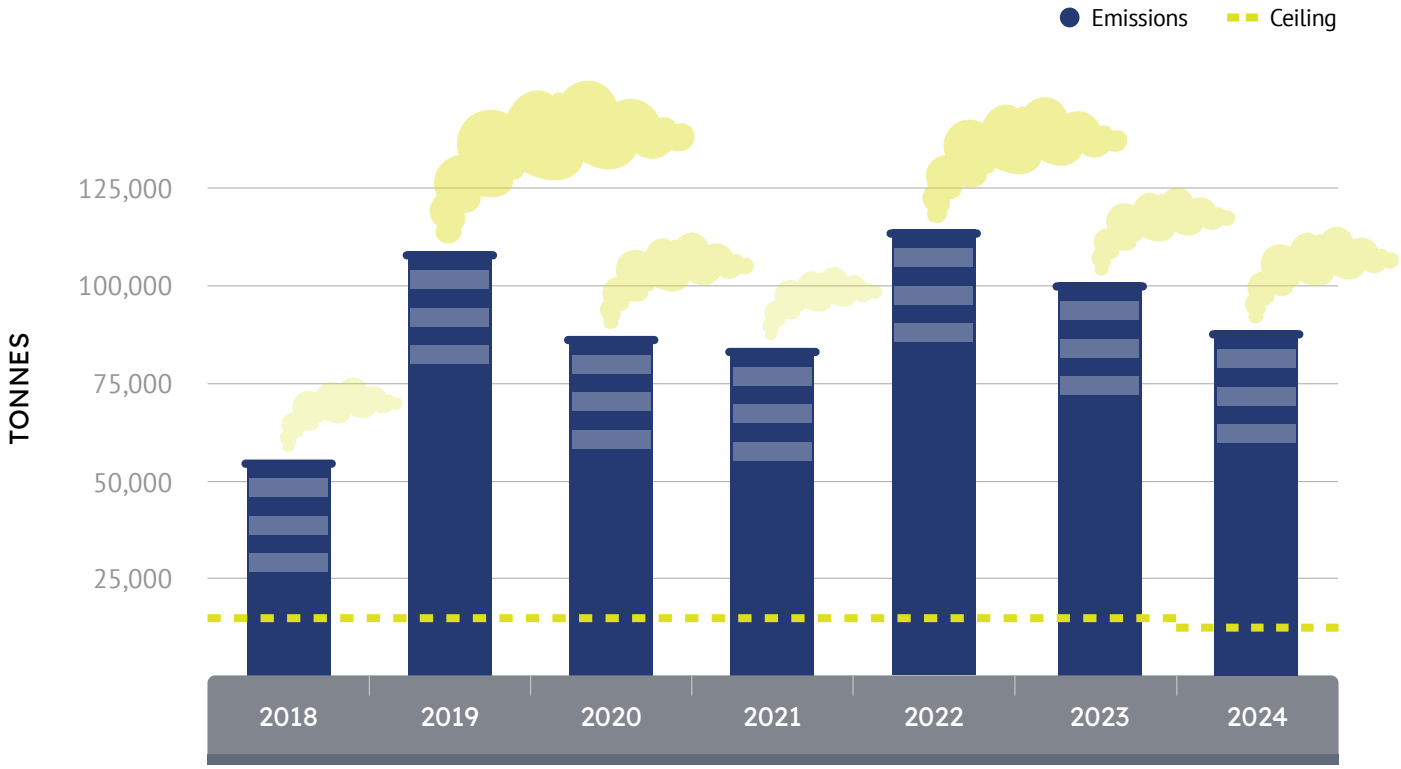
North Macedonia (2024)

SO_2 ceiling	SO_2 emissions	Dust ceiling	Dust emissions	NO_x ceiling	NO_x emissions
12,634	87,770	1,361	3,393	7,674	4,024

SO_2 emissions from coal combustion in 2024 were lower than those in 2023, but remained very high at 87,770 tonnes. However, they are further above the national ceiling than SO_2 emissions were in 2023, at almost seven times as high as the allowed 15,855 tonnes.

Figure 15:

Sulphur dioxide emissions from North Macedonia's NERP coal plants, compared to the national emissions ceilings, 2018 to 2024



As was the case in previous years, the stacks of Bitola B 1 & 2 and Bitola B3 were still the highest contributors in 2024. They emitted 62,625 and 22,314 tonnes, respectively. **The emissions from Bitola B 1 & 2 were a staggering 11.4 times as much as the plant's individual ceiling, and from Bitola B3 they were 9.4 times as high as the individual ceiling.**[112]

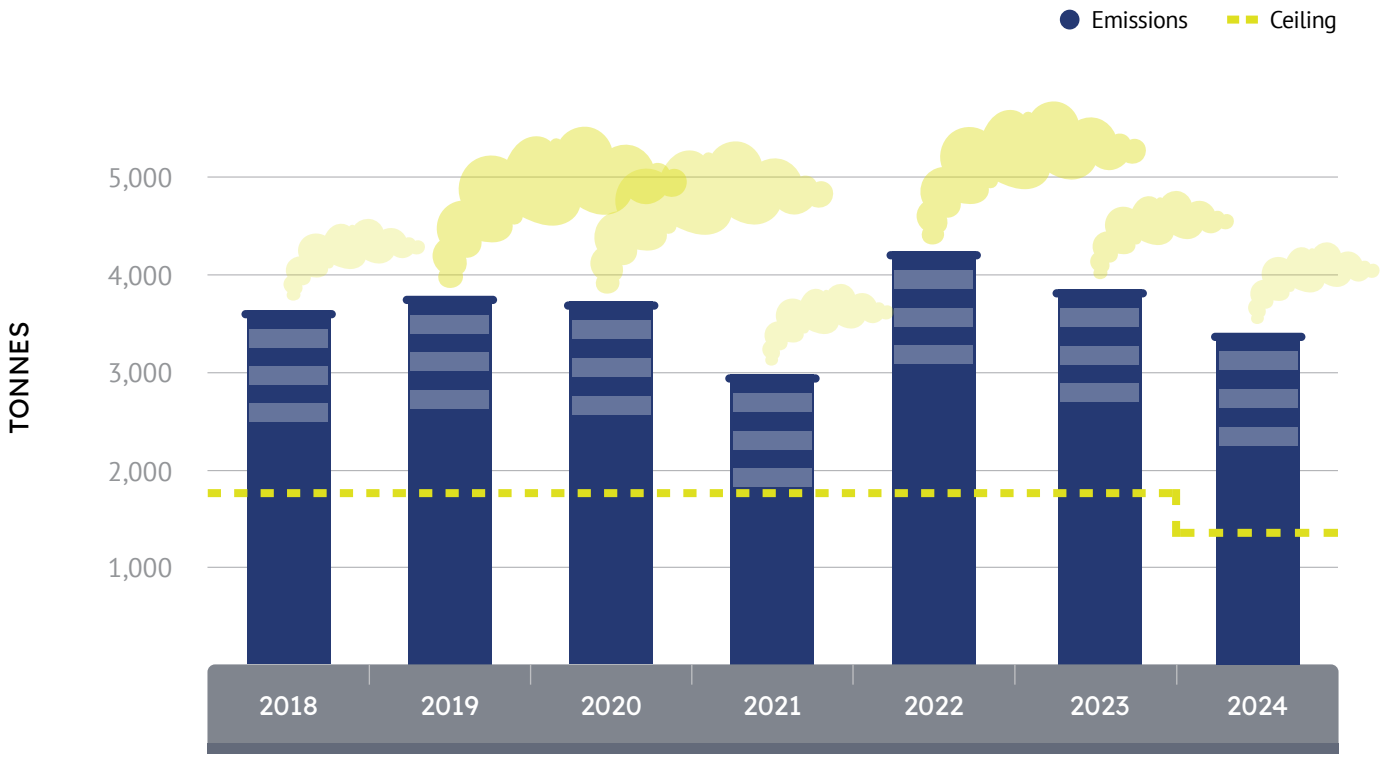
Oslomej's contribution was somewhat higher than it was in 2023 at 2,831 tonnes – still within its individual ceiling because of its limited operating hours, but very far from the 940-tonne ceiling it needs to reach by the end of the NERP implementation period in 2027.

