

How can the EBRD maximise its leverage to bring about decarbonisation?

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In 2013 the EBRD made a very welcome decision to limit its coal financing to rare and exceptional circumstances. Nevertheless, if we are to achieve the goals set out in the Paris Agreement to limit global temperature change to no more than 1.5°C – and we must – no more fossil fuel electricity generation facilities can be built globally at all, according to a 2016 Oxford University study.¹

Not only can no more fossil fuel power plants be built, but no more fossil fuel infrastructure at all, according to a 2016 Oil Change International study.² The carbon emissions from the oil, gas, and coal in the world's currently operating fields and mines would already take us beyond 2°C of warming, and even without coal, the reserves in currently operating oil and gas fields would take us beyond 1.5°C.

The EBRD and other financiers therefore need to ramp up their efforts to support demand management and renewable energy, while tightening their energy lending criteria and stopping direct and indirect financing for fossil fuels.

At the same time, further opportunities exist for the EBRD to support transformation of the power sector. All EBRD investments in companies involved in power generation need to lead to absolute decreases in the companies' carbon emissions.

So far, this has not always been the case, and this needs to be turned around to achieve maximum impact:

- Supply side energy efficiency improvements achieve short-term results, but due to the money saved and additional investments enabled, sometimes lead to overall increases in carbon emissions (the Kolubara Environmental Improvement project is a case in point, discussed below).
- Similarly, financing for company restructuring must lead not only to organisational restructuring but also to a decarbonisation trajectory for the company. This is not only to reduce overall emissions but also to reduce companies' exposure to fossil fuels, which will become more and more of a liability in the future and threaten to limit the EBRD's overall transition impact on those companies.
- Efforts to improve distribution grids to enable more renewables to be connected are very welcome, but it needs to be ensured that companies actually do connect more renewables and decrease their emissions as a result.

The case studies on Elektroprivreda Srbije (EPS) and Bulgarian Energy Holding (BEH) below show examples of EBRD investments where potential emissions reductions gains have not been maximized.

In addition, loans for distribution or renewables investments to companies that have a high percentage of fossil fuels in their portfolios such as ČEZ and Energa could be improved by making sure that the EBRD's impact goes beyond the individual project financed. Making financing conditional on company-level decarbonisation plans that should start to achieve results already within the lifetime of the EBRD-financed project would greatly improve the bank's contribution to decarbonisation and make the most of its leverage.

Elektroprivreda Srbije (EPS)

Elektroprivreda Srbije (EPS) is a vertically integrated power company with a monopoly in generation and distribution of electricity throughout the country. It dominates lignite mining, power generation and supply and generates almost all of Serbia's electricity. EPS' portfolio has 9 lignite thermal power plants and combined heat and power plants generating 70% of the company's electricity. The remaining 30% is covered by hydropower, with only a planned 66 MW wind farm

and two planned solar plants.

EPS capacity at a glance

- 9 thermal power plants and combined heat and power plants: Capacity – 4,368 MW, annual generation 25,062 GWh, 70 percent share of EPS' electricity generation.
- 16 hydropower plants: Capacity – 2,936 MW, annual generation 10,599 GWh, 30 percent share in EPS' electricity generation.

EPS operates with three legal entities: the parent company Elektroprivreda Srbije, the dependent company EPS Distribution and the subsidiary EPS Supply.³

In the last 5 years, EPS has also been considering more seriously the development of so called “new” renewables (i.e. not hydropower). Most noticeably EPS has stepped up efforts to develop wind and solar capacity in the Kostolac mining region as a step towards more diversified and sustainable mix of its fleet. In 2017 EPS developed EIA and SEA studies for two solar fields and one 20-turbine wind farm. These projects are to be built on future recultivated ash deposits and also on the overburden dumping sites in the Kostolac region and to some extent around local villages.

However, in the Energy sector development strategy of Serbia by 2025 with projections until 2030, among the priority projects envisaged for the period 2017 – 2023 is the construction of the 350 MW lignite power plant Kostolac B3, whose annual production is estimated at 2200 GWh. This also encompasses the expansion of the Drmno opencast mine, increasing lignite production from 9 to 12 million tonnes per year. The new unit is expected to generate 2 231 250 tonnes of CO₂ per year, with an emissions factor of 870 gCO₂/kWh of produced electric power,⁴ which dwarfs any of EPS' and Serbia's plans to increase their share of renewables as well as Serbia's future commitments to reduce GHG emissions.

