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China's Entry in SE Europe's Energy Sector

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Introduction

The European Union (EU) and China are linked by an enduring relationship. They are two of the three largest economies and traders in the world. Based on the European Commission's data¹, China is now the EU's second-biggest trading partner behind the United States and the EU is China's biggest trading partner. Both sides are committed to a comprehensive strategic partnership, as expressed in the EU-China 2020 Strategic Agenda for Cooperation. (1)

Yet there is a growing appreciation in Europe that the balance of challenges and opportunities presented by China has shifted. In the last decade, China's economic power and political influence have grown with unprecedented scale and speed, reflecting its ambitions to become a leading global power.

China can no longer be regarded as a developing country. It is a key global actor and leading technological power. Its increasing presence in the world, including in Europe, should be accompanied by greater responsibilities for upholding the rules-based international order, as well as greater reciprocity, non-discrimination, and openness of its system. China's publicly stated reform ambitions should translate into policies or actions commensurate with its role and responsibility.

China is at the same time the world's largest carbon emitter and the largest investor in renewable energy as well as one of the main brokers of the Paris Agreement. China is also constructing several coal-fired power plants in its mainland but also in other countries, including SE Europe, which clearly undermines the global goals of the Paris Agreement. But at the same time, China is a strategic partner on climate change and the clean energy transition, with whom the European Commission needs to continue developing a strong relationship, given the sheer size of its emissions (around 27% of the global amount), which is expected to increase further, based on

¹ In 2017, the EU was China's largest partner with a share of 13% of imports of goods in China (€217 billion) and a share of 16% of exports of goods from China (€332 billion). In the same year, China had a share of 11 % in extra-EU exports of goods (€198 billion) and in extra-EU imports of goods China was the largest partner with a share of 20 % (€375 billion).

European Commission's Joint Communication to the European Parliament, the European Council and the Council issued on March 12, 2019. (2)

It is worth noting that Romania, as the host of the Informal European Council and holding the EU presidency, is one of the SEE countries lured by potential Chinese financing for a new 600 MW coal-fired power plant, known as Rovinari 7. According to a recent report prepared by CEE Bankwatch Network (3), this project, among others, is not only uneconomic, as explained below, but does not in any way fit the EU's net zero emissions ambition.

However, concerns over China's investments in SE Europe are not just limited to its coal drive, against EU stated decarbonization policies, but spring from worries of the financial consequences of overexposure of SE European economies to Chinese investments. As the Economist noted in a recent article (27/4/2019) (4), there are three main concerns about the financial consequences of the Belt and Road Initiative (BRI). The most extreme is that the scheme involves what is pithily described as "debt-trap diplomacy". In this view, China is deliberately overloading weak countries with loans; when they buckle, it seizes their assets and influences their politics. This idea has featured in speeches by some American officials, including the vice-president, Mike Pence, who see BRI as an attempt to undermine America's global influence.

According to the Economist, "the investments funded by Chinese cash are not in China, so China has limited ability to grab assets when governments default. If it pushes too hard, it may merely stoke antipathy. Instead, it usually responds by reducing the amount of money that debtors have to repay. Countries with longer records of lending to poor countries often do the same: the Paris Club of creditors was formed in 1956 to devise ways of reducing defaulters' debt loads. The Center for Global Development, a think-tank in Washington, has counted more than 80 cases between 2000 and 2017 in which China provided relief to its debtors overseas".

Yet, there is deep concern among certain quarters of the EC in Brussels but also among national governments of China's inroads in European energy projects and stake holdings in major energy companies, especially in CE and SE Europe.

Overview of China-backed Coal Projects in SE Europe

Currently, in SE Europe, a number of coal-fired power plants have attracted strong Chinese interest as they already form part of pursued national energy policies by a number of countries. EU member states Romania and Greece, as well as several EU enlargement countries in the Western Balkans, such as Bosnia and Herzegovina, Serbia, Montenegro and Kosovo, plan to build new lignite-fired power plants. These coal projects are not compliant with the Paris Agreement's aim of limiting climate change at least to 1.5°C but readily available Chinese money is enabling them to proceed. (5)

As the international financial institutions have phased out direct coal financing, most of the plants are slated for loans from the state-owned China Eximbank or other Chinese public banks. **Up to 3.5 GW of coal-fired power plants may be built in SE Europe with Chinese financial support**, based on CEE Bankwatch Network's estimates.

More specifically, the three financing deals signed so far by Chinese banks for lignite-fired power plants in the SE European region are for Stanari in Bosnia and Herzegovina (CDB, June 2012, already built), Kostolac B3 in Serbia (Eximbank, December 2014) and Tuzla 7 in Bosnia and Herzegovina (Eximbank, November 2017), but at least six more plants have been subject to Memoranda of Understanding between Chinese companies and Balkan governments.

