

Most winter days, the sky over Šahiza Šehić's house is filled with plumes of acrid black smoke. Šehić, who is now retired, lives in the shadow of the vast Zenica steelworks in central Bosnia, where she worked all her life.

As she speaks, a huge cloud of thick dust drifts overhead. ArcelorMittal, the world's largest steelmaker and owner of this Željezara plant, has repeatedly failed to deliver on promises to reduce pollution from the steelworks' vertiginous chimneys and smokestacks.

"Sometimes there is so much dust you cannot believe it," Šehić says as she shuffles around her garden, which backs directly on to the factory perimeter fence. Regimented rows of plums, peaches, pears and strawberries are covered in a thin film of grey ash. "In addition there is some kind of glittery dust," she says. "Sometimes I even find it inside my house. I bring it in on my shoes."

Steel giant ArcelorMittal owns the Zenica plant. When Lakshmi Mittal bought the Zenica plant, in 2004, the Indian billionaire promised to make "all appropriate investment in the protection of the environment". But a decade on, much of this work has not been completed. Meanwhile, the vast Zenica steelworks is operating without valid Bosnian permits, and a number of pledged improvements to reduce emissions from the factory have not been made. Smail Sivić lives a few doors down from Šahiza Šehić. On sunny days, Sivić and his wife used to drink coffee in their backyard. "Now if you are outside for 10 minutes, everything changes and turns into black," he says. "Like somebody has sprinkled black pepper. It is killing us."

Zenica is a town of around 100,000 dominated by steel. The local football team is named Čelik – "the steel". The prevailing wind often carries carries fat reels of smoke and dust from the towering blast furnaces and needle-thin chimneys that puncture the skyline. On a bad day, even drawing a breath can be a struggle.

Downtown, electronic displays erected atop the slate-grey communist-era apartment blocks measure the amount of sulphur dioxide (SO2) in the air. The SO2 comes from domestic heating, transport and industry.

In 2015, levels of this toxic gas exceeded EU safe limits 166 times. Although the measuring stations do not measure the particular source of any pollutant locals have frequently protested ArcelorMittal's failure to introduce environmental improvements that were pledged when the steel giant bought the plant over a decade ago.

The Zenica steelworks first opened at the tail-end of the 19th century, when Bosnia-Herzegovina was a restive part of Austro-Hungarian empire. Under Marshal Tito, production boomed. Workers were recruited from all over the former Yugoslavia and even further afield.



Production ground to a halt during the Bosnian war, which began 25 years ago this April. In 2004, Lakshmi Mittal, one of the world's richest men, purchased most of Bosnia's steel industry during the postwar privatisation drive. The deal was widely welcomed in Zenica – in a city devastated by war and hardship, many saw this as a chance for work, a chance to return to normality.

But prosperity has not returned to Zenica. The steelworks employed around 22,000 people in 1991, but barely a 10th of that figure work in Željezara today. Many complain that their jobs are insecure and have come at huge cost to the local environment.

In the 2004 privatisation agreement Mittal Steel, now ArcelorMittal, committed to make "all appropriate investment in the protection of the environment". In documents submitted to the Bosnian Federal Ministry in 2008, the steel giant promised to undertake a series of expensive measures to reduce emissions. This work was to be completed by the end of 2011. More than five years after that deadline, many of these improvements have not been finished or, in some cases, even started. The huge basic oxygen furnace (BOF) still operates without secondary dedusting, which is in contravention of Bosnia's Environmental Protection Act. There has been no desulphurisation of the coke oven. The plant has been operating without some of the required environmental permits since December 2014; others lapsed in November 2015.

ArcelorMittal states that permits are expected to be in place "very soon", and that in the meantime it is entitled to continue operations. It also says the rise in SO2 emissions since the plant restarted can be attributed to the town's ageing central heating system, and to locals burning coal to heat their homes.

But while estimates suggest Zenica households use around 50,000 tonnes of coal each year, the steelworks consumed about 16 times that – 815,098 tonnes – in 2014 alone, according to statistics released by Bosnia's federal ministry for environment and tourism. One third of the coal consumed by ArcelorMittal Zenica is used for the voluntary supply of heating to the city. Further, that the 545,888 tonnes of coal consumed in the coke plant contains 0.9% sulphur, and the 269,210 tonnes of coal consumed in the power plant for the voluntary supply of heating to the town contains 3.5% sulphur – this coal, with a higher sulphur content, is supplied locally as part of an agreement with local authorities.

Air pollution is a major problem in Bosnia-Herzegovina. The country has the world's fifth highest incidence of death by air pollution. Rates of lung diseases are among the highest in the world. Bosnia loses a staggering 21.5% of its GDP each year due to the air pollution. In Tetevo, a ribbon of ageing houses and grassy escarpments abutting the Zenica steelworks, residents have been warned not to eat locally grown broadleaf vegetables or



eggs because of contamination.

