

**Two huge coal projects on the EU's borders backed by Chinese banks - massively downplay the costs of emissions and ignore many air and water pollution impacts. They could also leave local taxpayers on the hook, since parliaments in both countries have provided state guarantees to China on the loan repayments.**

At least one of the planned coal plants in Bosnia and Serbia is reportedly part of China's "Belt and Road" initiative, which treats the region as a crucial strategic transitway for Chinese goods to Western Europe.

But previously unpublished documents, obtained and translated by *Unearthed* and examined by experts, show that the feasibility studies used to seek and obtain approval for the power stations contain basic flaws which massively underestimate the costs the plants will face once Bosnia and Serbia join the EU's carbon market, which they would need to in order to become EU members.

The feasibility studies matter because they were used to obtain political sign-off for the guarantees and to justify the projects to lawmakers.

According to Frede Hvelplund, professor of Energy Planning at Denmark's Aalborg University, who specialises in feasibility studies, quality studies are key to democratic decision-making.

"Feasibility studies present a systematic way of taking a certain decision where it's possible to see the assumptions behind it, said Hvelplund. These reports however, he said, contain errors so grave they suggest "either stupidity or bias".

Green MEP for the South West, Molly Scott Cato said: "Any country negotiating to join the EU must meet Paris Agreement standards on carbon reductions and any energy investments should be viable at the current ETS carbon price.

"King Coal is dead - it is a stranded economic asset and environmental disaster. If we are to prevent climate chaos we must leave it in the ground. Building Chinese backed coal plants in Bosnia and Serbia therefore makes no sense in any respect."

Experts warned the Environmental Impact Assessments (EIAs) produced for the plants also fail to detail local and international pollution. In documents for the Bosnian plant, seen by *Unearthed*, air pollution flows into the EU are not considered at all.

In fact, the new plants are likely to cause severe environmental damage at a local level, as well as significant air pollution that could cross the EU's borders.

Residents close to one plant face the conversion of a swimming lake into a new ash disposal

site, adding to ongoing heavy metals pollution from existing slag dumps.

Documents seen by *Unearthed* describe the new dump as part of the “recultivation” of the site, which was once a mine.

### **‘Deadly reality’**

The plants would add to the air pollution caused by old and inefficient coal facilities in Western Balkan states; a study by the Health and Environment Alliance (HEAL) found that, in 2016 alone, 16 coal plants in the region released as much sulphur dioxide as the entire fleet of the EU’s 250 installations.

Other local environmental concerns are no less serious.

In the town of Divkovici, near Tuzla in Bosnia, 36-year-old mother Kristina Stojak keeps a collection of asthma inhalers on her sitting room table for her two boys. Lung problems are common in Tuzla, where the city’s 715MW lignite-fired power plant which pumps out 51,000 tonnes of sulphur dioxide per year — and there are plans to expand it further.

Data analysed by Tuzla’s Centre for Ecology and Energy found micro-particle pollution in the region is a major cause of death and ill health. The study found that levels of PM10 particles in Tuzla exceeded the legal daily limit of 50 µg/m<sup>3</sup> on 98 days in 2018, exacerbating mortality from lung conditions. The same data model suggests that high levels of PM2.5 micro particle pollution may have caused 17% of all premature deaths among people over 30 in the city last year.

Emissions from the power plant’s towers aren’t the only problem. Waste ash and coal slag – the products of combustion – are pumped into landfill sites, one of which is a kilometre from Mrs Stojak’s house. The wind picks up and scatters ash from the dump, called Jezero II. Every day Mrs Stojak sweeps a layer of fine grey flakes from her balcony.

The Bosnian government has failed to release any study on contamination of air, soil and water by Jezero II and similar landfills, but a 2015 study by researchers from Prague’s University of Chemistry and Technology found nickel, chromium, cadmium, arsenic and mercury in soil samples taken nearby. Higher levels of cadmium – a carcinogen – were found in onions grown locally.

Attitudes to health and safety seem relaxed. An *Unearthed* reporter was able to walk to the edge of Jezero II, which is bright blue from chemicals, without passing a sign or fence. Mrs Stojak said: “As my boys grow, I’ll be very worried about them wandering onto the site.” Of the general pollution levels she added: “I would honestly like to move somewhere else – but my husband is staying here to fight the problem. I think we will all suffer.”

As part of plans for a new 450MW unit at the local power plant, state-owned utility Elektroprivreda Bosne-i-Hercegovine (EPBiH) is now pushing for permission to create a new ash dump nearby at a site called Sicki Brod. The proposed landfill is at the site of a former coal mine which has been rehabilitated by local activists over the past 20 years. It is surrounded today by orchards, and residents swim in its natural springwater.

Proposed amendments to the Tuzla Canton spatial plan to accommodate EPBiH's proposals describe the hoped-for transformation of the swimming lake into a toxic ash dump as a final stage in the "recultivation" of the site.

"It sounds funny but it's serious. Somebody should lose their diploma for that," says Denis Zisko, of Tuzla's Centre for Ecology and Energy. His NGO has mounted a challenge to the amendments, to block EPBiH from getting an environmental license for the dump.

It is one among several serious objections to plans for the proposed new unit, called Blok 7. Not only do studies for the unit fail to address residents' concerns about toxicity from the ash dump, they also do not mention cross-border impacts of air pollution from the plant.