Dust emissions from coal-fired power generation dropped slightly in 2024 compared to 2023, but, at 3,393 tonnes, they are 2.5 times as high as the national ceiling of 1,361 tonnes.

[112] Individual ceilings for 2024 and 2025 for the large combustion plants are not given in the NERP. We submitted a freedom of information request to the Ministry of Environment and Physical Planning for the individual ceilings, and the response we got is that individual ceilings were calculated only for 2018, 2023, 2026 and 2027. Because of this, for the comparison we used individual ceilings calculated based on the Energy Community guidance on the preparation of the NERPs: 'The ceilings for the years 2024 and 2025 shall be set providing a linear decrease of the ceilings between 2023 and 2026.'

Figure 16:

Dust emissions from North Macedonia's NERP coal plants, compared to the national emissions ceilings, 2018 to 2024



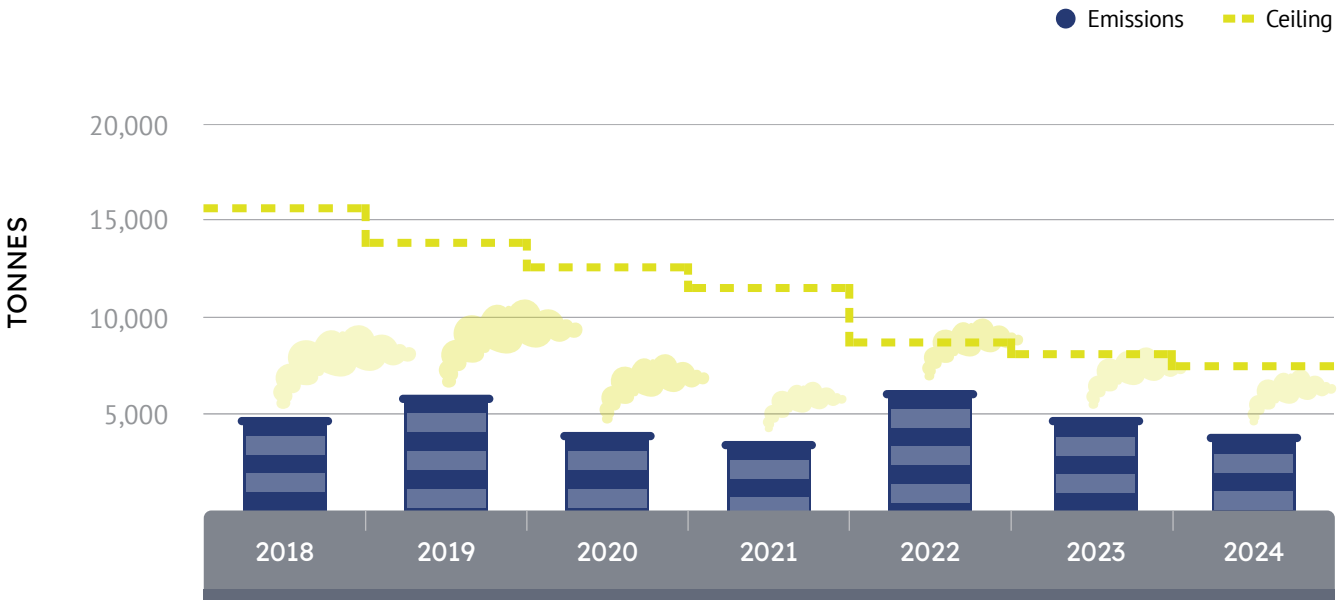
Units Bitola B 1 & 2 and Bitola B3 contributed 2,278 tonnes and 750 tonnes of dust emissions, respectively. Overall, the Bitola plant is emitting more than three times as much as the units' combined individual ceilings. Oslomej breached its individual dust ceiling for the first time since 2018 in spite of its low operating hours. The plant emitted 365 tonnes, slightly above its individual ceiling of 345 tonnes.

North Macedonia's reported NO_x emissions continued to drop compared to 2022 and 2023. The 4,024 tonnes emitted in 2024 are well within the 2024 and even 2027 ceilings for NO_x.

Bitola power plant, North Macedonia
Photo: CEE Bankwatch Network

Figure 17:

Nitrogen oxides emissions from North Macedonia's NERP coal plants, compared to the national emissions ceilings, 2018 to 2024



In March 2021, due to the breaches of the overall NERP ceilings, the Energy Community Secretariat opened a dispute settlement case against North Macedonia, along with cases against other countries. On 13 July 2023, the Secretariat submitted a reasoned request to the Ministerial Council to make a decision confirming non-compliance, which it did in December 2023.[113] As the breaches have not been rectified, as of May 2025, the case remains open.[114]

Ongoing investments in pollution control

More than two years since the Integrated Pollution Prevention and Control (IPPC) permit for the Bitola power plant was issued in December 2022,[115] investments still exist only on paper. Considering the legal timeframes for tendering and the time needed to implement these complicated investments, it is now impossible for the power plant to do a complete overhaul of its electrostatic filters by December 2025 or the construction of a desulphurisation facility by December 2026 as stipulated in the permit. These investments make little sense anyway, considering that North Macedonia plans to phase out coal by 2030 at the latest, but this does not change the fact that the plant continues to breach all national and Energy Community Treaty obligations and must be penalised for that.

