EBRD coronavirus policy response

European Bank
for Reconstruction and Development

Covid stress tests for the energy sector in Uzbekistan

September 2020

Overview

In May 2020, the Ministry of Investment and Foreign Trade of Uzbekistan (MIFT) asked the international community for support in running financial stress tests of the country's main energy enterprises to see how they would cope with the Covid-19 crisis. The EBRD was asked to work with the power generation company TPP, which manages the fleet of gas-fired power plants. The results of these tests paint a worrying picture: under all scenarios examined, the company will be loss-making from 2020 until 2022. These losses highlight the need to continue pursuing the energy sector reform programme initiated two years ago, not only to improve the near-term financial performance, but also to boost the sector's resilience in the long-term. Based on the results of the stress tests, the EBRD and other international institutions will continue to support the Uzbek authorities in choosing the optimal policy response to guide the energy sector through this unprecedented crisis.

How is Covid-19 affecting the energy sector?

The Covid-19 pandemic was a major blow to the energy sector in many EBRD countries of operations (CoOs). The pandemic led to a sharp, double-digit percentage decrease in the demand for energy, which slashed revenues of companies in the sector, especially during the lockdown when economic activity significantly declined. At the same time, nearly half of EBRD CoOs expanded their social safety nets by introducing a moratorium on utility payments for some or all vulnerable households, or by lowering access criteria for the existing scheme to widen its coverage. In some cases, the authorities opted for cancelling penalties for non-payment and forbidding utility companies to disconnect households in such cases. Many EBRD countries implementing these measures are in regions such as the Western Balkans, Central Asia and Eastern Europe, where the energy sectors are still dominated by state-owned enterprises. (Similar measures are utilised in some Western European countries, such as the UK.) This has led to a major fiscal burden on governments, highlighting the importance of modelling the expected financial results of energy companies and testing the sector's ability to cope with the crisis.

The Uzbek authorities asked for assistance in determining the potential financial impact of the crisis on the energy sector and identifying actions that could mitigate it. The energy sector in Uzbekistan has been radically reformed in the last two years. The main integrated power company, Uzbekenergo, was split into three different state-owned enterprises (SOEs): Thermal Power Plants (TPP), which manages the fleet of gas fired power plants, National Electric Networks of Uzbekistan (NENU), which oversees the electricity transmission and trade, and Regional Electric Network (REN), which distributes the electricity to final users. As the three companies do not yet have consolidated financial statements, the government approached international development partners for support in running separate financial stress tests for these three SOEs. The EBRD was requested to develop scenarios for the power generation company TPP, the World Bank worked with NENU, while the Asian Development Bank assisted REN. The results were presented in July to the MIFT. The EBRD, together with other international organisations, remains involved in dialogue with the government to choose the most appropriate policy solutions.

The methodology for the stress tests

The EBRD built a model to forecast the cash flow of TPP until 2022. The consultant who was hired to support the project carried out a top-down estimation of total generator revenues initially under three scenarios: pessimistic, baseline, and optimistic. A fourth, "second wave" scenario was added later as Uzbekistan entered its second lockdown in July 2020 following a resurgence of Covid-19 cases. The underlying model components included macroeconomic scenarios (jointly determined by the international financial institutions (IFIs) involved in the stress testing of the entire energy sector), 2019 distribution sales data, and specific protocols determining the allocation of revenues along the supply chain. To project total demand, total distribution level sales were calculated using electricity demand and tariffs specified in the stress test assumptions. In the second step, 2019 historic distribution sales were used to allocate sales between distributors and simulate the monthly cash flows for each distribution company. Based on the protocols allocating these monthly collections to specific generators, these inflows were allocated among different plants and the revenue per generator was obtained.

Main results of the TPP stress tests

TPP will be loss-making from 2020 to 2022 under all the scenarios. Financial losses are estimated in the range of US$ 179 million under the optimistic scenario to US$ 240 million under the second wave scenario in 2022. Cumulatively, this maps into a US$ 404 million loss under the optimistic scenario and a US$ 590 million loss under the second wave scenario in 2020-22. Despite growing electricity demand and improving collection rates, rising fixed costs associated with debt refinancing will lead to a deterioration of the financial position in 2022. Under the second wave scenario, the deficit significantly increases in all three years, and even the structure of consumption would change towards a higher share of residential instead of industrial consumption. A higher share of residential consumption, which has a lower tariff than the industrial sector since it is subsidised by the authorities, would slightly decrease the average effective electricity tariff[1] versus the baseline scenario, even though the tariffs applied on each type of consumption would not change.