A recent study by Greenpeace found that two new plants in Bosnia Tuzla and Banovići would together contribute towards 960 premature deaths of which 810 would be outside Bosnia's borders. The Centre for Ecology and Energy shared the Bosnian project's documents with *Unearthed*.

## **Loan costs**

The plant is touted by politicians as a long-term solution to Bosnia's energy supply issues. Construction costs of the plant will be covered mostly by a €613 million loan from China's ExIm Bank, signed for in 2017. The majority of the construction will be carried out by China's Gezhouba Group, with the smaller percentage going to local firms. But it's not clear that, once construction is complete, the plant will be able to produce electricity at a profit — or pay back the loan.

The project has been beset from the beginning by criticisms of economic unviability. It initially attracted the interest of the Japanese International Cooperation Agency and Hitachi Mitsubishi in 2014. They ran a feasibility study before pulling out, citing political instability and unprofitability.

In 2016, in a bid to revive the scheme, the state utility took on the project and commissioned a feasibility study from US consultancy Delphos International and later – still dogged by claims that the project was unprofitable – a study in May 2018 by Bosnia's Institut Za Gradjevinarstvo.

The second, dated May 2018, claims to be a “complex, expert examination and analysis” and “independent evaluation” of the case for Blok 7. The authors said their analysis proves EPBiH will be able to repay the Chinese loan as well as turning a “significant profit”. That study was instrumental in securing political support.

But in its predictions of EU carbon emissions charging, authors underestimate the cost of EU carbon emissions charges to such an extent that Frede Hvelplund, professor of Energy Planning at Denmark’s Aalborg University, called the analysis “absurd”. Hvelplund, who publishes academic work on best practice for feasibility studies, said the errors in carbon pricing alone are “enough to say the study is totally wrong”.

The EU’s Emissions Trading Scheme (ETS) obliges firms to buy allowances for each tonne of carbon dioxide they emit. Bosnia is applying to join the EU and is a current member of the European Energy Community, the international body that extends the EU’s energy market and rules across Southeastern Europe. Bosnia will need to sign up to the ETS by the time it joins the EU, at the latest — but possibly beforehand as part of an easing-in scheme.

The feasibility study predicts that the plant would not need to pay for carbon emissions at all until 2034. What’s more, it then cites a predicted cost of carbon emissions beyond 2034 at a fraction of their likely price. It uses the average of the price per tonne of CO<sub>2</sub> from 2006 to 2018 – only €7.10 – as the predicted baseline, subject to an annual growth rate of 2%.

In reality the price of CO<sub>2</sub> has climbed since the introduction of the ETS, and is expected to climb further. It is currently hovering around €26. “I don’t think you’ll find anyone in the EU who believes the price of carbon will fall to €7.10 by 2034. The suggestion is either bias or stupidity,” said Hvelplund.

The effect is to hide what would otherwise be a forecast of massive losses at the plant — and it’s feared Bosnian taxpayers would foot the bill.

## **Serbian plan**

One more project in the advanced stages of planning, like Tuzla’s Blok 7, is a 350MW unit called B3 in the Serbian town of Kostolac, with Chinese finance agreed in 2014. A feasibility study performed in 2015 for that plant, like Blok 7, also dismisses potential pricing of carbon emissions — partially on the grounds the state will pay for them.

The study says in one place that “cost of permits for emitting CO<sub>2</sub> were not included in the costs ... because it is assumed that state of Serbia will overtake eventual obligation of payment”.

The sensitivity analysis then does introduce costs per tonne of CO<sub>2</sub> of \$6.55 and \$13.10 (about €5.90 and €12.52 by today's exchange rate), admitting that in the latter case the project would tip into unprofitability. The price currently is double that, and expected to rise.

Another factor affecting eventual profitability of the Serbian plant is the pricing of coal in the report. The study assumes a price of \$17.56 when the price on Serbia's internal market is thought by local activists to be closer to \$25 today.

Meanwhile, the environmental impact of expanding an existing coal mine Drmno to supply the new B3 unit, from nine million tonnes of coal production per year to 12, is also not considered at all in the documentation.

Zvezdan Kalmar of Serbian environmental NGO CEKOR, which has challenged the plant's environmental impact assessments in court alongside NGO Bankwatch, said: "I see the study as false and misleading, and not showing the danger of this project to the public budget.

CEKOR shared the Serbian project's documents with *Unearthed*.

## **Road to where?**

Jens Bastian, formerly chief economist for the European Agency for Reconstruction and author of the EBRD report *Balkan Silk Road*, said the Western Balkans are strategically important to China as a gateway.

"The individual countries have attracted China's interest for different reasons, but the Balkans land-based and maritime corridors are one among these other transport and logistics routes which ultimately lead Chinese companies to Western Europe," he said. Since the World Bank, EBRD and European Investment Bank have halted funding for coal projects citing environmental concerns, Chinese offers have caught the eyes of politicians in Bosnia and Serbia.

"China can provide long-term lending with low interest rates, and asks very few follow up questions," said Bastian. "But when you start reading the fine print, you need to ask questions."

Source: [unearthed.greenpeace.org](http://unearthed.greenpeace.org)