All the projects exhibit breaches of EU legislation on environment, state aid and/or procurement and they will also lock EU accession countries into several decades of harmful and expensive coal use. Additionally, they threaten to spawn a group of pro-coal countries in the EU once accession takes place, which could further weaken the EU's climate ambitions. Nevertheless, apart from Stanari, which started its operation

in 2016, all the other coal plans are delayed, which means that there is time for action and for the implementation of different regional coal policies.

Potential China-backed Coal Projects in SEE Countries

(a) EU SEE Countries

In **Romania**, talks of plans for a new unit at Rovinari lignite-fired power plant, involving the China Huadian Engineering company, have been going on for several years but the project has not received any significant permits. In early November 2014, a new joint venture company was set up between Huadian and Oltenia Energy Complex (CEO).

The project had been at a standstill for years, until it was included on the list of priority investments in the Energy Strategy for 2016-2030. The Strategy estimated the cost of the project at approximately €1 billion. Since then, several rounds of negotiations have taken place between Chinese delegations, the Romanian Ministry of Energy and the energy utility, Oltenia Energy Complex (OEC).

According to CEE Bankwatch Network, the planned supercritical unit would have several issues, including:

- *Economics*: The unit would likely have difficulties in meeting the project's debt service requirements as the organic cash flow generation would be limited and not sufficient under current energy market prices. (6)
- *Environmental concerns*: EU Directive 2011/92/EU² on environmental impact assessment (EIA) makes licensing coal-fired power plants more complicated than before, as the project's impact on climate and the vulnerability of the project to climate change must be explicitly considered in the EIA.

Under the current EU Emissions Trading Scheme, the evolution of CO₂ prices will be of critical importance for the viability of the project. Coal-fired units, without any CO₂ mitigation technology, are usually the single largest CO₂ emitters in any given

² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32011L0092>

country. This is no different in this case. We have seen a strong increase in prices over the last 15 months which would significantly reduce the financial viability of coal-fired units as these operate with high CO₂ intensity, CEE Bankwatch Network notes.

In **Greece**, the country's public power corporation (PPC) signed a Memorandum of Understanding in September 2016 with China Machinery Engineering Corporation (CMEC) – the same company involved in Kostolac in Serbia – for the construction of a second unit at the Meliti power station near Florina. Since then, there has been little progress with the project but a new law on the sale of 40% of PPC's lignite assets in April 2018 included the existing plant Meliti I, and the production license for a new 450 MW plant, Meliti II plus all associated mines. PPC launched an international tender in May 2018 and the sale should have been concluded by the end of the year. However, the first attempt failed. At the beginning, five companies expressed interest, including one Chinese consortium (i.e. Beijing Guohua Power Company Limited and Damco Energy), but they didn't make any binding offer by the set deadline (i.e. February 2019).

Now, there is a second sale attempt and six companies have expressed interest. These include the five previous ones plus a new Chinese investor (i.e. China Western Power Industrial Co Ltd). Whether they will go ahead and submit a binding offer by the deadline (not fixed yet, but expected for May 2019) is not easily predictable.

(b) EU Accession SEE Countries

(i) With a Financing Deal

In **Serbia**, a deal was signed in November 2013 with China's CMEC to construct the new Kostolac B3 lignite-fired power plant. No tender procedure took place. Instead, the Chinese and Serbian governments signed an intergovernmental agreement freeing joint projects from tender obligations³ – a move which would not be allowed under EU law.

³ On August 20, 2009, the Serbian government signed a Memorandum of Understanding with the Chinese government on economic and technical co-operation in the field of infrastructure. Annex 2 to the 2009

A \$608 million loan contract was signed with China Eximbank in December 2014. In early 2015, it was ratified by the Serbian parliament in an extraordinary session announced to the public less than 24 hours in advance. The contract contains several problematic provisions, e.g. any arbitration will take place in Beijing. The Serbian government took the loan on behalf of state company EPS, raising issues of compliance with its state aid obligations under the Energy Community Treaty. The EIA process had to be repeated after the original approval expired and the Espoo Convention Implementation Committee criticised Serbia for failure to assess the transboundary environmental effects of the plant. A new environmental assessment was carried out in 2017 and the study was approved on September 28.

On November 20, a few days before the China-Central & Eastern Europe summit in Budapest, it was suddenly announced that construction of Kostolac B3 was starting. Surprised, the Center for Ecology and Sustainable Development (CEKOR) requested the building permit. However, the only document disclosed so far is a permit for the B3 chimney, not for the whole plant. And it is dated July 2017, before the environmental assessment was even completed, CEE Bankwatch Network notes.

To add to the legal issues, the expansion of the captive Drmno opencast mine was in 2013 exempted from undertaking an EIA process⁴, a decision which appears to conflict with Serbian legislation as well as the EIA Directive under the Energy Community Treaty and is currently subject to an investigation by the Energy Community Secretariat.