AD ESM has prioritised investments to prolong its coal operation instead of investing in pollution control. In spite of the company's declared commitment to the decarbonisation of the energy sector, an environmental impact assessment procedure for the Zhivojno lignite mine near Bitola was restarted in March 2025.[116] The open cast mine is planned to be around 11.5 square kilometres with a planned lifetime production of around 23.6 million tonnes of lignite over 15 years. The removal of the soil layer is planned to be done within three years of the project's approval, which puts the start of the exploitation very close to the country's coal phase-out date.

According to North Macedonia's Energy Strategy,[117] the Oslomej plant was supposed to be closed in 2019. This was already prolonged once to 2021 with the country's first NECP,[118] and is now being prolonged to 2026 according to the new draft updated NECP.

[113] Ministerial Council of the Energy Community, Decision 2023/04/MC-EnC on the failure by the Republic of North Macedonia to comply with the Energy Community Treaty in Case ECS-7/21, *Energy Community*, 14 December 2023.

[114] Energy Community Secretariat, Case ECS 07/21, North Macedonia/Environment, *Energy Community*, accessed 26 July 2024.

[115] Ministry of Environment and Physical Planning of the Republic of North Macedonia, IPPC permit for AD ESM - subsidiary REK Bitola, *Ministry of Environment and Physical Planning of the Republic of North Macedonia*, December 2022.

[116] Ministry of Environment and Physical Planning of the Republic of North Macedonia, List of EIAs, *Ministry of Environment and Physical Planning of the Republic of North Macedonia*, accessed May 2025.

[117] Ministry of Economy of the Republic of North Macedonia, Energy Development Strategy until 2024, *Government of the Republic of North Macedonia*, 28 December 2019.

[118] Ministry of Economy of the Republic of North Macedonia, National Energy and Climate Plan, *Government of the Republic of North Macedonia*, July 2020.

The steps taken by AD ESM show that it is not taking its obligation to phase out coal seriously, yet at the same time avoiding making any investments to reduce the extremely high pollution from the power plants and accompanying infrastructure. In April 2025, after the surrounding area was covered in coal ash blown from the disposal site, the Public Prosecutor's Office opened a case to determine whether the plant is disposing of its ash properly[119] – despite the fact that its environmental permit states that measures to prevent ash from leaving the site are in place. This is untenable: the plants must comply and close.

North Macedonia is the most advanced country in the region in terms of planning for the energy transformation and just transition, but the actions of the government and AD ESM are not aligned with strategic documents. Since the country already has a Just Transition Roadmap[120] and an Investment Plan for accelerating coal transition,[121] it needs to start investing in those processes instead of new coal capacities and avoid further delays to its coal phase-out date. Private investors are already making significant investments in photovoltaic and wind plants, but AD ESM is falling behind by sticking to old policies.

In the upcoming revisions of the energy strategy and NECP, the country needs to reaffirm its commitment to phase out coal within the already agreed timeline. Meanwhile, it should continue to create an environment that will allow a faster transition to renewable energy with a strong focus on decentralisation and environmental protection, as well as avoiding increased lock-in of fossil gas infrastructure.

In the upcoming revisions of the energy strategy and NECP, the country needs to reaffirm its commitment to phase out coal within the already agreed timeline. Meanwhile, it should continue to create an environment that will allow a faster transition to renewable energy with a strong focus on decentralisation and environmental protection, as well as avoiding increased lock-in of fossil gas infrastructure.

Serbia

Compliance with the NERP ceilings in 2024

In spite of a final Belgrade High Court decision from May 2023[122] which orders state-owned energy utility Elektroprivreda Srbije (EPS) to bring SO_2 emissions from all its coal power plants in line with the country's NERP, EPS's investments have yet to show sufficient results and even the smallest and oldest plants have not yet been closed.

In 2024, SO_2 emissions from the NERP coal power plants in Serbia declined and were the lowest since the LCPD entered into force, but are still 4.6 times above the national ceiling. Dust emissions remained below the ceiling and are on a slow downward trend. NO_x emissions decreased only marginally compared to 2023 and were at the exact same level as in 2022. What was different in 2024 compared to 2023 was the national ceiling for NO_x, which decreased considerably, bringing the plants into breach of the NERP.

SO_2 emissions from the NERP coal plants are a major problem in Serbia. In 2024, these plants emitted 4.6 times as much SO_2 as allowed under the NERP ceiling.

The SO_2 emissions from the 14 coal-fired units included in the NERP amounted to 205,925 tonnes, while the 2024 ceiling in the NERP for 18 large combustion plants[123] was set at a maximum of 44,737 tonnes.

Numerically, this is a considerable drop from the 296,698 tonnes reported for 2023, but still nowhere near legally compliant, and certainly not sufficient to reach low enough levels to be acceptable for human health.

[119] Telma, 'Обвинителството истражува како се депонира пепелта во РЕК Битола', *Telma*, 21 April 2025

[120] Government of the Republic of North Macedonia, Just Transition Roadmap, *Government of the Republic of North Macedonia*, May 2023.

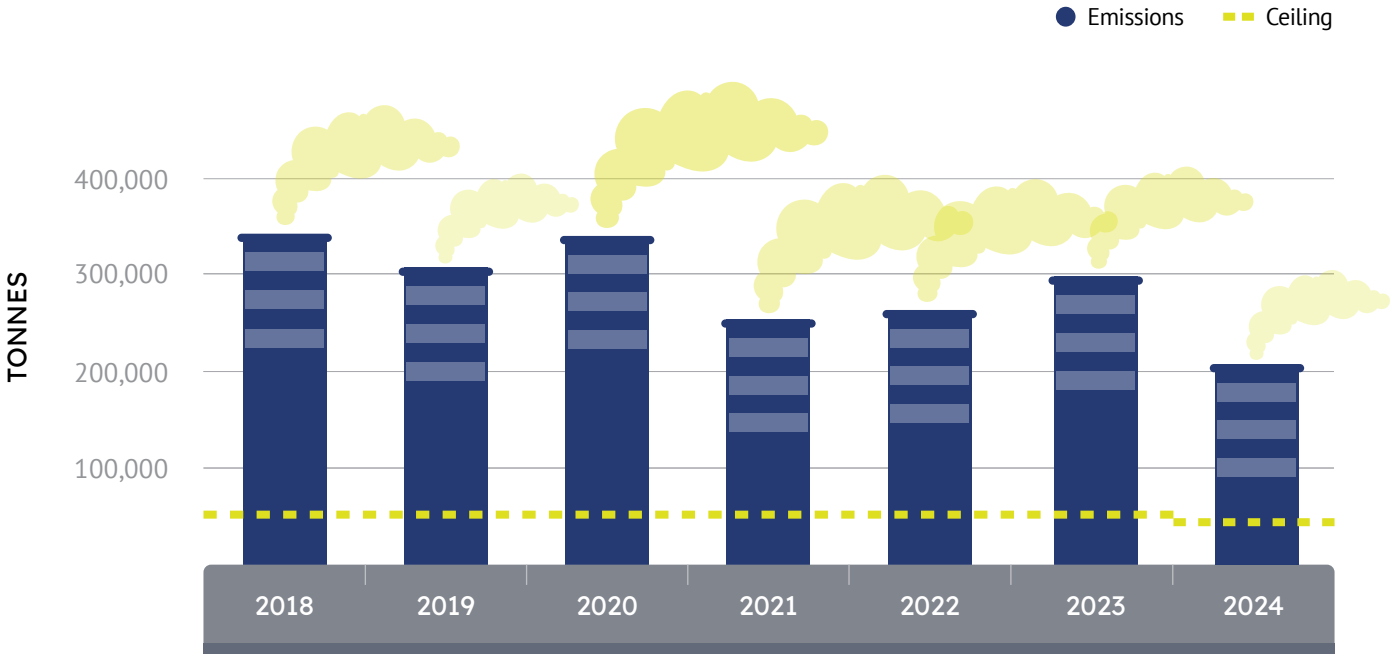
[121] Government of the Republic of North Macedonia, Accelerating Coal Transition Investment Plan for the Republic of North Macedonia – Pelagonia and Southwest regions, *Government of the Republic of North Macedonia*, January 2024.

