

# EU MUST ACT TO STOP COAL POWER ECOCIDE IN THE WESTERN BALKANS

Impact of Coal Power in Tuzla, Ugljevik, and Kostolac on the Right to Food and Nutrition and Related Human Rights



## COAL IN BOSNIA AND HERZEGOVINA AND SERBIA

Bosnia and Herzegovina and Serbia are countries in the Western Balkans which source much of their energy from fossil fuels, especially coal. The region is home to several coal basins and thermal power plants, producing more than half of the countries' energy needs. Today, the Western Balkans has some of Europe's highest air pollution levels. Aside from CO2 emission, the main driver of climate change, electricity generation from coal pollutes air, water, and soil, and affects local communities' ability to feed themselves, thus having a detrimental impact on their human rights, in particular, their right to food and nutrition. Despite this, there are plans to enlarge and rebuild some of these outdated coal thermal power plants with the help of Chinese financing.

### Tuzla, Bosnia and Herzegovina

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Situated in north-eastern Bosnia and Herzegovina, in the Federation of Bosnia and Herzegovina, Tuzla ([population: 109,678](#)) is home to Tuzla Thermal Power Plant (TPP), the largest coal power plant (brown coal - lignite) operated by Elektroprivreda Bosne i Hercegovine (EPBiH), a public power utility company. At present, 4 units – Tuzla3, Tuzla4, Tuzla5, and Tuzla6 – are in operation that [burn over 3.3 million tons of coal annually](#). Controversy over a new plant, Tuzla 7, erupted on August 30, 2014, when a Chinese state-owned company Gezhouba Group Co. (CGGC) signed an

[Engineering, procurement and construction](#) (EPC) contract to build it, financed by China Exim Bank. In September 2018, Aarhus Center in Bosnia and Herzegovina successfully filed a complaint to the EU Energy Community Secretariat, challenging the state loan guarantee. The Energy Community [opened a dispute settlement procedure](#) on the planned state guarantee. The State Aid Council of Bosnia and Herzegovina decided that the previously issued state guarantee was illegal. This decision was challenged by the Federal Ministry of Finance and the process is still ongoing.

## Ugljevik, Bosnia and Herzegovina

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Ugljevik (population: 4,155) lies about 30 Km north-east of Tuzla, in the Republic of Srpska, an entity of Bosnia and Herzegovina. Coal mining started in the early 20<sup>th</sup> century and the [city was named after its sizeable coal resources – “ugalj”](#). The 300 MW lignite Ugljevik power plant supplied by the nearby Ugljevik coal mine has been operating since 1985. The plant is owned and operated by RiTE Ugljevik, a subsidiary of a state-owned integrated power company

Elektroprivreda Republike Srpske (EPS). An ongoing plan to expand the Ugljevik power station (Ugljevik 3 project) [has been challenged several times](#) by an environmental NGO - Center for Environment - due to a lack of public consultation and the project's non-compliance with EU regulations. Despite an earlier investment announcement, [China has now refused to finance the Ugljevik 3 Project](#).

## Kostolac, Serbia

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Kostolac ([population: 12,120](#)) is a city in Serbia which lies on the Danube river. Underground coal mining began as early as 1870 which led to the destruction and loss of some of the most fertile land in Serbia. In 1881, an industrialist and later lifetime Honorary Governor of the National Bank of Serbia became the owner of the mine. It was the [only source of energy for Serbian industry and transportation at that time](#). Today, there are two coal power plants: Kostolac A and Kostolac B. Both power plants have two units. In 2010, a

plan to re-establish and construct a new power plant (Kostolac B3) was announced. [The plan is to be implemented by the China Machinery Engineering Corporation \(CMEC\) to be financed by China Exim Bank](#). CEKOR, a local NGO, has [successfully challenged the establishment of the new coal thermal power plant](#) by raising the issue of non-application of the environmental impact assessment.