In 2017, the EU updated its industrial emissions rules, which Kostolac B3 will be obliged to abide by on entering the EU, if not before. However, the air emissions limits in the Kostolac B3 environmental assessment are not in line with the new

agreement was signed on August 26, 2013. This annex includes a clause in Article 5 that: "Agreements, contracts, programmes and projects carried out in accordance with Article 4 of the Agreement on the territory of the Republic of Serbia do not carry an obligation to publish a public tender for carrying out investment works and delivery of goods and services, except if it is otherwise specified in the commercial contract from paragraph 4 of this Article."

⁴ Ministry of Energy, Development and Environmental Protection of the Republic of Serbia: Decision no.353-02-901/2013-05, dated 26.07.2013.

standards (the so-called LCP BREF⁵). As an EU accession country, Serbia needs to make sure that any new plant is in line with these standards or it risks being landed with expensive retrofit costs later on.

In **Bosnia and Herzegovina**, the Stanari lignite-fired power plant was initiated by Energy Financing Team (EFT) and financed by the state-owned China Development Bank (CDB). Construction, carried out by Dongfang Electric Corporation, started in 2013 and the plant started commercial operations in September 2016, CEE Bankwatch Network adds.

Originally, the plant's environmental permit allowed air pollution from the plant to be 2-3 times as high as allowed by the EU Large Combustion Plants Directive. Only after a complaint to the Energy Community dispute settlement mechanism was submitted by environmental group Center for Environment from Banja Luka in January 2014, was the permit reviewed. Since the plant was permitted, the Energy Community's rules have changed to require the application of the stricter Industrial Emissions Directive for plants entering operation after 2019, rendering Stanari out of step before it even entered operation.

Stanari is currently under examination by the Espoo Convention due to Bosnia's failure to notify neighbouring Croatia and Serbia about the plant's potential transboundary impacts. This also raises doubts about whether the project complies with Article 21 of China's Green Credit Directive, requiring national legislation to be followed during its preparation. In May 2017, media reported that Croatia's HEP is considering buying the Stanari power plant from EFT, or a 50% share in it, raising questions about its profitability. No further information has become available since then, according to CEE Bankwatch Network.

Based on data provided by the ENTSO-E platform, Stanari was offline for at least 53 days in 2017 between March and December and in 2018 for at least 50 days throughout the year. A letter from the energy system operator of Bosnia and

⁵ <https://ec.europa.eu/jrc/en/news/new-eu-environmental-standards-large-combustion-plants>

Herzegovina explains that the plant was mainly undergoing technical “corrective” fixes on those days. The fact that a new unit needed to be taken offline for such long periods of time raises questions about the plant’s readiness to go online at all, CEE Bankwatch Network stresses.

Also, in Bosnia and Herzegovina, publicly-owned electricity company Elektroprivreda Bosne and Hercegovine (EPBiH) signed a construction contract in August 2014 with China Gezhouba Group and Guangdong Electric Power Design for the construction of a new unit at Tuzla, after Japan's Hitachi - also shortlisted - dropped out of the project partly due to its poor economics. The price tag for construction at the time was €785.7 million, but it was later admitted that the project was not economically feasible in this form. The current construction cost of the plant is €722 million, but it is unclear what compromises have been made to lower the cost, as CEE Bankwatch Network reports.

A feasibility analysis, prepared by the Banja Luka-based Institute for Construction⁶, assumes that Tuzla 7 will have to start paying a carbon price only in 2034 and that it will only be €7.1 per tonne, rising to €12.12 per tonne in 2061. Considering the ETS price is currently over €24 per tonne, this leads to a serious underestimate of the plant’s generation costs. The assessment assumes annual CO₂ costs of €2.7 million in 2034, rising to €31.4 million in 2061. Yet even at 20 €/tonne, the annual cost would be €51.87 million. Moreover, the projected price at which coal would be sold by Elektroprivreda BiH’s mines to the Tuzla 7 plant is €21.87/tonne. This is lower than 2013-2016 production price.

Tuzla 7 obtained a new environmental permit in July 2016 as the original one from 2009 expired in November 2015. The permit is being challenged in court by Ekotim, due to procedural irregularities and deficiencies in the permit.

In addition, local people from the village of Šićki Brod are resisting the construction of the ash landfill for the new plant. In early April 2016, they delivered a petition

⁶ Ocjena kritičnih varijabli studije izvodljivosti bloka 7, TE Tuzla, Institut za građevinarstvo „IG“, d.o.o, Banja Luka, 2018. - Assessment of the Critical Variables of the Feasibility Study for Unit 7 of the Tuzla power plant

with 2100 signatures against the proposal to the Federal Ministry of Environment and Tourism.

On November 27, 2017, at the China-Central and Eastern Europe summit, a surprise signing of an Eximbank loan contract for Tuzla 7 took place. On April 1, 2019, the Federation of Bosnia and Herzegovina's parliament approved a guarantee for the planned loan from China Eximbank, which brought the case strong criticism from the European Commissioner for Enlargement⁷ as well as an infringement case opened by the Energy Community for failure to comply with EU state aid legislation, transposed through the Energy Community Treaty.