Also, the Company's latest annual report quotes that “in order to secure sufficient quantities of coal, revitalization projects on existing equipment are

Year	MtCO ₂	Net Generation (TWh)	Emission performance standard (gCO ₂ /KWh)	Installed capacity (GW)
2012	27.39 ⁶	34.5 ⁷	793.9	7.124
2013	28.56 ⁸	37.43 ⁹	763	7.124
2014	23.06 ¹⁰	32.14 ^{11,12}	717.4	7.124
2015	28.41 ¹³	35.66 ¹⁴	796.7	7.304

being implemented, replacement mines are being opened and preparatory activities for the opening of new mines are being performed.”⁵

The table below shows that EPS has increased rather than decreased its GHG emissions in the last few years, and has maintained its emissions performance standard at the same level.

EBRD support for EPS and its results

EBRD has a long history of lending to EPS, starting in 2001 when an Emergency Post War reconstruction loan of EUR 100 million was agreed. A further investment in EPS Power II was made in 2003 relating to acquisition of equipment for the Tamnava West lignite field. In 2010 EBRD invested in the Electricity Metering Project (EUR 40 million plus another EUR 40 million from the EIB) and in 2011 the EPS Hydropower Projects (reconstruction of 15 small hydro plants, EUR 45 million).

In 2011 EPS also received EUR 80 million for an Environmental Improvement Project at Kolubara mining basin, and the biggest loan to date is from 2015, when the utility was granted EUR 200 million for corporate restructuring. Below we will look at the environmental improvement project from 2011, and the EPS corporate restructuring project, signed in October 2015.

The Kolubara Environmental Improvement Project was financed by the EBRD (EUR 80 million), KfW (EUR 75 million) and EPS (EUR 26.58) and comprised the following elements:

- the purchase of a coal excavator, conveyor and spreader system for Field C of the Kolubara mining basin,
- the introduction of a spreader system for the Tamnava West field and
- the establishment of a coal management system for overall Kolubara mining operations.
- According to the project promoters, the project aimed to improve the efficiency of EPS' mining operations at the Kolubara basin as well as the quality and uniformity of the lignite it delivers to EPS' Nikola Tesla and Morava power stations.

In reality, however, as flagged by CEKOR and Bankwatch in a complaint and acknowledged by the Bank's independent compliance mechanism (PCM), this project hardly contributed to the reduction of GHG emissions or decreasing EPS carbon intensity in electricity production. The compliance review concluded that the EBRD also failed to adequately assess the extent of greenhouse gas (GHG) emissions from the project and it omitted the GHG emissions from the [currently shelved, Kolubara B] new plant in its calculations and as a result presented the project as leading to reductions of emissions instead of increases. As the compliance report puts it: “The GHG assessment undertaken on the ‘Project’ is piecemeal, unsubstantiated in terms of supporting

information [...] and inconsistent with EBRD guidance and international good practice.” Therefore, the project was found non-compliant with the general requirements of the EBRD’s Environmental and Social Policy and the specific requirements of Performance Requirement 3 with respect to the assessment of greenhouse gas emissions.

The same compliance report concludes that “It is also clear that without EBRD funding there would be a progressive reduction in production and the viability of existing fields would be jeopardised due to the need for improved lignite quality and consistency.”¹⁵ So, in fact, the EBRD loan did contribute to maintaining the same levels of lignite production and the company’s coal-reliant portfolio.

From an energy sector decarbonisation and green economy point of view, it really does not matter that through this project EPS and the EBRD may¹⁶ have reduced emissions from electricity production by a fraction of overall emissions of EPS, thanks to minimal improvements to the efficiency of coal excavating and transport equipment in the Kolubara mining region. The fact remains that a few hundred thousand tonnes of CO₂ potentially saved within this project has not led to significant CO₂ reductions across the company’s portfolio and indeed the Kostolac B3 unit will maintain emissions in the future even as EPS closes some of its smaller older plants due to Energy Community Treaty commitments.