[122] Renewables and Environmental Regulatory Institute (RERI), Legal Analysis of the Court Proceedings Initiated by RERI against Public Electricity Company of Serbia for Endangering Human Health, *Renewables and Environmental Regulatory Institute (RERI)*, 6, April 2024.

[123] The NERP also includes gas-fired units, such as those owned by NIS in Novi Sad and Pančevo, as well as a refinery. Ministry for Environmental Protection of the Republic of Serbia, Nacionalni plan za smanjenje emisija glavnih zagađujućih materija koje poticu iz starih velikih postrojenje za sagorevanje, Annex 2, *Ministry for Environmental Protection of the Republic of Serbia*, February 2020.

Figure 18:

Sulphur dioxide emissions from Serbia's NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024



On the plant level, the highest emitter was the Nikola Tesla B plant (units B1 and B2) with 76,631 tonnes[124] – this is lower than in the previous year, but 5.7 times above its individual ceiling. As it was in 2023, the plant remains the region's second biggest emitter, after Ugljevik in Bosnia and Herzegovina.

In terms of individual ceiling breaches, Kostolac A2 emitted 29,434 tonnes, or 13.2 times as much SO_2 as allowed under its individual ceiling. Its SO_2 emissions are on an upward trend compared to previous years, as the unit is run almost full-time all year round.

After Kostolac B's desulphurisation equipment finally received an operating permit in January 2023,[125] following years of delay and test operations, in 2024 it started to show some results, albeit unsatisfactory ones. In 2024, the plant emitted 15,218 tonnes of SO_2 – still 2.3 times as many tonnes as it was allowed to emit according to its NERP ceiling, raising serious concerns about the quality of the equipment and its operation.

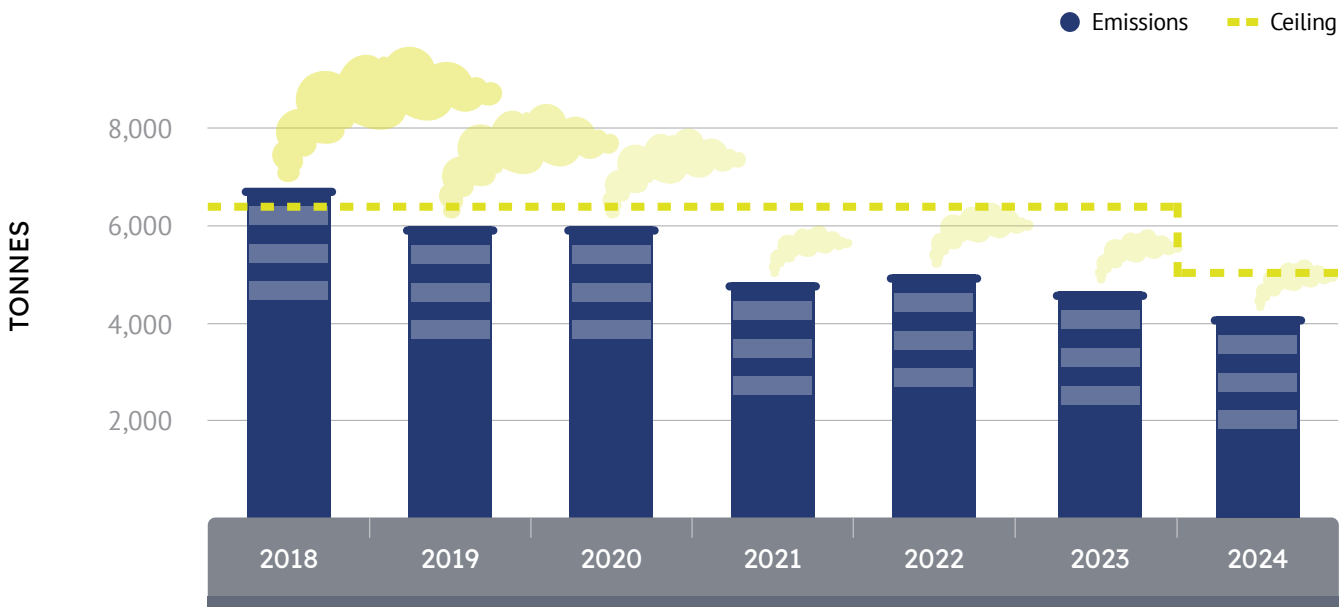
Dust emissions were below Serbia's national NERP ceiling in 2024 and have been gradually declining since 2018. However, in 2024 Kostolac A2 emitted 3.5 times its individual ceiling, and Nikola Tesla A1-A3 emitted over 1.5 times more than allowed. The Vreoci heating plant also exceeded its individual ceiling, emitting 4.5 times more than allowed.

[124] European Environment Agency, EIONET, Central Data Repository, *EIONET*, reported 24 March 2025.

[125] Ministry of Construction, Transport and Infrastructure of the Republic of Serbia, Operating permit de-SO_x, *Ministry of Construction, Transport and Infrastructure of the Republic of Serbia*, 11 January 2023.

Figure 19:

Dust emissions from Serbia's NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024



NO_x emissions in Serbia saw a marginal decrease compared to the previous year, and reached exactly the same level as in 2022. Coupled with a decrease of the overall NO_x ceiling, this resulted in a breach, with emissions at 1.14 times as much as allowed.