Like Kostolac B3, Tuzla 7 is not designed to be in line with the new EU LCP BREF pollution control standards. In November 2013, the Center for Ecology and Energy from Tuzla launched a report on the health impacts of existing and planned coal thermal power plants in the Tuzla area. Using WHO methodology, the study found that coal plants around Tuzla, including Tuzla 7 and the planned unit at Banovići, are expected to cause total health-related economic costs of €810 million and the loss of 39,000 life-years in the period 2015-2030.

(ii) Candidates for China-backed Financing Deals

In **Bosnia and Herzegovina**, a new plant at the Banovići mine near Tuzla is planned by the predominantly state-owned RMU Banovići (Banovići Brown Coal Mines). On November 24, 2015, an EPC contract was signed with Dongfang. Financing is expected from the Industrial and Commercial Bank of China (ICBC) but has not been signed yet. There is a serious lack of energy planning and co-ordination between Tuzla 7 and Banovići. It is very unlikely that two plants just a few kilometres from one another can both be feasible, but they are being developed in parallel, each as if the other did not exist.

⁷ <http://ba.n1info.com/English/NEWS/a321510/Johannes-Hahn-concerned-about-Block-7-loan-from-China-Exim-Bank.html>

The capacity of the Banovići plant was changed during the tender process from 300 MW to 350 MW, which as well as being questionable from the procurement perspective, meant that a new environmental impact assessment had to be carried out in 2015. A new environmental permit was issued on January 11, 2016 but the Ministry for the Environment and Tourism failed to notify even those who had taken part in the consultation process. It was nearly two months before NGO Ekotim was able to obtain the permit. Ekotim is challenging the permit in court due to deficiencies in the procedure, the EIA study and the permit.

Another issue of concern with the planned plant is water use. A new reservoir is planned at Ramići that would be used to cool the coal plant; however, filling the reservoir during drier periods may be in direct competition with filling Lake Modrac, which is used for drinking water for Tuzla and for cooling the Tuzla power plant. A further concern is that only an earth dam is planned to keep the reservoir in place, which may not be enough in times of heavy rainfall. It may pose a danger to communities downstream. As these weaknesses were not addressed in the environmental permit for the reservoir, it too is now being challenged in court by Ekotim.

For several years, both Tuzla 7 and Banovići were backed by the Federal government. However, in December 2017, the Federal Ministry for Spatial Planning denied RMU Banovići a construction permit for the plant. Key issues, such as water and coal supply, wastewater, flue gases and disposal, had not been resolved and the Ministry concluded that the project is not in line with the Tuzla Canton spatial plan. It remains to be seen whether the plant goes ahead in spite of this blow.

Also, in Bosnia and Herzegovina, after years of vague plans for Kamengrad lignite-fired power plant, a Memorandum of Understanding was signed at the China-CEE summit in Budapest on November 27, 2017, between Energy China International, Lager Group of Bosnia-Herzegovina and the Federation of Bosnia and Herzegovina's government. The plant would be built at a site where there is a coal mine but no existing power plant.

At a public debate on the adoption of the Una-Sana Canton spatial plan in August 2018, citizens and the local council of Sanski Most, which is the nearest city, demanded the removal of the power plant project from the plan. A petition calling for this was signed by 1400 Sanski Most residents in just three days too. According to the vice-chair, the Municipal Council reached a “strong conclusion for banning the construction of a thermal power plant in Sanski Most”.

Again, in Bosnia and Herzegovina, Ugljevik III lignite-fired power plant is promoted by Russian billionaire Rashid Sardarov's Comsar Energy. Comsar reported in 2013 that it had signed a construction contract with China's China Power Engineering and Consulting Group Corporation (CPECC). However, it was reported in 2017 that negotiations with the company failed and no new contract has been signed. Before the October 2014 elections in Bosnia and Herzegovina, there was a flurry of activity, with the Republika Srpska government declaring it a project of public interest and issuing a partial construction permit, but since then there has been little progress. In mid-2017, the Supreme Court of Republika Srpska cancelled the project's environmental permit. However, the Ministry of Spatial Planning, Construction and Ecology responded by issuing another permit without repeating the environmental assessment. This new permit was challenged in court by the Center for Environment, as stated by CEE Bankwatch Network.

An analysis⁸ published by the Center for Environment also shows that the environmental assessment lacked key data and that the expected SO₂, NO_x and dust emissions are false. After a formal complaint was submitted to the Energy Community, a dispute settlement case was opened in August 2017 on the issue. In November 2018, the Bosnia-Herzegovina authorities agreed not to use the environmental assessment⁹ for the project, meaning that the whole process would have to be repeated if the project goes ahead. Ugljevik III is also currently under examination by the Espoo Convention due to Bosnia and Herzegovina's failure to notify neighbouring countries about the plant's transboundary impacts.