## COAL'S CHAIN OF CUSTODY

The journey of coal from the mines to waste disposals is often referred to as a [chain of custody](#). This chain has three main stages – 1. coal mining, 2. burning of coal (“combustion”), and 3. disposing of its waste. Each stage causes irreparable damage to human health, nature, and environment, and leads to human rights abuses and violations of the right to food and nutrition and related human rights.

**Exploitation of coal** (surface and underground) can lead to e.g. soil erosion, pollution, shortage, and destruction of water (also drinking water spring), relocation of water flows, loss of fertile land, landslides, and air pollution in surrounding areas. Large-scale excavation operations ransack land, generate huge waste, and cover surrounding communities with dust and debris. It can also cause flooding and subsiding of homes (depending on proximity



to the mine). Mining also displaces communities, forcing them to abandon their homes and natural resources they depend on.



**Emission of gases and particulates:** Burning of coal (“combustion”) results in high emissions of toxic gases and pollutants which harm the human health and environment. Sulfur dioxide (SO<sub>2</sub>) and particulate matter (e.g., coarse particulates) cause [a wide range of health effects](#): respiratory illness, infections, heart disease, stroke, lung cancer and adverse negative birth outcomes such as preterm birth and low birth weight. After coal is burned, up to 25% of it remains. Ash consists of inorganic compounds, minerals of silicon, calcium, and magnesium.

High emissions of gases and aerosols can pollute arable land in their immediate vicinity. Plants absorb them from the soil, and they enter the food chains of various consumers, thus having a greater negative impact on the quality of agricultural products and ultimately the health of the population.

**Disposal of waste:** Slag and ash are solid waste that originates in the process of coal combustion in thermal power plants. It encompasses electro-filter ash and solid waste generated in the process of desulphurisation of gases. [Slag and ash contain numerous chemical elements, including toxic heavy metals](#), which, when exposed to rainfall and wind or are in contact with water, can cause contamination of underground water and its flows, springs, plants, and soil, thus impacting humans, the entire ecosystems, and the local food system. Ash and slag dumps represent a serious pollution risk for soil and groundwater.



**Local communities in the vicinity of Tuzla, Ugljevik, and Kostolac thermal power plants continue to experience many of the detrimental impacts described above.**



## HOW DO COAL MINES AND COAL-POWERED THERMAL PLANTS IMPACT THE RIGHT TO FOOD AND NUTRITION AND RELATED RIGHTS OF LOCAL COMMUNITIES?

Vast areas of arable land have been converted into open cast mines in these parts of the Western Balkans. Environmental destruction including air, water and soil pollution, dust emissions and changes in the availability and flow of groundwater, water springs and streams have impacted the quality and fertility of soil. This has left much agricultural land less productive for local communities who depend on it for their livelihoods and to feed their families.

In Tuzla, mining has caused the [degradation of 4,400 ha of land, 4,417.24 ha of forest vegetation and has redirected the flow of the Spreča and Šikuljačka rijeka rivers](#). The fertility of land in Ugljevik has been impacted by the mine there, and villagers report the deteriorating quality of locally grown fruit. Similarly, in Kostolac, there has been damage to agricultural land, including pastureland and crops. In some areas the water is reportedly so polluted that it is no longer suitable for drinking and daily use. Increasingly, local villagers are forced to buy food in supermarkets - instead of growing food for their own consumption.

*“40 years ago, we had livestock. We sold milk and cheese. We grew all sorts of vegetables such as sugar beets and cabbage. We had our own wheat flour and made our own bread. Today, we are forced to buy all food items because our agricultural land has been expropriated for the mine and is destroyed. We are forced to buy all food items today and eat less healthy food.”*

(Testimony of a village woman from Drmno, a village near the Drmno mine, Kostolac, Serbia)

### Displacements

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In all three cases, villagers were relocated to make way for surface mining. In Tuzla, for example, [20 villages were relocated](#), and in Ugljevik, the entire municipality was [moved from “old” Ugljevik \(then not yet called “old”\) to the newly built complex - New Ugljevik](#). [Two more villages, Mezgarja and Bogutovo Selo, are currently being](#)

[relocated](#). In Kostolac, many villagers were [not adequately compensated](#) for displacement. There are still several pending cases 30 years later. Large-scale displacement has resulted in violations of local people’s right to land, and many other related human rights such as the right to food and nutrition which is intrinsically linked to it.