The year 2024 marks the second year Serbia has breached the ceilings for two pollutants. An infringement procedure by the Energy Community Secretariat for failing to comply with its NO_x ceiling should be imminent. However, there is also already an existing dispute opened in 2021 for non-compliance with its SO_2 ceiling.[126]

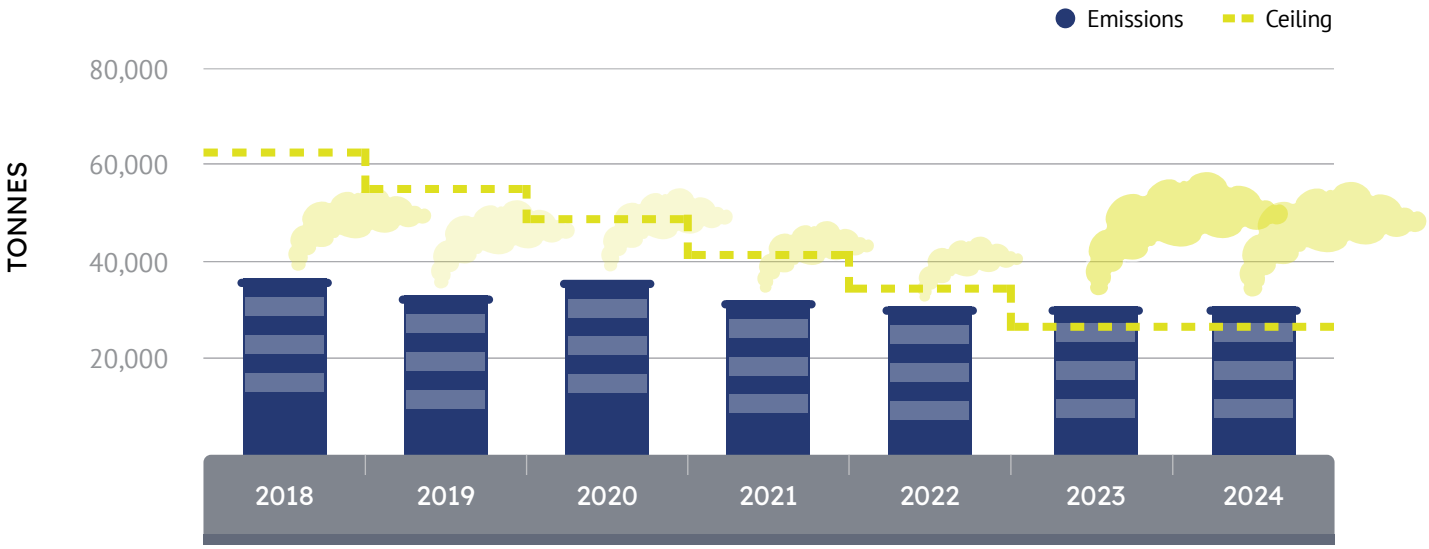
Regarding individual units, the worst offender for NO_x in absolute terms was the Nikola Tesla B plant (units B1 and B2), with 12,417 tonnes emitted – 1.5 times as much as the individual ceiling, and higher than in 2023. Kostolac A2 emitted much less (2,409 tonnes), but still 1.8 times as much as the plant's ceiling.

[126] Energy Community Secretariat, Case ECS 10/21, *Energy Community*, accessed 10 July 2024.

Nikola Tesla power plant, Serbia
Photo: Matteo Trevisan, done as part of the photographic project More Necessary Than the Sun

Figure 20:

Nitrogen oxides emissions from Serbia's NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2024



Serbia (2024)

SO_2 ceiling	SO_2 emissions	Dust ceiling	Dust emissions	NO_x ceiling	NO_x emissions
44,737	205,925	5,091	4,203	26,391	30,023

EPS keeps reporting profits,[127] but they are paid for by people's health

In 2023, state-owned EPS reported nearly EUR 1 billion in profits. In 2024, these dropped to EUR 223 million, partly due to significant overhaul activities in mines and coal power plants, including units Kostolac B1 and Nikola Tesla A2,[128] but remained significant. Yet the company's apparent profitability, even if not as high as in 2023, is boosted by its failure to pay its real costs: the illegal operation of opt-out plants, failure to fit de-SO_x and de-NO_x equipment at several of its existing units, a lack of carbon pricing, and general failure to internalise external costs borne by the environment and human health.

Serbia kept its antiquated Morava power plant running for another illegal 2,998 hours in 2024, in breach of the 'opt-out' derogation, as its allotted operating hours had already expired at the end of 2022. The Energy Community Secretariat opened a case against Serbia in October 2023, based on a complaint by RERI and Bankwatch,[129] but a reasoned opinion – the next step in the procedure – is yet to follow. A decision in this case is long overdue, as every day that passes, Morava emits deadly pollutants, endangering human health and the environment.

In addition, by the end of 2023, Serbia had breached the 20,000 hours derogation for all its opted-out units. A3-1 and A3 3-5 at the Kolubara power plant both had just slightly more than 1,000 operating hours left at the end of 2022,[130] and they both worked way beyond their lifetime in 2023 and 2024. Kolubara A5 did not use up all its 20,000 hours by the end of 2023 but was due to close anyway due to the expiry of the opt-out period. Still, it continued to operate in 2024 for 1,414 hours.

127 Vladimir Spasić, 'Serbia's EPS posts annual profit of EUR 223 million', *Balkan Green Energy News*, 3 February 2025.

128 Ibid.

129 Energy Community Secretariat, 'Secretariat launches dispute settlement procedure against Serbia for breaching the Large Combustion Plants Directive in the case of TPP Morava'.

130 Energy Community Secretariat, Serbia Annual Implementation Report 2023, *Energy Community*, 12, November 2023.

Serbia's plans regarding the closure and decommissioning of the Morava and Kolubara A plants are still unclear and jeopardise the essence of the LCPD, since according to the Energy Development Strategy of the Republic of Serbia until 2040, they will be withdrawn from the grid only 'by 2030' for 'energy security reasons'.[131] Therefore, it seems that Serbia is unilaterally aiming to legalise the breaches and 'extend' the deadline for compliance with the IED through its strategic documents – which is legally impossible.

In October 2024, EPS announced[132] a tender covering both the development of a conceptual design for the conservation process and preparation and submission of environmental impact assessment screening requests for the decommissioning of the Kolubara A and Morava power plants. The contract was awarded on 23 January 2025 and the deadline for completion of the works is not set clearly, but rather indicatively, at around 300 days from the submission of all necessary documents.[133] The lack of a clear deadline carries with it a high risk that the procedure will be unnecessarily protracted, potentially delaying the closing date by many years, while the plants continue to operate illegally.