⁸ <http://bankwatch.org/sites/default/files/analysis-Ugljevik-06Oct2014.pdf>

⁹ <https://energy-community.org/news/Energy-Community-News/2018/011/28a.html>

After several Chinese companies had expressed interest in Gacko II lignite-fired power plant also in Bosnia and Herzegovina, a “general contract” was signed in December 2017 with China Machinery Engineering Corporation (CMEC) and Emerging Markets Power Fund. However, there is no sign of a tender having taken place; so, it is not clear what the exact nature of the document is. At the signing, Minister of Energy Industry and Mining Petar Đokić stated that another agreement would soon be signed to form a project company. If so, this would be highly unusual in a region where Chinese involvement in coal plants was so far limited to construction contracts. The plant would be built at the site of the existing plant in Gacko but no environmental impact assessment has been undertaken yet.

Other Energy Projects in SE Europe of Interest to Chinese Companies

Chinese companies have expressed interest in a number of other energy projects in the SE European region. In **Serbia**, projects reported to have caught Chinese attention include the Radljevo lignite mine at the Kolubara mine complex, the Morava 2 lignite-fired power plant, the Štavalj power plant and mine, as well as the Kovin energy complex and Nikola Tesla B3 lignite-fired power plant in Obrenovac. However, none of them are likely to proceed before 2025, according to the 2017 Implementation Plan for the National Energy Strategy.

In **Bosnia’s** Republika Srpska, Chinese company Sinohydro signed a deal (7) with EFT to construct the 35 MW Ulog hydropower plant project on the river Neretva in September 2012; however, the project did not go well. Some preliminary works on access roads started and in April 2013 a construction permit was issued for the main project, but then in early July 2013, within just four days of one another, two workers died in separate landslide incidents. Since then, it has been reported that the project has been re-designed, according to CEE Bankwatch Network’s report. In March 2018, EFT reported having signed a deal with Sinohydro to construct the plant. (8)

A memorandum of cooperation between China's state-owned China National Aerotechnology International Engineering Corporation (AVIC) and Republika Srpska's Ministry of Energy was also signed in 2017 for the controversial 93.5 MW Buk Bijela hydropower plant on the river Drina near the Montenegrin border (9). The Aarhus Center, Sarajevo, has challenged the project's environmental permit in court. (10)

According to Renewables Now (11), Chinese companies are also interested in the 160 MW Dabar plant in Bosnia and Herzegovina, part of the larger Gornji Horizonti complex. Communities in the downstream Neretva delta in Croatia, as well as environmental NGOs such as WWF¹⁰, say that the project would threaten wetlands and worsen salination of one of Croatia's most fertile agricultural areas, CEE Bankwatch Network's report adds.

Power China and the State Development and Investment Corporation (SDIC) are also reported to be interested in the controversial Morača dam project (12) in **Montenegro**, which would endanger the spectacular Skadar Lake Ramsar site. In addition, China has emphasised that it is ready to invest in wind and solar but that the governments are generally not coming forward with such projects. However, there have been some concrete steps forward in this field. At the 2017 China-CEE summit in Budapest on November 27, 2017, an EPC contract with a 15-year maintenance agreement for the 48 MW Kupres 1 wind park was signed. In **Croatia**, Chinese company Norinco International Cooperation Ltd has also bought a share in a 156 MW wind farm project near Senj. (13)

In **Greece**, China Energy Investment Corporation, one of the world's largest power companies, signed in 2018 a cooperation agreement with Greece-based Copelouzos Group for renewable energy and conventional electricity. Under the agreement, China Energy will enter into the equity of a significant pipeline of wind farms built by Copelouzos Group, one of the biggest investment groups in Greece with a diversified range of activities such as energy and infrastructure. The Chinese company will

¹⁰http://www.wwfadria.org/en/what_we_do/freshwater/dinaric_arc_sustainable_hydropower_initiative_dash/neretva_and_trebinjica_river_basin_bih_cro/

acquire 75% of the pipeline of wind farms in Greece. China Energy and Copelouzos Group will also file a joint expression of interest for lignite units of Greece's majority state-owned power utility, Public Power Corporation (PPC). The cooperation deal envisages investments worth at least €3 billion in the Greek market alone. (14)

In **Bulgaria**, Chinese solar panel manufacturer GS-Solar plans to invest in a new manufacturing plant in Bulgaria, as announced in 2017. Quanzhou-based GS-Solar is active in the production of thin film solar modules based on amorphous silicon technology. It offers thin-film terrestrial photovoltaic modules. The company serves large-scale solar power plants, government-sponsored energy projects, and electric utility companies, as well as systems integrators, installers, project developers, and solar product distributors in Europe and around the rest of the world. (15)

In **North Macedonia**, Bank of China financed the Kozjak hydro power plant but for other hydro projects there have been no commitments on paper as yet. Chinese companies also showed interest in the Vardar cascade in North Macedonia; however, this project seems that it will not go ahead any time soon. (16)

In **Albania**, China agreed on December 4, 2000 to finance the construction of the Bushat hydropower plant along the Drin River. On February 8, 2001, Albania and Chinese Eximbank signed a loan contract for a "buyer's credit worth more than \$100 million" to construct the plant. The China International Water and Electric Corp was assigned for the construction of the two-generator plant, which was completed in July 2008 (17). Since then, China has expressed its interest for several other RES projects.