Many locals believe the air pollution causes disease. Both Šahiza Šehić and her husband, Asim, have had cancer. Many of her neighbours have had similar health problems. "There are people with pulmonary cancer, breast cancer; many have digestive tract cancer," Šehić says. "Almost every house has lost at least one person due to cancer. It wasn't like this before."

Samir Lemes joined the environmental group Eko Forum Zenica in 2009. The previous year, his father had died and he was worried about the effect the environment was having on his two children. "Every winter we are coughing, contracting the flu and similar health problems, which I blame the pollution for," says Lemes, who is now Eko Forum's president. In 2015, Eko Forum filed criminal complaints against ArcelorMittal and the federal authorities, citing the continuous high level of air pollution – the first formal accusation of environmental crimes in Bosnia. In January 2016, a lawsuit was filed against Bosnia's federal ministry of environment, this time by the authorities of the city of Zenica itself. Both cases are ongoing.

A spokesperson for ArcelorMittal said: "If any case does proceed, we will vigorously defend our record, based on strong, factual evidence."

Lemes wants ArcelorMittal to fulfill the promises made when the multinational took over the steelworks. He is not alone; in Zenica's centre, graffiti on the walls carries stark messages: "We want filters," read one.

Lakshmi Mittal, who also owns an address in Kensington and a large stake in Queen's Park Rangers football club, is one of the biggest investors in postwar Bosnia. ArcelorMittal, the company of which he is both chairman and chief executive, is the largest exporter in Bosnia. Professor Smail Durmišević from the Institute for Public Health has spent his career looking at the impact of air pollution in Zenica, and believes the level of SO2 is dangerous. But due to a lack of resources – and, he believes, political will – no detailed studies have been conducted on the connections between the air in Zenica and diseases such as cancer. "Society doesn't encourage us to do this job. I have been aware of this situation but nobody seems to care," he says.

Lemeš claims ArcelorMittal has been able to take advantage both of Bosnia's complicated state structure (there is no single office to deal with the environment) and of fears that the company could close the steelworks.

"We have one big corporation that is much more powerful than the state," Lemeš says. "When the state tries to impose any kind of pressure over them, they just say that they will leave and over 2,000 people will be without a job. The problem is that the state believes



## these threats."

A few hundred yards from the edge of the steelworks, Samir Kubat's young family live in a squat, cramped house. Kubat, a veteran of the Bosnian war, is stocky and well-built with strong, dark features. His youngest son is noticeably paler, with an incessant, hacking cough.

"During the winter, every week I have to take him to see the doctor," says Kubat, who became involved with Eko Forum after his best friend died of lung cancer. As we speak, the roof of a large, box-shaped furnace in the middle-distance opens, and a volcano of thick, redorange smoke billows up into the sky.

A spokesperson for ArcelorMittal said the company is "extremely proud of our record of investment in ecological improvements". The company has invested €45m in environmental improvements in Zenica since taking over the plant, and said the filtration system on the basic oxygen furnace is due to be in place by the end of 2018: "The company continues to take every possible technical step to reduce coal consumption in our power plant boilers." On concerns about the link between air pollution and ill-health, the company said: "Unfortunately we are witnessing increases in all forms of cancer all over the world ... We are working hard to reduce our emissions, but ArcelorMittal alone cannot solve the increase in cancer."

Regarding the allegation that it responds to state pressure by threatening to move jobs out of Zenica, the company said it was "completely groundless", and went on: "From the beginning, we have been open and transparent about the significant environmental challenges we are addressing in Zenica.

"They are rooted in the history of the plant, which was built at a time when no attention was paid to ecological factors. The factory was then largely disused for almost 17 years following the war in the 1990s, creating further unique technical challenges. The antiquated city heating system, and the area's specific geographical and meteorological environment are also significant factors.

"We have always been honest in explaining that these problems will take considerable time to resolve. We are determined to do so, but improvements can only be achieved through cooperation from all parties."

It also pointed to its investments and €45m spent on environmental improvements, as well as "a new contract for almost €20m recently signed to secure the future of the blast furnace for the next 15 years. Discussions are in progress for a major joint venture with the local authorities to finally resolve the city's heating problems. These are hardly the actions of a company 'threatening to close down'. We believe our actions speak for themselves in



demonstrating our strong commitment to building a long-term, sustainable future for steelmaking in Zenica."

Under Bosnian law, ArcelorMittal is lawfully operating the plant because the company has provided all required information to the authorities, and the administrative permit renewal process is ongoing.

It added that the steelworks "will be fully aligned with EU standards" before Bosnia joins the European Union. Right now, the prospect of the EU admitting this fractured Balkan state seems remote.

Meanwhile, many young people are leaving Zenica in search of work – and clean air. Among them is Kanita Bilić, a talented teenage athlete who moved to Germany last spring. "I want to run for a living, and in Zenica it is not possible," she says. "I cannot even breathe when I am running. Sometimes it is so polluted [there] that I feel pain in my chest."

Two months after she left, Bilić won her first competition gold for the acclaimed VFB Stuttgart athletics team. Bilić would like to train in Zenica again – but only when she can breathe.

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