

By 1 January 2018, the deadline for compliance with LCPDs in the Energy Community countries, operators of coal-fired power plants in the Western Balkans should have invested in pollution control equipment to comply with the emission limit values of the Directive, or at least with the ceilings set out in the National Emission Reduction Plans. The countries had 12 years after signing the Treaty to do so.

Nevertheless, none of the countries with large combustion plants has ensured that its coal-fired power plants comply with the emission limit values from the Directive until 2018.

None of the four countries that have adopted the NERP – Bosnia and Herzegovina, Kosovo, Northern Macedonia and Serbia – has adhered to the ceiling set in their 2018 sulfur dioxide or dust plans.

In fact, in both 2018 and 2019, the emissions of sulfur dioxide from coal-fired power plants included in the NERP were a total of about six times higher than the sum of their upper limits. Total dust emissions were also almost 1.6 times higher than the sum of permitted ceilings, with only nitrogen oxide emissions remaining within the limits set in the NERP. For that reason, in March 2021, the Secretariat of the Energy Community opened cases for resolving disputes against Bosnia and Herzegovina, Kosovo, Northern Macedonia and Serbia due to non-compliance with their ceilings in 2018 and 2019. In 2020, emissions could be expected to fall due to declining economic activity as a result of the Covid-19 pandemic. But that was not the case. **In fact, emissions of sulfur dioxide from coal-fired plants included in the NERP increased compared to 2018 and 2019. They were 6.4 times the sum of the upper borders of the countries.**

In 2020, the total dust emission was 1.6 times higher than the combined ceilings in the countries, and in absolute terms it was even equal to a somewhat increased one. Both Kosovo and Bosnia and Herzegovina have exceeded their national dust ceilings.

Only total nitrogen oxide emissions remained below the combined regional 2020 ceiling. However, Kosovo and Bosnia and Herzegovina have exceeded their ceilings. Moreover, at the regional level, NO<sub>x</sub> emissions have increased slightly since 2018: by 2020, they have reached 0.9 times the combined NO<sub>x</sub> ceiling. With the reduction of annual ceilings every year, there will probably be new violations for this pollutant in the coming years.

On the other hand, many of the figures provided by power plant operators are estimates rather than the result of continuous monitoring. The Large Combustion Plant Directive also obliges countries to install and operate continuous emission monitoring equipment, but still almost half of the coal-fired power plants in the Western Balkans either do not have such devices or they do not work.

Therefore, emission data for all countries are based at least in part on estimates made on

the basis of measurements carried out once a month, and sometimes even once every three months.

In 2020, Serbian power plants included in the NERP were the largest emitters of SO<sub>2</sub>, with 333,602 tons, followed by Bosnia and Herzegovina with 220,411 tons.

**SO<sub>2</sub> emissions from Serbian coal-fired power plants also exceeded emissions from 221 power plants throughout the European Union in 2020.**

**In absolute terms, Ugljevik in Bosnia and Herzegovina was again the largest emitter of SO<sub>2</sub> in the region in 2020, with 107,402 tons. This means that only one plant emitted more than was allowed for all plants in the four countries.**

Despite the fact that the desulphurisation unit started trial operations in December 2019, Ugljevik emissions in 2020 were 19,000 tons higher than in 2019. Technical problems were reported in early 2020, and it appears that at the time of writing this report in June 2021 were still unresolved. It remains to be seen whether the benefits of this investment will ever be felt.

**In terms of breaking individual ceilings, Kakanj 7 in Bosnia and Herzegovina was the biggest offender in 2020, broadcasting almost 15 times the allowable threshold.**

They are followed by Ugljevik and Kostolac B1 + 2 in Serbia, which broadcast almost 12 times more than the allowed value.

Like Ugljevik, Kostolac B also has desulphurization equipment. The unit was installed by China Machinery Engineering Corporation (CMEC), and was completed in 2017, but has not yet been put into commercial operation. In April 2021, the Ministry of Mining and Energy announced that the plant was in fact in trial operation from October 2020, but that the results had yet to be reflected in the emissions data.

In terms of dust, the absolute largest emitter in the region in 2020 was Unit 1 Kosovo B, with 2,797 tons. Also, it had the biggest violation of its ceiling, emitting 6.6 times more dust than the allowed level.

In terms of nitrous oxide, Kakanj 7 in Bosnia and Herzegovina and Kosovo A4 were the biggest offenders, emitting twice the allowable limit.

Montenegro also became non-compliant with the LCPD in 2020, after taking advantage of the 20,000 hours of operation allowed by the Pljevlja power plant under the opt-out regime. For this reason, the Energy Community Secretariat opened a case to resolve the dispute against Montenegro in April 2021.

### **Impact on health**

The health impact assessment shows that close to 19,000 deaths occurred from 2018 to

2020 in all modeled regions due to the total emission of coal-fired power plants in the Western Balkans. Of that, more than 50 percent (10,800) were in EU countries, almost 30 percent (6,500) in the Western Balkans, and the rest in neighboring countries. Total emissions from coal-fired power plants have resulted in health costs ranging from 25.3 to 51.8 billion euros.

Nearly 12,000 of these deaths are due to the fact that the plants included in the NERP exceeded their ceilings between 2018 and 2020. More than half of these deaths occurred in EU countries – 7,000, while 3,700 deaths were in the Western Balkans and 960 in other regions affected by pollution in the Western Balkans.

In 2020, the country that suffered the most from exceeding emissions was Italy, with 605 deaths, followed by Serbia. Italy also had the highest number of deaths due to the consequences of exports from the Western Balkans, with 195 deaths. Greece and Serbia are slightly behind, with 180 and 165 deaths, respectively.

The impact of coal-fired power plants on health in the five countries of the Western Balkans is not limited to deaths, but also includes other health damage. Exceedances of combined emissions for 2018, 2019 and 2020 of all coal plants caused a total of about 30,000 days with asthma symptoms in asthmatic children living in the EU. Over 11,000 children have been affected by bronchitis in the EU for three years, which is slightly more than 50 percent of the total cases of bronchitis in children.

Exceeding emissions from power plants in the Western Balkans caused a total of 1.2 million lost working days in 2020 alone. The number of hospital admissions due to cardiovascular and respiratory symptoms was 3,000, while the EU has an estimated 1,800 hospital admissions in total. More than 6 million days were lost due to limited activities, with almost two thirds (3.5 million) hit EU countries and a third (2 million) countries in the Western Balkans. This in turn leads to a loss of productivity.

The modeling results show that the estimated health costs amount to between 6 billion and 12.1 billion euros in 2020 due to the excess of emissions from thermal power plants in the Western Balkans. Nearly three-quarters of the costs (73 percent) relate to people and countries in the EU (4.4 to 8.9 billion euros), 21 percent or between 1.3 and 2.6 billion euros to the Western Balkans, and the remaining 6 percent to other countries.

Source: [bankwatch.org](https://bankwatch.org)