In **Romania**, the Energy Ministry announced on March 18, 2019 that it had launched in public consultation on a draft concerning an "Energy Strategy of Romania 2019-2030, with the perspective of 2050". Among the key strategic energy investments that are outlined in the revised document, included are the 3rd and 4th units at Cernavoda nuclear power plant and the 600 MW coal-fired power plant at Rovinari. It is worth noting the reversible (pumped) hydropower plant at Tarnița-Lăpuștești

with China expressing high interest. In 2015, when Victor Ponta was Prime Minister, Romania organized a public tender for Tarnița-Lăpuștești hydropower plant and three Chinese consortia were selected. But after Victor Ponta resigned, the project was removed by the next government from the list of projects in the 2016 National Energy Strategy. (18)

Romania's Nuclear Power Generation Project

In terms of nuclear energy, Nuclearelectrica, which operates Romania's Cernavoda nuclear power plant, announced on May 8, 2019, that it had signed a preliminary investors agreement for the construction of units 3 and 4 with China General Nuclear Power Corporation (CGN) and CGN Central and Eastern Europe Investment (CEERI). The announcement is the culmination of five years of contacts and deliberations between the Chinese and Romanian governments and the relevant companies, i.e. CGN and Nuclearelectrica (see IENE Regional Conference in Romania, Reference 20). The Cernavoda nuclear power plant currently comprises two Candu 6 reactors supplied by the Atomic Energy of Canada Ltd (AECL), now Candu Energy, and built by a Canadian-Italian consortium of AECL and Ansaldo. The site was originally planned for five units but until now only two have been built and are operational.

The agreement envisages the establishment of a project company (JVCO), which will be the only technical and operational platform for the subsequent development of the project, Nuclearelectrica said. The deadline for the establishment of the JVCO is 60 working days from the date of signing of the preliminary agreement. CGN will have a majority 51% stake in the JVCO and Nuclearelectrica will have 49%. Romania's energy ministry currently owns 82.49% of Nuclearelectrica. The preliminary agreement was approved by Nuclearelectrica's shareholders in April and CGN has also completed its internal approval of the deal.

In July 2014, China Nuclear Power Engineering Co (CNPEC), a CGN subsidiary, signed a "binding and exclusive" cooperation agreement with Candu Energy to build two more units at Cernavoda. Two months later, CGN submitted the sole non-binding bid

for the contract to the reactors and was declared a “qualified investor” in the project. Then, in November 2015, Nuclearelectrica and CGN signed a memorandum of understanding for the development, construction, operation and decommissioning of Cernavoda’s units 3 and 4. In May 2015, CGN announced an agreement to finance the expansion of the existing 1,500 MW Cernavoda nuclear power plant with the addition of two Candu units, of 1,000 MW each, an investment estimated at \$8.0 billion. (19)

The challenges and opportunities for nuclear power generation in SE Europe are now under discussion in view of the ongoing debate on energy security and climate change. It is worth noting that the same discussion took place in 2015 when IENE and Romanian Energy Center (ROEC) jointly organized a one-day conference in Bucharest with the active participation of the aforementioned CGN and Nuclearelectrica, among others. (20)

China’s Belt and Road Initiative

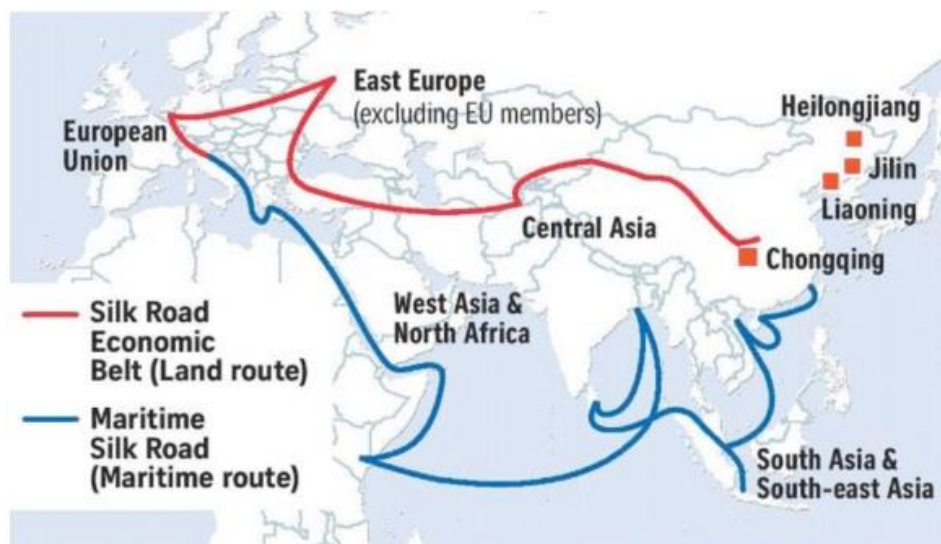
Energy projects have been central to the Belt and Road Initiative (BRI) since its inception in 2013. For instance, energy accounts for roughly 44% of BRI construction, followed by transport at 30%, according to a 2018 report prepared by the American Enterprise Institute (21). Chinese financing and exports have targeted the unmet energy generation and transportation infrastructure needs in countries around the world, including SE Europe. While Chinese financing and exports are not limited to fossil energy projects, China’s energy outreach under the BRI has been carbon intensive.

