

# Stanari coal power plant Bosnia and Herzegovina

**Sectors:** Coal Electric Power Generation

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**By:** BankTrack

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**Contact:**

[Katharine Lu](#), Friends of the Earth US

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[Project website](#)

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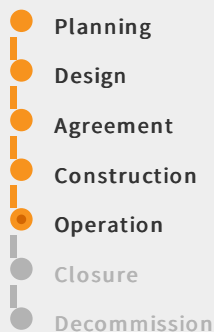
## Status



**Sectors** Coal Electric Power Generation

**Location**

**Status**



**Website** <http://www.eft-stanari.net/en/>

## About Stanari coal power plant

Energy Finance Team is currently developing a lignite power plant in Stanari, Bosnia and Herzegovina. The proposed 300 MW plant is being built by Dongfang Electric Corporation using circulating fluidized bed combustion (CFB) technology and a dry cooling system. It is financed by the China Development Bank. There are two main concerns with the plant: pollution levels and the need for a new environmental impact assessment for the coal plant.

## Latest developments

**Almost none of new coal power plants planned in the Balkans will meet EU pollution standards, according to a new analysis**

Jun 14 2017

**EFT's new 300MW TPP Stanari starts operation**

Sep 20 2016

**What must happen**

Given the current state of development, the local government, Republic of Srpska, should take the following actions:

- A new environmental impact assessment for the project must be carried out as according to the Energy Community Treaty and account for the reduction in MW output.
- The Stanari Coal Plant must comply with the European Emissions Directive.
- An environmental assessment of the associate coal mine must be launched.
- Construction on the project should be halted indefinitely until all necessary permits and impact assessments are obtained.

As the financier for the project, China Development Bank should consider:

- Immediately suspending loans to the project until all the legally required environmental permits and impact assessments are obtained by EFT.
- Launching an audit to ascertain EFT's environmental performance and compliance to local laws and regional regulations.

## Impacts

### Environmental impacts

**Environmental permit not in line with Bosnia and Herzegovina's international obligations** Usually the most reliable source of information about expected and permitted emissions levels for a power plant would be the environmental permit. However the permit for Stanari does not contain any information about the expected emissions; it only mentions the permitted emissions. According to the current environmental permit, the emissions would be 2-10 times higher than allowed by the Industrial Emissions Directive, and 2-3 times as high as allowed by the Large Combustion Plants Directive<sup>[1]</sup>. Regarding efficiency, EFT's website states that its gross thermal efficiency is 38.5%. As gross electric power is 300 MWe and net electric power is 265 MWe, it can be concluded that net thermal efficiency is  $(265/300) \times 38.5\% = \text{ca. } 34\%$ . This value is much lower than the relevant limit of 40% laid out in the Best Available Techniques reference document. Also, EFT claims that Stanari will be in line with the LCPD. However, as the emission limit values laid out in the environmental permit are much less strict, it will not be realistic to hold the company accountable to even this standard.<sup>[2]</sup>

**The urgent need for a new Environmental Impact Assessment** The Environmental Impact Assessment Directive<sup>[3]</sup> (EIA Directive) should have been implemented by Bosnia and Herzegovina, as according to the Energy Community Treaty. Article 3 of the EIA Directive states that the direct and indirect effects of a project on several factors<sup>[4]</sup> need to be assessed during the EIA process. However, in the Stanari Environmental Permit there is only data on limits for some pollutants, while important data on annual amounts of air pollution, solid waste and waste water pollution is missing. Without this information, a correct assessment of environmental impact for a lignite-fired power plant is impossible. Another problem with the EIA is that after it was conducted, the plant underwent major design changes. After the first Stanari Environmental Permit was issued, the project was changed from 410 MWe to 300 MWe and from pulverised coal with supercritical steam parameters to subcritical steam parameters in a circulating fluidised boiler, also with a lower thermal efficiency than the 410 MW version (34% net thermal efficiency compared to 43%). But there was no new EIA process. As a result, a concern from local groups is whether the changes require a new EIA report.