This has also not been addressed in the Bank’s most recent loan to the utility, despite Serbia’s determination to bring online additional coal capacities of at least 1500 MW (at Kolubara and Nikola Tesla existing lignite power plants) that would be operated by EPS.¹⁷ Neither has the loan addressed Serbia and EPS’ plans to continue using coal as the main source of energy until at least 2060.¹⁸

Additionally, EPS’ Environmental Action Plan covering the period 2016–2025 continues with the same trend of financing coal “efficiency”, with EUR 70 million,¹⁹ in stark contradiction to the evidence that so far, these measures have not reduced the company’s overall CO₂ emissions.

The EPS corporate restructuring loan is being used to “restructure and refinance expensive short to medium-term financial debt which EPS has entered into on an emergency basis with commercial banks in order to alleviate critical cash situation created by the unprecedented and catastrophic floods in Serbia in 2014. The Bank will lengthen the tenor and provide terms more consistent with EPS’s operations.”²⁰ The EBRD loan’s additional requirements are a) measures towards the Serbia Power Exchange’s coupling with other exchanges, and b) improving corporate governance and transparency at EPS. The overall goals are greater efficiency, commercialisation, and regional integration, with an aim to eventually attract private sector participation. The board document

also acknowledges that “the refinancing will free up resources to allow the Company to focus on the implementation of its long term capital expenditure program, which involves substantial modernisation of Serbia’s power sector infrastructure. This Project will also allow the Bank’s to continue its approach of proactive engagement with EPS on environmental and social issues.”

Although the project is a Category B one, and the “environmental and social due diligence has focused on identifying opportunities to improve environmental, safety, social, and labour governance and capacity, and on helping EPS to develop a more strategic approach to managing these issues”, it is difficult to fathom how such a large investment in Serbia’s energy sector, often referred to as the country’s backbone, misses the opportunity to move away from carbon intensive energy of the past and set the tone for an actual transition to green economy.

The EBRD has informed CEKOR and Bankwatch that EPS, as part of the project, will carry out an update of its 2009 Green Book,²¹ which outlines its environmental commitments.²² It was due to be completed in 2016 and was supposed to be in line with Serbia’s EU accession. However the project board document, in those parts which are available to the public, do not mention this, and the updated Green Book does not seem to have been published yet. This highlights the difficulty of maintaining commitment once a loan has already been approved.

EPS’ dominance in the Serbian energy sector and the long term role that EBRD has taken in supporting the expansion of lignite mining in Serbia are going in the completely opposite direction from increasing international concern about the use of coal and the progressive withdrawal of major financial institutions from supporting coal fired power generation.

In its new country strategy for Serbia,²³ the EBRD states that “promoting green transition will be another priority, as Serbia suffers from high levels of energy intensity and remains vulnerable to climate change” and the goals for 2023 include reduced GHG emissions and decreased vulnerability to climate change. However the EBRD has had several chances already to influence structural reform of EPS’ coal-heavy assets and has not done so. If this does not change, the EBRD’s vision will remain mostly a collection of buzzwords.

EPS is dominant within the Serbian national energy sector which is highly carbon intensive. The corporate restructuring loan, without any conditionality on portfolio diversification and lowering the carbon intensity of the electricity produced, enables the client to continue with lignite-based power production for the foreseeable future, after the previous Kolubara Environmental Improvement project effectively ensured life extension of lignite mining through new machinery.

EPS is a major CO₂ emitter, with limited baseline information and a poor track record of environmental information disclosure (eg. the latest environmental report containing information on GHG emissions published on EPS' website is the 2016 one, but the data on emissions dates from 2013). The EBRD has a long history of engagement with EPS and with the Serbian Government, but EPS' influence on decision-making has resulted in Serbia increasing its public debt in order to support lignite, rather than supporting an energy transition, eg. by taking a loan from the China Exim Bank for the Kostolac B3 power plant.

Such factors should have been part of the baseline of EBRD's due diligence on the corporate restructuring loan, project categorisation and conditionality for clean energy transition, in line with the Bank's Energy Sector Strategy. The Bank missed the opportunity to shift EPS' lignite lock-in and contribute to the transition to a low carbon economy and should not provide future financing in the absence of such conditions.