Ongoing investments in pollution control

During 2024, the desulphurisation unit at Kostolac B1 and B2 was operating to some extent, but, as noted earlier, its emissions are still twice as high as the plant's individual SO_x ceiling, rendering it a failure. While the NERP provides flexibility regarding individual plants' contributions to the overall national emissions ceiling, from 1 January 2028 onwards, the plant has to comply with the stricter emission limit values of the Industrial Emissions Directive, something that seems highly unlikely at the moment.

According to an analysis by RERI, Kostolac B's de-SO_x facility may have been offline for at least 40 per cent of the time in 2024. This is because it produced 183,957 tonnes of gypsum as a result of the process,[134] compared to previous statements from EPS projecting it would produce 450,000 tonnes per year.[135]

In addition, flue gases are not monitored continuously at the plant, which is a breach of Articles 12 and 13 of the LCPD.[136] According to EPS' 2023 environmental report, 'after desulphurisation, waste gases are discharged through a newly built stack on which automatic devices for continuous measurement are installed for which Kostolac B TPP has the approval of the competent Ministry for independent continuous measurement of emissions. When the desulphurisation plant is not working, waste gases are discharged via the old system for waste gas treatment with an electrostatic precipitator only, without performing continuous measurements.'

In April 2024, it was reported that the EUR 215 million desulphurisation unit at Nikola Tesla A3-A6 had been commissioned,[137] 13 years after securing funding.[138] EPS' annual Environmental Report notes that the flue gas desulphurisation plant started its trial run in 2024, reporting 100 per cent completion of works at the end of the year, and that a request for an operating permit had been submitted.[139] The units still emitted more than twice as much sulphur dioxide as allowed in 2024.

The start of works to fit desulphurisation equipment at Nikola Tesla B – the country's second highest SO_2 emitter after Kostolac B – was announced in December 2020, with a deadline of 2024.[140] Yet its environmental impact assessment was approved only in March 2022.[141] EPS reported that the works were 91 per cent complete at the end of 2024.[142]

For Kostolac A, EPS launched a bid for a feasibility study on the installation of desulphurisation equipment[143] in October 2020, with the aim of extending the plant's lifetime by 15 years.[144] However, in 2022 the company started to reconsider this decision and lean towards a shut-down,[145] as was, in fact, the original plan when the NERP was first drafted in 2016. In 2023, as part of EPS's Go Green Road plan, it was announced that the plant would close at the end of 2028.[146] Due to a lack of investments in pollution control, it is unlikely that its emissions will decrease before this. In the same announcement, EPS also announced that Morava and Kolubara A were planned for closure in 2024, which is already delayed, further extending their pollution breaches.

131 Ministry of Energy and Mining, 'Energy Sector Development Strategy of the Republic of Serbia up to 2040 with Projections up to 2050', *Government of Serbia*, 36, July 2024.

132 Ružica Vranjković, 'Počeo proces gašenja termoelektrana – prvo najstarije, "Kolubara A" i "Morava"', *RTS*, 28 October 2024.

133 Decision on awarding contract, no. 1201-31799/2-25, of 23 January 2025 and model contract, as part of the tender documentation, accessed by RERI.

134 EPS, 2024 Environmental Report, 127, March 2025.

135 EPS, EPS plant as an example of a successful project, 28 April 2021.

136 Under Annex VIII, part A, point 2.

137 Igor Todorović, 'Mitsubishi Power commissions desulfurization system in Serbia's TENT A coal plant', *Balkan Green Energy News*, 25 April 2024.

138 Svetlana Jovanović, 'Construction launched on flue-gas desulfurization systems at coal-fired power plant TENT A', *Balkan Green Energy News*, 14 February 2019.

139 Joint Stock Company Elektroprivreda Srbije, 2024 Environmental Report, *JSC EPS*, 70, March 2025.

140 Vladimir Spasić, 'SO_2 emissions from Nikola Tesla B coal plant to be reduced 20 times by 2024', *Balkan Green Energy News*, 2 December 2020.

141 Elektroprivreda Srbije, 2023 Environmental Report, *Elektroprivreda Srbije*, 77, April 2024.

142 Joint Stock Company Elektroprivreda Srbije, 2024 Environmental Report, 83.

143 Nina Domazet, 'EPS namjerava produžiti život TE Kostolac A', *Energetika-net*, 19 October 2020.

144 Vladimir Spasić, 'EPS plans to extend lifespan of TPP Kostolac A until 2038', *Balkan Green Energy News*, 15 October 2020.

145 Vladimir Spasić, 'EPS considering shutdown of coal power plant Kostolac A', *Balkan Green Energy News*, 29 July 2022.

146 Vladimir Spasić, 'EPS sets out plan for shutting down coal power plants'.

Nikola Tesla power plant, Serbia
Photo: Matteo Trevisan, done as part of the photographic project More Necessary Than the Sun

EPS's three-year business plan for 2025 to 2027,[147] approved by the company on 31 January 2025, contains plans for further investments in pollution control. The company plans to invest an additional EUR 100 million in different plants, but does not clearly disaggregate these investments. The plan only mentions that the priority will be to operationalise the desulphurisation units in the Nikola Tesla A and Nikola Tesla B power plants, as well as the denitrification at Kostolac B.

Some work has been done at Kostolac B2 to reduce NO_x emissions, with a system for primary measures installed in 2019 and a tank for ammonia liquor as a secondary measure installed in 2023.[148] The results are not yet clear, but it is obvious that additional work is needed and planned.

Overall, although EPS is gradually installing pollution control equipment at its plants, the projects have either been insufficiently effective, as with the de-SO_x at Kostolac B, or are several steps behind the legal and economic reality.

Regardless, EPS has already sunk massive amounts of funds into desulphurisation. This is needed, as these plants cannot close immediately and they cannot continue to pollute at the current levels. But these investments are also expensive and energy-consuming, thus rendering the plants even less efficient. EPS will certainly pay the price for its slow uptake of wind and solar as coal becomes ever less competitive once CBAM or other carbon pricing sets in. The company's current plan to limit electricity exports to non-EU countries until they are exempted from CBAM[149] seems unrealistic since Serbia neighbours four EU countries.

It is unclear whether Serbia as a whole has a plan to tackle this, as its NECP, approved in late July 2024, was of poor quality and difficult to decipher.[150] Serbia's Strategy of Energy Development until 2040,[151] adopted in November 2024, also lacks details and fails to set a clear coal phase-out date before 2050.

147 Elektroprivreda Srbije, Three-year business plan for period 2025-2027, *Elektroprivreda Srbije*, 12-13, 31 January 2025.

148 Elektroprivreda Srbije, 2023 Environmental Report, 113.

149 Elektroprivreda Srbije, Three-year business plan for period 2025-2027, 9.

150 Government of Serbia, Integrisani nacionalni energetski i klimatski plan republike Srbije za period do 2030. sa vizijom do 2050. Godine.