For example, the Silk Road Fund, which was set up to finance BRI projects, made over 90% of its energy-sector investments in fossil fuel projects. Moreover, between 2013 and 2016, Chinese financial institutions invested \$15 billion in coal projects abroad, according to the Center for Strategic and International Studies (22). China’s banks have earmarked \$36 billion for 102 GW of coal-fired capacity in 23 countries, according to the Institute for Energy Economics and Financial Analysis, while two-

fifths of the country's overseas investment was reportedly spent on coal in 2018.
(23)

All in all, the Initiative aspires to be green but is still providing the political and financial support for the export of Chinese coal technologies. As analysed during the second Belt and Road Forum for International Cooperation met in Beijing on April 25-27, 2019, China continues to be a top financier and exporter of coal technologies globally, contradicting its promotion of a "green" belt and road and the climate change goals post-Paris Agreement.

Map 1: China's Belt and Road Initiative

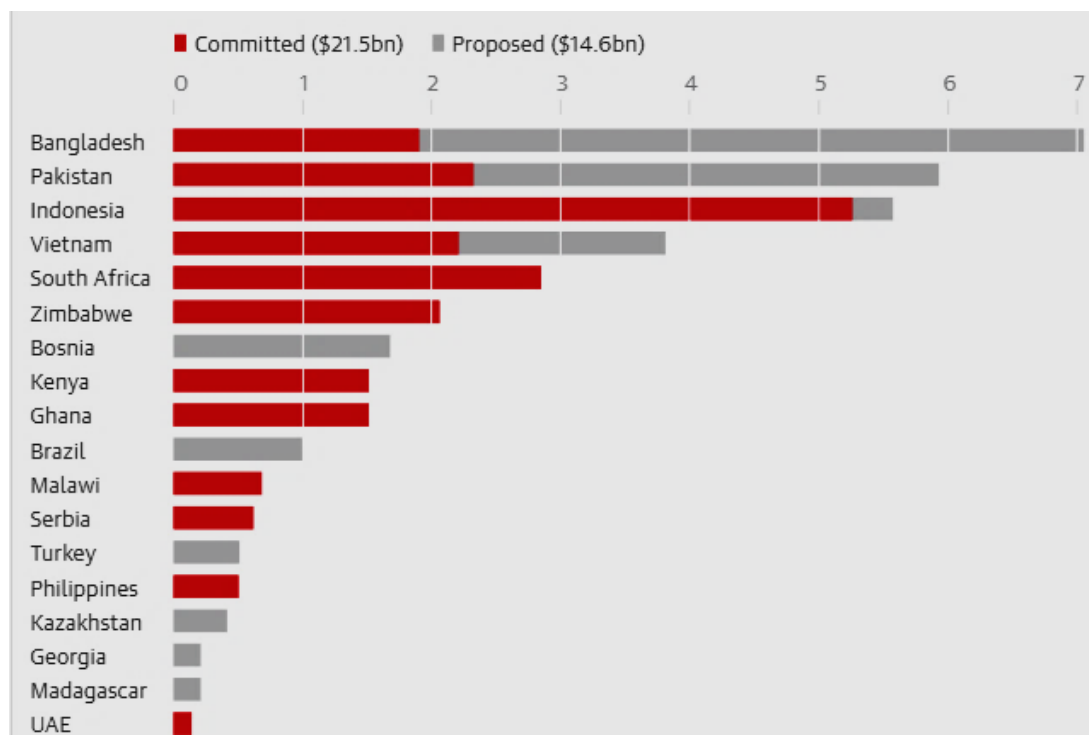


Source: Bloomberg

Over recent years, Chinese banks have become the lenders of last resort for coal projects in south Asia, Africa and the Balkans that the World Bank and other international institutes have refused to fund because coal is the primary source of carbon emissions from electricity generation. Although China has won kudos for trying to clean up its environment by cutting dependence on coal, its companies are making up for lost business at home by expanding overseas. Most of their funding comes from the BRI.