Reducing EPS's exposure to coal is not only a matter of carbon emissions but also of transition impact. EU utilities such as RWE that failed to seize the opportunity to lead in the low-carbon transformation of the energy sector have found themselves in financial difficulties. They have had to restructure and re-orientate their businesses in order to try to recover, and some of them like E.ON and ENEL have had to sell off significant fossil fuel assets.²⁴

A similar pattern may well emerge in the coming years in the Western Balkans as the region moves towards full electricity market opening. We already know from the feasibility study for Kostolac B3 coal plant that it will not be profitable if a CO₂ price of just EUR 5.79 is implemented in Serbia.²⁵ Additional costs await EPS for its existing plants, as well as the costs of fitting pollution control equipment in order to comply with its Energy Community Treaty obligations.²⁶ This means that moving EPS away from coal is not only a climate imperative but also a transition imperative, if the company is to be stable and financially viable in the coming years.

Bulgarian Energy Holding case study: BEH Bond project

The EBRD's significant investment of EUR 80 million in BEH, together with associated technical assistance and policy dialogue, is intended to support the implementation of 'key power sector reforms' in Bulgaria. While the low-carbon transition and sustainability are among the major priorities of the existing EBRD Energy Sector Strategy, it appears that these priorities were given little consideration in this investment, thus raising concerns about the implementation of the bank's strategic objectives in the energy sector through this important project.

It should be acknowledged that the Framework Agreement between EBRD and BEH provided the following conditions:

- the use of the proceeds of the EBRD investment is not to be used in connection with coal-fired projects (including new coal-fired projects or upgrades of existing thermal units) or the development and implementation of nuclear power projects;
- BEH to implement an ESAP and comply with policies on fraud and corruption.

The EBRD argues that 'due to the nature and rules of capital market transactions' full environmental and social due diligence was not done for the BEH project and thus a derogation from the Environmental and Social Policy was granted by the Board. Similarly, it would appear that the project received an informal, unspoken derogation from the Energy Strategy's main priorities, too, in its parts on energy efficiency, sustainability and low-carbon transition.

The question is, how can a major strategic investment in a strategic energy company, intended to deliver strategic reforms in the energy sector in the country, neglect some of the strategic priorities of the EBRD Energy Strategy? At the very least this is a massive missed opportunity to deliver on the bank's transition objectives.

About the company

Bulgarian Energy Holding EAD is the country's largest state-owned company in terms of total assets (approx. EUR 8.9 billion in 2015) in coal mining, electricity generation, supply and transmission, natural gas transmission, supply and storage.

BEH owns around 60% of installed power generating capacity in Bulgaria through its subsidiaries Kozloduy nuclear power plant, Maritsa East 2 thermal power plant and NEK (hydropower plants and pumped storage plants). For example the BEH Group's market share of Bulgaria's electricity generation was 59% in 2015 when it had an installed electricity generation capacity of 6.3 GW and generated 29.24 TWh of electricity. Of 2015 revenues, 58% came from sales from electricity, 21% from sales of natural gas, 17% from other sales, and 5% from coal sales.

Thermal plants (mostly coal plants) dominate the electricity generation in Bulgaria with 20.9 TWh, followed by the Kozloduy nuclear power plant with 13.3 TWh. Hydropower only produced 2.7 TWh in 2013 while renewable energy produced 2.8 TWh. Of them

BEH owns the Maritsa East 2 thermal power plant, the biggest lignite-fired thermal power plant in Bulgaria (the second largest electricity generation facility after the Kozloduy nuclear plant), providing approximately one fifth of the country's electricity. Maritsa East 2's

Year	CO2 emissions Mt ²⁷	Gross electricity production TWh	EPS gCO2/kWh	Installed capacity MW
2010	9.87	8.341 ²⁸	1183.3	1586
2011	13	10.97 ²⁹	1185	1600
2012	11.1	9.27 ³⁰	1197.4	1600
2013	9.46	7.833 ³¹	1207.7	1590
2014	10.3	8.803 ³²	1170	1620
2015	11.3	9.523 ³³	1186.6	1620

fuel is supplied locally from the Maritsa East Mines (Mini Maritsa Iztok). The plant comprises 8 generation units, each with a Flue Gas Desulphurisation installation. The installed generation capacity is 1,600 MW. A rehabilitation project in relation to two of the plants' units is expected to increase the plant's capacity to 1,630 MW.

BEH's power plant GHG emissions have actually increased rather than decreased in the past few years, while its overall emissions performance standard has remained steady.