151 Ministry of Mining and Energy of the Republic of Serbia, Strategy of Energy Development of the Republic of Serbia until 2040 with projections until 2050, *National Assembly of the Republic of Serbia*, 27 November 2024.

Conclusions

The pollution levels from Western Balkan coal plants seven years after the deadline for the implementation of the LCPD remain astonishingly high.

In 2024, emissions of all three regulated pollutants were once again in breach of the ceilings set in the NERPs for Bosnia and Herzegovina, Kosovo, North Macedonia and Serbia.

With the ceiling tightening for all pollutants in 2024, the countries' breaches are even worse than in previous years. But the more stringent ceilings do not account for this on their own, as Bosnia and Herzegovina significantly increased its sulphur dioxide emissions, for the first time becoming the highest emitter in the region.

Overall, SO_2 pollution from the NERP coal plants was six times as much as allowed, compared to 5.7 in 2023. Dust pollution was 1.8 times as much as allowed, compared to 1.75 times in 2023, and NO_x pollution was 1.35 times as much as allowed, compared to 1.3 times in 2023.

Although the Energy Community Secretariat has opened cases on all the breaches, and CBAM, technical problems and low coal production in some countries are likely to hasten the demise of coal plants in the region, more pressure on the governments and utilities and better planning of a managed coal phase-out is needed. After seven years of breaches, not a single utility has been fined for its non-compliance in the region.

Too much time has already been wasted: there is now a serious danger of an unplanned coal phase-out, with unnecessarily harsh impacts on coal-dependent communities that could have been avoided with proper planning. It is particularly worrying that most of the Western Balkan countries have failed to adopt NECPs or update their existing ones so far, as clear and decisive plans are desperately needed.

Politicians and utilities will no doubt try to blame the EU and CBAM for this situation, but the truth is, they have brought it on themselves by failing to plan and make appropriate investments. Governments and utilities have known about the LCPD deadline of 2018 since at least 2005, when the Energy Community Treaty was signed, and they have known that CBAM is coming since at least 2019.

Instead of fitting pollution control equipment back in the 2000s and early 2010s when it could still have made sense in some cases, the countries wasted years trying to build new coal power plants instead, even though it was already clear that coal had no future. Only Stanari in Bosnia and Herzegovina and Kostolac B3 in Serbia have come online, largely saving the region from a costly additional coal lock-in, but this distraction has left the countries with a fleet of ailing and illegal coal plants and without adequate energy savings or wind and solar development to fill the gap once they close.

Recommendations

The Western Balkan governments must finally take responsibility for a managed coal phase-out and stop letting energy utilities endlessly procrastinate on emissions reduction. The need to cut pollution and ramp up energy efficiency and sustainable forms of renewable energy is greater than ever. In order to ensure the energy transition in the Western Balkans six is transparent, accountable and just, the role of national parliaments, independent regulatory bodies and civil society should be enhanced. They need to be systematically included in independent oversight of the application of the 'fundamentals first' principle (rule of law, fundamental rights, strengthening democratic institutions) in energy transition. National parliaments' role in the decision-making process should also be significantly strengthened, by increasing their understanding of the issues and more meaningfully including them in decision-making.

Governments and utilities need to honour their commitments: plants operating under the opt-out regime must close promptly,[152] and the NERP plants must comply with their ceilings. Most urgently, the Ugljevik and Kostolac B desulphurisation units need to start functioning properly. Ongoing investments in desulphurisation need to be speeded up, and in the meantime, operating hours need to be reduced to decrease the pollution burden.

The disposal of waste and wastewater treatment resulting from desulphurisation needs to be resolved in a timely and well-planned manner, especially given the high risk of future environmental pollution.

Demand must also be reduced by other measures, both short-term and more systematic such as reducing distribution losses, insulating buildings, and the use of efficient heat pumps for heating instead of electrical resistance heaters. Such measures need to be given much higher priority than is currently the case.

The countries' final and/or updated NECPs need to contain realistic plans for a managed coal phase-out, based on their plants' real technical condition, the level of investment required to bring them into compliance with pollution control, and their lignite reserves and production capacity. North Macedonia and Montenegro in particular need to urgently clarify their coal phase-out dates, since they are likely to be first in the region.

The impacts of CBAM need to be integrated into these plans as these will severely impact on coal plants' operations, particularly in Bosnia and Herzegovina, Montenegro and North Macedonia.[153] In theory, countries can obtain exemptions if they satisfy conditions such as market coupling, introducing emissions trading systems at the level of the EU Emissions Trading System by 2030, and compliance with relevant EU legislation, but with the progress made so far, this seems unlikely.

Although the main responsibility is clearly with the Western Balkan governments, EU institutions need to step up their action as well, using all the tools at their disposal, such as conditioning EU financing and accession progress on compliance; sending clear, public political messages; and securing financing for a just transition of coal regions and transition to sustainable district heating. The Commission needs to propose stronger enforcement tools for the Energy Community Treaty, for the benefit of human health and the environment. If the Treaty is to further drive decarbonisation and market integration, its dispute settlement mechanism must be strengthened to include dissuasive penalties for breaches.

[152] The other option is to undergo major reconstruction to comply with the emission limit values for new plants under the Energy Community Treaty, but we are sceptical that this would be economically feasible in the majority of cases.

[153] CEE Bankwatch Network, The Western Balkan Power Sector - Between crisis and transition.

To all the Western Balkan governments

- Immediately close the opt-out plants.
- Reduce operating hours for non-compliant plants in order to comply with the NERP emissions ceilings until pollution control equipment is functioning or the plants are closed.
- Adopt or update National Energy and Climate Plans with clear and transparent plans for the phased closure of all coal plants and overall coal and fossil fuel phase-out dates. The plans must take into account the likely impacts of carbon pricing and/or the Carbon Border Adjustment Mechanism in the coming years, and must avoid expensive distractions such as new gas lock-in.
- Ramp up investments in solar, wind, energy efficiency measures, and grid improvements to cut losses and allow more connection of renewables, as well as the use of efficient heat pumps for households instead of electrical resistance heaters, in order to minimise the need to keep old coal plants online. Increase environmental scrutiny and public participation to minimise public resistance to solar, wind and grid investments.
- Enable effective environmental inspections of the large combustion plants under the NERP and opt-out regimes, with the aim of identifying breaches of national air protection regulations and applying enforcement measures and proper sanctions where applicable.
- Increase the amount of attention given to bottom-up participatory planning for a just transition at those coal plants and mines which will close first.