To date, up to 4.1 GW of coal-fired power plants may be built in Europe with the state financing support from China, and by China's power generation state-owned enterprises. These companies are fighting each other over environmentally harmful and legally questionable coal projects in Europe. (24)

Figure 1: China has committed more than \$20 billion in funding for coal plants around the world



Source: Institute for Energy Economics and Financial Analysis

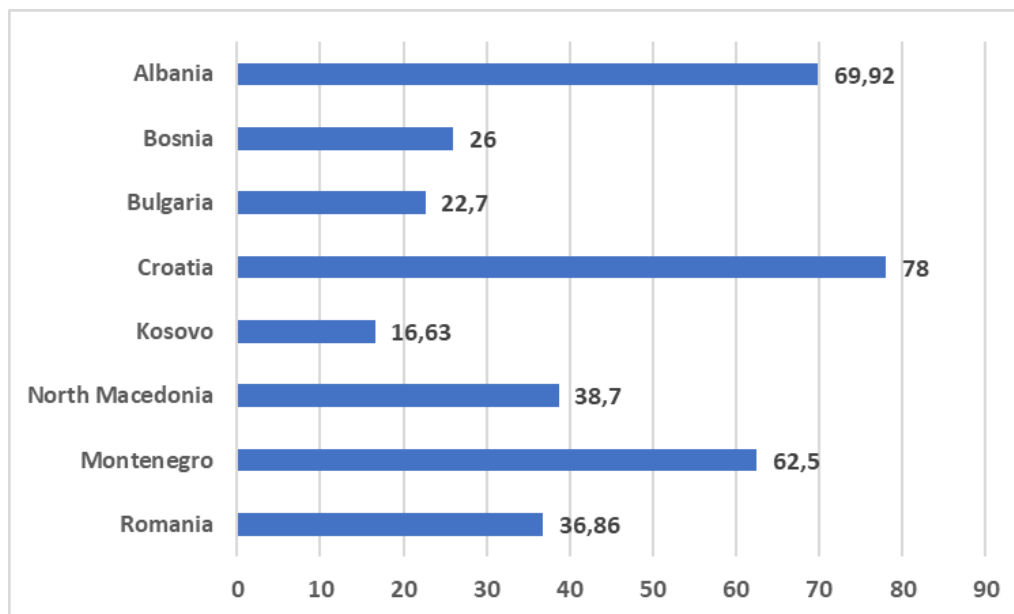
As the international financial institutions phased out direct coal financing, most of the coal projects in SE Europe are slated for loans from the China's state and policy-driven banks, such as the Export-Import Bank of China (China Eximbank), China Development Bank (CDB) or other Chinese banks.

Discussion

In SE Europe, the companies and governments have ambitious coal/lignite plans, but it remains to be seen how realistic they are in view of tightening EU regulations. Equity participation by Chinese companies is only planned in Rovinari (Romania) and Gacko II (Bosnia and Herzegovina) and the other coal/lignite projects are not likely to

proceed without host country state guarantees. These add to public debt and may raise state aid issues, depending on the conditions of issuance.

Figure 2: Government debt to GDP levels of Balkan nations (2017 data, %)



Source: Various government ministries and central banks (25)

The pressure on state resources is all the stronger given that the countries need to either close existing coal units or upgrade them to comply with the EU's Large Combustion Plants (LCP)¹¹ and Industrial Emissions Directives (IED)¹². A 2013 study (26), prepared by the Energy Community, estimated that IED compliance will cost Bosnia and Herzegovina about €374.7 million, Montenegro €50.9 million and Serbia €710.7 million.

The countries also need to meet renewable energy targets under the Energy Community Treaty and invest in energy efficiency measures. In the context of the overall decarbonization effort, investing in RES and energy efficiency must clearly take precedence over the building of new coal/lignite-fired power plants. Trying to cover newbuild as well as rehabilitation costs, energy efficiency investments and

¹¹ <http://ec.europa.eu/environment/archives/industry/stationary/lcp/legislation.htm>

¹² <http://ec.europa.eu/environment/industry/stationary/ied/legislation.htm>

pping the share of renewables may simply prove to be too expensive for the SEE countries, all of which already face debt issues.

All the Balkan coal/lignite-fired power plants mentioned in this Briefing Note exhibit breaches of EU and national legislation on environment, state aid and/or procurement. Furthermore, they will lock EU accession countries into several decades of harmful and expensive coal use, especially as the prices of emission allowances are expected to increase further. Additionally, they threaten to spawn a group of pro-coal countries in the EU once accession takes place, which could potentially undermine the EU's ambitious climate targets. Nevertheless, apart from the Stanari lignite-fired power plant in Bosnia and Herzegovina, which started operating in 2016, all other coal plans are delayed, which means that there is still some time left for promoting alternative investments, including renewables and nuclear, which are clearly carbon emissions-free energy sources and hence acceptable to European Climate Change sensitive bureaucracies. It remains to be seen though if the Chinese sponsors will adapt their investment policies and align them with EU strategic goals and set targets.

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