## Sky high emissions

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Coal produced in the respective mines supplies thermal power plants in Tuzla, Ugljevik and Kostolac, which are all situated close to populated areas (in Ugljevik only 200m away). All thermal power plants are known for emitting a considerable number of gases and particulates, which can have an impact on the health of local populations.

Ugljevik thermal power plant [emitted more SO2 than all of Germany's coal power plants combined](#) in 2019. Its emissions were among the highest of all coal power plants in the country, [causing](#) the most days of asthmatic symptoms among children

(12,000 days in 2020) and the highest number of cases of bronchitis (1,142) in children and cases of cardiovascular and respiratory symptoms (469) in 2020. In 2021, in [absolute terms](#), Ugljevik was the highest-emitting unit for SO2 in the region, while in terms of breaching its individual SO2 ceiling in 2021, the worst offender was Kostolac A2 (emitting 13 times as much as allowed), followed by Tuzla (11.6 times) and Ugljevik (10 times). The villagers of Kostolac claim that due to high emissions, agricultural land has been contaminated, causing a decrease in harvests and question the adequacy of locally produced vegetables.

## Toxic ash contamination in water

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Coal waste (ash) disposal further jeopardizes nature and people's health through water and soil contamination: in Tuzla, ash disposal sites were built in natural valleys and near urban areas without proper construction and fencing off the areas. Due to the [contamination of wastewater with heavy metals](#), it cannot be discharged into surface water without treatment and must not come into contact with underground water. Notwithstanding, underground and surface spring water in the vicinity of the disposal site contains high levels of nitrates, iron, and manganese.

When disposal sites became dysfunctional in the early 1990s, the sites were closed off by covering the surface layer of slag and ash with an approximately 20 cm thick layer of soil. After covering the sites, the process of auto-recultivation started (wild vegetation appeared, in the form of weeds), and part of the surface was also used by the local population for agriculture and cattle grazing.

This soil used for agriculture currently contains extremely high concentrations of nickel, and high contamination levels of chromium and cadmium. Such chemicals were also found in [locally produced and marketed food](#) such as eggs, as well as vegetables (e.g., onions, garlic, herbs). Tested hair samples of local inhabitants

showed the presence of highly toxic heavy metals, resulting most probably from food intake (nutrition) and exposure to the living environment (anthropogenic sources). This all indicates that heavy metals in soil have entered the local food chain/food system in Tuzla.

In Kostolac, [large quantities of coal combustion waste](#), such as ash and bottom ash are disposed of at two nearby landfills - Kostolac Central Island (SKO) and Cirikovac. In 2020, the State Audit Institution highlighted the [failure of the state power company EPS](#) in closing landfills, thereby causing ash to be dispersed to surrounding settlements, endangering the environment and human health.

## Call for Action

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The EU must address the above serious environmental and human rights abuses and violations immediately by calling on Bosnia and Herzegovina and Serbia - both EU candidate countries - to respect their national and international environmental and human rights obligations and commitments. The EU must take further action to demand Bosnia and Herzegovina and Serbia to implement the [European Union Green Agenda for the Western Balkans](#) and make any EU funding conditional on demonstrating

respect for environmental and human rights. The EU must do everything within its power to stop the establishment of any new coal thermal power plants in the Western Balkans. It should particularly cooperate with China in order to suspend permission to construct coal-fired power plants and pause ongoing financing for construction in Bosnia and Herzegovina and Serbia, as [recommended](#) by the UN Committee on Economic, Social, and Cultural Rights.

## HUMAN RIGHTS AFFECTED :

**The right to food and nutrition, the right to life, the right to a safe, clean, and sustainable environment, the right to land, and the right to water.**

**May 2023**

*This briefing was elaborated in collaboration with CEKOR, Aarhus Center in Bosnia and Herzegovina and Center for Environment, with support from the European Climate Fund. Published by Fian International.*



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