The first change will have an ambiguous effect. Generally, one can expect that the replacement of pulverised coal combustion by circulating fluidised bed combustion will increase SO<sub>2</sub> emission and decrease NO<sub>x</sub> emissions. According to the previous project (pulverised coal combustion), Stanari should emit a maximum of 150 mg/m<sup>3</sup> of SO<sub>2</sub> and 200 mg/m<sup>3</sup> of NO<sub>x</sub>, while according to the present one (circulating fluidised bed combustion) - maximum 200 mg/m<sup>3</sup> of SO<sub>2</sub> and 150 mg/m<sup>3</sup> of NO<sub>x</sub>. The net environmental effect of such change is debatable; however higher emissions of one crucial pollutant (SO<sub>2</sub>) and lower emissions of another one (NO<sub>x</sub>), requires a new environmental impact assessment.

The second change, *i.e.* the decrease of electric power from 410 MWe to 300 MWe, will only seemingly decrease the environmental impact of the whole power plant. However, as a decrease in efficiency seems to have taken place as well, there will likely be more pollution per unit of energy with the new, smaller project, and this needs to be assessed. In fact, the above described changes on Stanari PP are so large, from the viewpoint of their environmental impact, that this project can be regarded as a new one, compared to the time when the environmental decision was issued.

The changes in the Stanari power plant project therefore require a new Environmental Impact Assessment.

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<sup>[1]</sup> This is slightly complicated as the permit in fact lists three different standards that the plant is obliged to adhere to and which include limit values for air pollution: Bosnia and Herzegovina's own legislation; the Large Combustion Plants Directive, and Best Available Techniques. However the document is internally contradictory and the only limit values actually copied into the document are the ones from the Bosnia and Herzegovina legislation, which are also the least stringent.

<sup>[2]</sup> For more details and references on the emissions issues, see <http://bankwatch.org/sites/default/files/analysis-Stanari-compliance.pdf>

<sup>[3]</sup> Directive 2011/92/EU of the European Parliament and of the Council, of 13 December 2011, on the assessment of the effects of certain public and private projects on the environment

<sup>[4]</sup> "(a) human beings, fauna and flora; (b) soil, water, air, climate and the landscape; (c) material assets and the cultural heritage; (d) the interaction between the factors referred to in points (a), (b) and (c)."

## Governance

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### Applicable norms and standards

1972 Convention on the Prevention of Marine Pollution by Dumping Wastes and other Matters

Alliance for responsible mining

Extractive Industries Transparency Initiative

ILO Safety and Health in Coal Mines

ILO Safety and health in opencast mines

ILO Safety and health in the iron and steel industry

International Council on Mining and Minerals (ICMM)- 10 Principles

OECD Guidelines for Multinational Enterprises

Safety and Health in Mines Convention

United Nations Declaration on the Rights of Indigenous Peoples

Universal Declaration of Human Rights

### Other applicable regulations

**The Green Credit Directive** The [Green Credit Directive](#) is a Chinese banking policy which requires Chinese finance institutions to incorporate environmental and social risks into their lending process. In projects where major hazards are identified, Chinese banks are obligated to suspend or terminate financing to the client. The policy also requires that clients abide by all local host country laws and international norms when investing overseas.

**Energy Community Treaty (Europe)** The [Energy Community Treaty](#) establishes a regulatory framework for energy markets between the European Union and contracting parties of Southeast Europe. The Treaty was formalized in 2006. Participating member countries are bound to abide by specific energy efficiency requirements when developing power plants.

**Industrial Emissions Directive (Europe)** The Industrial Emissions Directive is a European Union directive which aims to define the obligations of industrial activity and control pollution impacts. The Directive applies to sectors with a potentially heavy pollution and environmental impact, such as mining, chemicals, energy industries, and combustion plants. The basic [environmental requirements](#) of the IED include:

- preventive measures are taken against pollution;
- the best available techniques (BAT) are applied;
- no significant pollution is caused;
- waste is reduced, recycled or disposed of in the manner which creates least pollution;
- energy efficiency is maximised;
- accidents are prevented and their impact limited;
- sites are remediated when the activities come to an end.