To the Bosnia and Herzegovina authorities

- Operate the desulphurisation equipment in Ugljevik immediately and continuously. Undertake real-time monitoring to ensure that the desulphurisation is being used at all times.
- Take immediate action to reduce dust emissions at Gacko, by reducing operating hours and/or installing new equipment, based on a realistic assessment of the plant's remaining lifetime.
- Cancel the decision to extend the lifetime of Tuzla 4 and Kakanj 5 and close the plants. Make the closure of Tuzla 3 official.
- Impose penalties on EP BiH and ERS for breaches of the NERP ceilings, and on EP BiH for the continued operation of Tuzla 4 and Kakanj 5 if they persist in operating after their lifetime extension decision is revoked.
- Immediately reduce the operating hours of all plants that are breaching their NERP ceilings.
- Adopt the draft Integrated Energy and Climate Plan with clarifications regarding plans for the country's coal phase-out and an economic justification for any further pollution control investments planned such as the desulphurisation investments at Kakanj 7 and Tuzla 6, taking into account the impacts of CBAM, coal production and the technical condition of the plants. Set the earliest possible closing dates for Gacko, Kakanj 6 and Tuzla 5, as it is unlikely that substantial investments in pollution control will prove feasible for these units.
- When carrying out environmental impact assessments for emissions reduction measures, ensure that the EIA studies contain detailed information on the technology to be used, what is to be done with by-products, and the expected results in terms of emissions reductions.
- Cancel the planned new Ugljevik III and Gacko II coal power plants and avoid replacing BiH's coal lock-in with a new gas lock-in.

To the Kosovo authorities

- At the very minimum, impose dissuasive penalties on KEK for its breaches of the NERP emissions limits.
- Immediately reduce the operating hours of all units to bring them in line with their NERP ceilings, particularly with regard to dust emissions from Kosova B.

- Start closing Kosova A, unit by unit, as it seems highly unlikely that further investments in pollution control would be economically justifiable for a plant of this age. Urgently reassess the economic justification for the planned EUR 137 million investment in Kosova A3 and other planned investments in Kosova A.
- Speed up retrofitting works to bring dust and NO_x emissions at Kosova B into compliance. Publish updated information on the project's status and a justification for the extensive delays and ensure speedy completion of the project to improve continuous monitoring at Kosova B.

To the Montenegro authorities

- At the very minimum, impose dissuasive penalties on EPCG for illegally operating the Pljevlja coal plant.[154]
- Develop a back-up plan in case the Pljevlja modernisation does not go as planned.
- Amend the draft NECP to commit to a coal phase-out year that is more realistic than 2035, based on the expected impacts of CBAM and/or increased domestic carbon pricing.

To the North Macedonia authorities

- At the very minimum, impose dissuasive penalties on AD ESM for breaches of the NERP ceilings.
- Formalise the closure of REK Oslomej and TEC Negotino.
- Avoid further delays to the planned coal phase-out and do not open new coal mines.
- Urgently address the lack of continuous monitoring in the large combustion plants.
- Reduce SO_2 and dust pollution from the Bitola power plant by keeping operating hours as low as possible to comply with ceilings until the plant is closed.

To the Serbia authorities

- Order the closure of the Morava and Kolubara coal plants, or at the very minimum impose dissuasive penalties on EPS for illegally operating them.
- Enable the enforcement of the final verdict of the High Court in Belgrade which ordered EPS to bring SO_2 emissions from its coal power plants into line with the country's NERP annual emission ceilings.
- Urgently clarify to the public why the Kostolac B SO_2 emissions continue to be so high in spite of a de-SO_x unit being installed and what is being done to fix this. Decrease operating hours in the meantime, and publish emissions data in real time online.
- The responsible inspectorates should, without delay, carry out inspections of the de-SO_x and wastewater treatment facility in Kostolac B and determine whether the required environmental protection measures are being applied.
- Publish emissions data in real time online for the new Kostolac B3 unit commissioned in December 2024.
- Provide updated information on the status of the Nikola Tesla A3-A6 desulphurisation project and publish emissions data in real time online.

[154] The changes to the Law on Industrial Emissions in December 2022 do not make its operation less illegal – see the 2023 *Comply or Close* report for more details.

- Ensure the timely and effective completion of the ongoing project to fit desulphurisation equipment at Nikola Tesla B1 and B2. Ensure that wastewater treatment and continuous disposal of gypsum are operational before completion to avoid delays with operating the desulphurisation once online.
- Considering that investments in desulphurisation are completed or underway at Serbia's main coal plants, the focus for the remainder of the plants should now be on planning for closure and a just transition for the workers and wider regions, depending on the plants.

To the Energy Community

- The Secretariat should continue to assist the Contracting Parties in finalising their National Energy and Climate Plans, ramping up investments in sustainable forms of renewable energy, introducing carbon pricing, preventing new gas lock-in and preparing for a just transition.
- Given the continued non-compliance on sulphur dioxide and breaches on nitrogen oxides in 2023 and 2024, we call on the Secretariat to issue a reasoned opinion on Serbia regarding its NERP breaches and to open a case with regard to the remaining opt-out units.
- We call on the Ministerial Council to confirm Pljevlja's breach of the Energy Community Treaty without further delay.

To the European Commission and EU Member States

- Initiate the strengthening of the Energy Community Treaty to ensure dissuasive penalties in cases of non-compliance.
- Secure additional, dedicated funding for a just transition of coal regions and sustainable district heating in the Western Balkans, including funds directly available to local authorities.
- Ensure that the potential exceptions from CBAM under Article 2(7) of the Regulation are stringently applied to the Western Balkan countries.
- Ensure that compliance with the LCPD is integrated as a condition in any future EU funds for the region, especially those operating on the principle of the Reform and Growth Facility.
- To address the lack of compliance with the Large Combustion Plants Directive and the Industrial Emissions Directive, emphasise the importance of enforcement at the national level, calling for a more active role for the inspectorates and enforcement before national judiciaries.
- Establish robust rule of law indicators for monitoring progress in energy transition, particularly concerning sound management of funds and compliance with the Energy Community acquis.
- Ensure that EU and international finance does not support gas in order to avoid creating further fossil-fuel lock-in.

Annex 1

Materials and methods

The emissions of Western Balkans coal power plants were collected from the EIONET Central Data Repository. Data for 2024 will only be verified by the European Environment Agency within the next few months. Where available, we have used verified emissions figures from the European Environment Agency for the period from 2018 to 2023, which may lead to some figures being somewhat different than those quoted in previous Comply or Close reports because of having been updated. The National Emission Reduction Plans used are official documents published by each of the countries. The overall country level ceilings used as reference include, in some cases (e.g. Serbia), emissions ceilings from other facilities that are not coal power plants (e.g. refineries), which explains why in those cases the national ceilings are higher than the sum of individual coal power plants' ceilings.

CEE Bankwatch Network

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