BEH's overall emissions performance standard is moderate, as the company has a 2,000 MW nuclear power plant and 2,713 MW of hydropower plants, in addition to the 1,620 MW Maritsa East 2 lignite plant, of which only the latter reports CO2 emissions.

Maritsa East Mines (Mini Maritsa Iztok, MMI) operates the biggest open cast lignite mine in Bulgaria and sells to four thermal power plants located in the Maritsa East complex. MMI produces all of the coal briquettes and over 90% of the coal required for the coal power generation capacities in Bulgaria, as the electricity produced within the Maritsa East complex accounts for more than 25% of the total electricity power generation in Bulgaria.

MMI has lignite reserves of 2,096 million tonnes, expected to be sufficient to service current usage for a period of up to 70 years. Currently MMI operates under a 35-year concession granted by the Bulgarian government in July 2008. The maximum extraction capacity of the mine is 35 million tonnes annually and the total mine area is approximately 240 square kilometres.

The EBRD's investment in BEH

The EBRD invested EUR 80 million in a five year senior unsecured bond issuance by BEH traded on the Irish Stock Exchange since 2 August 2016. Specifically the funds have been used to refinance a bridge loan incurred to support the commercial liabilities of BEH's key subsidiary NEK. The investment is part of a 'comprehensive reform plan' aiming to restore the financial viability of the electricity sector and to promote electricity market liberalisation in Bulgaria.

The EBRD claims that the 'key power sector reforms' will enable BEH to restructure debt on the holding's balance sheet, 'improving the long term financial sustainability of the power sector in Bulgaria'. Obviously other types of sustainability, apart from financial sustainability, are not sought in line with the EBRD's energy sector strategy and there are no aspects of the project that might be regarded as an attempt to lower the company's fossil fuel dependence. In spite of the significance of the EBRD loan to BEH and to the energy sector in the country, the reforms do not envision measures or conditions aimed at the low-carbon transition needs of Bulgaria's energy sector.

The BEH project received a derogation from the Bank's Environmental and Social Policy, because the 'EBRD's standard environmental and social due diligence process cannot be followed for bond transactions'. Still importantly, the EBRD agreed an Environmental and Social Action Plan with BEH, committing BEH 'to implement a corporate governance structure and environmental and social policies that will apply to its major subsidiaries in line with the Bank's Performance Requirements' for the duration of the EBRD investment.

It remains unclear whether the EBRD discussed with

Year	CO2 emissions Mt	Gross electricity production TWh = (1)+(2)+(3)	NEK (1)	Kozloduy (2)	Maritsa East 2 (3)	EPS gCO2/kWh
2010	9.87	27.812	4.223	15.248	8.341	354.8828
2011	13	30.0948	2.8108	16.314	10.97	431.9683
2012	11.1	28.054	2.999	15.785	9.27	395.6655
2013	9.46	25.602	3.598	14.171	7.833	369.5024
2014	10.3	28.227	3.558	15.866	8.803	364.8989
2015	11.3	29.432	4.53	15.379	9.523	383.9359

BEH its exposure to risks of stranding of carbon assets in the mid to long term, in view of evolving climate policies, the EU's commitments under the Paris Agreement and the imperative to keep global temperature increases under control. Through strategic investments like the BEH project the EBRD should aim to reform the sector not just in view of achieving financial sustainability, but also deliver on the low-carbon transition objectives.

Conclusions and recommendations

The above examples show that the EBRD, while making positive steps forward in limiting coal financing, has not yet taken the opportunity to generate wider decarbonisation impacts through its corporate-level loans and other loans to companies with a high share of fossil fuels in their power generation portfolio.

We therefore recommend the following:

- Loans to companies with a high share of fossil fuels in their power generation portfolio need to be conditioned on the company committing to a decarbonisation plan prior to loan approval. The first emissions reductions must already be measurable within the lifetime of the EBRD project.
- Given the danger of carbon lock-in and stranded assets, no financial support should be given to companies planning new coal power capacity at all. As fossil fuels are becoming not only an environmental but also financial liability, supporting companies planning new coal power plants cannot contribute to creating a transition to stable companies operating on market principles.
- The EBRD needs to incorporate the low-carbon transition into its project-level transition indicators to ensure that vulnerabilities resulting from fossil fuel exposure are taken fully into account in project design.

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