In addition, the IED further obligates permits to be granted under [certain conditions](#), including:

- emission limit values for polluting substances;
- rules guaranteeing protection of soil, water and air;
- waste monitoring and management measures;
- requirements concerning emission measurement methodology, frequency and evaluation procedure;
- an obligation to inform the competent authority of the results of monitoring, at least annually;
- requirements concerning the maintenance and surveillance of soil and groundwater;
- measures relating to exceptional circumstances (leaks, malfunctions, momentary or definitive stoppages, etc.);
- provisions on the minimisation of long-distance or transboundary pollution;
- conditions for assessing compliance with the emission limit values.

According to the current environmental permit, the emissions would be 2-10 times higher than allowed by the Industrial Emissions Directive.

**Large Combustion Plants Directive (Europe)** The [Large Combustion Plants Directive](#) is a European Union directive which aims to reduce

emissions among thermal power plants greater than 50 MW. The directive was established in 2001 and provides a series of specific emission limits based on the date combustion plants were built. The policy serves to control the release of sulphur dioxide, nitrogen oxides and dust emitted from combustion plants and requires member states to provide the national objectives, measures and timetables for attaining them, and a monitoring mechanism for their national emission reduction plans.

As mentioned, the emissions from the plant would be 2-3 times as high as allowed by the Large Combustion Plants Directive (1).

(1) This is slightly complicated as the permit in fact lists three different standards that the plant is obliged to adhere to and which include limit values for air pollution: Bosnia and Herzegovina's own legislation; the Large Combustion Plants Directive, and Best Available Techniques. However the document is internally contradictory and the only limit values actually copied into the document are the ones from the Bosnia and Herzegovina legislation, which are also the least stringent.

## Updates

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### Almost none of new coal power plants planned in the Balkans will meet EU pollution standards, according to a new analysis

Jun 14 2017

On 28 April this year, EU officials adopted new technical standards for large combustion plants, the so-called '[LCP BREF](#)', which sets out the best available techniques for controlling pollution to air, water and soil, as well as the emission limits that must be achieved by applying these techniques. [Bankwatch's analysis](#) looks at eight coal-fired units totalling 2.6 GW in capacity planned in Bosnia-Herzegovina, Kosovo, Macedonia, Montenegro, and Serbia, plus the Stanari plant in Bosnia-Herzegovina which started commercial operation last September. Compared to the air pollution limits set in the BREF, five of the planned units would certainly not meet the new standards, while insufficient information is available for the remaining three.

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### EFT's new 300MW TPP Stanari starts operation

Sep 20 2016

EFT has started its operations of the Stanari project (source [EFT Group](#)).

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### NGOs Ask Chinese Banks about Environmental Safeguards

Apr 30 2014

Bosnian NGO CZSZ and CEE Bankwatch sent a letter to China Development Bank regarding the environmental performance of their client, Energy Finance Team. In the letter, the NGOs asked how CDB will respond to EFT's [violations](#) of four European and national [regulations](#). The letter also inquired how CDB has implemented the Green Credit Directive, which requires the bank to evaluate the performance of their client based on their adherence to environmental standards. A copy of the letter was also sent to the China Banking Regulatory Commission, Ministry of Commerce, and Ministry of Environmental Protection. As of May 21, 2014, CDB has not replied.

## Financiers

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### Banks

#### [China Development Bank](#) China [profile](#)

[Details](#) ▼

Debt – corporate loan

EUR 350 million

13 December 2012

source: [link](#)

#### [Sberbank](#) Russian Federation [profile](#)

[Details](#) ▼

Debt – corporate loan

EUR 15 million

16 April 2014

source: [link](#)

## Related companies

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#### [Dongfang Electric Corporation \(DEC\)](#) China

Contractor

#### [Energy Financing Team](#) Bosnia and Herzegovina

Developer