The results of the financial model highlight the structural weaknesses in the sector. The sector is undergoing a major transition towards liberalisation and is facing many vulnerabilities to external shocks in this process of change. TPP was created in mid-2019 from the unbundling of the previous integrated entity Uzbekenergo and is still working to achieve full operational and financial independence. The sector is currently centrally governed with rigid protocols in place that set tariffs for each company and each plant. Addressing some of the central dispatching inefficiencies could potentially ameliorate the impact of the crisis and enhance the resilience of the power sector

Figure 1: Total deficit summary of TPP

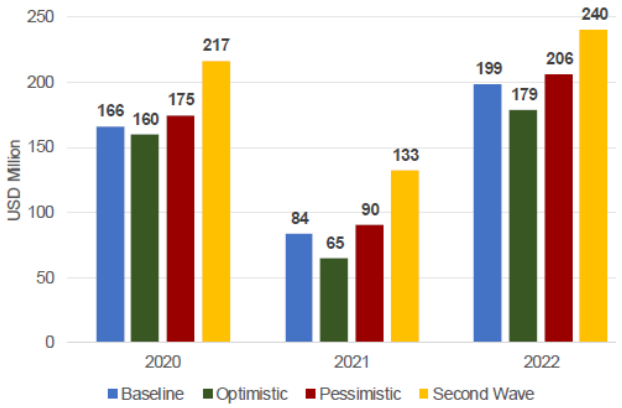

Figure 2: Percentage difference in distribution level assumptions compared to baseline case

	Electricity Sales	Electricity Collections (USD)	Electricity Collections (%)	Total Electricity Demand	Average Electricity Tariff
2020	-12.0%	-21.2%	-10.4%	-11.4%	-0.7%
2021	-13.3%	-18.2%	-5.7%	-12.6%	-0.7%
2022	-14.3%	-14.4%	-0.1%	-13.6%	-0.8%

Source: NERA analysis of JCS TPP data using stress test assumptions provided by the EBRD.

[1] The average tariff is calculated proportionally on industrial and residential demand.

What can be done to mitigate the impact of Covid-19 on energy sector development?

The impact of the pandemic is severe and risks a reversal of the reforms introduced in the last few years. Three actions, which could support the sector and make TPP more resilient were identified: restructuring debt service, increasing tariffs, and increasing the efficiency of TPP. In addition to inheriting former Uzbekenergo debt, the pandemic is driving the significant increase in the company's financial exposure, with debt service expected to be a major driver of rising costs in 2022. Restructuring or renegotiating debt service conditions with creditors could improve the cash flow in the short term and make the debt burden more sustainable. Liquidity in the sector could be significantly improved if tariffs were increased in line with inflation, which is projected at around 20 per cent in 2020. However, since this would significantly hit the budget of vulnerable households, the authorities have postponed the differentiated tariff reform until 2022. Lastly, the crisis could be an opportunity to review the whole market design with the aim of making it more efficient.

Improving the efficiency of the sector would help address near-term financial issues and bring long-term benefits. Economic optimisation of TPP's activities requires a concerted action from the government to improve the efficiency of the entire power sector. The largest cost item in the TPP budget is fuel, amounting to roughly US$ 1.1 billion per annum until 2022. Therefore, savings in fuel consumption would contribute to the overall deficit reduction. At the same time, a preliminary analysis shows that the fuel efficiency of the generation fleet is below comparable benchmarks and there is significant space for improvements. One option to increase the fuel efficiency of TPP would be to shift production from less to more efficient power plants with a new electricity dispatch mechanism in low-demand scenarios to achieve more economic generation. This is, however, prevented by regulations currently in place. Revising the regulatory framework on the national level would enable greater operational efficiency of the generation fleet, freeing up cash resources for TPP and potentially reducing the carbon footprint of the country.

Acknowledgements

This note was produced by Giuseppe Grimaldi of the Sector Economics and Policy team, part of EBRD's Economics, Policy and Governance Department. Valuable contributions were made by Peter Sanfey, Ana Kresic, and Radu Cracan.

One Exchange Square
London EC2A 2JN
United Kingdom
www.ebrd.com

For more information on the EBRD's Covid-19 policy engagements, visit:
https://www.ebrd.com/what-we-do/coronavirus/coronavirus-policy-response