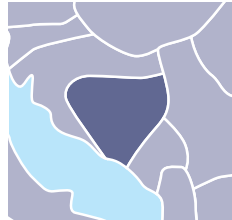




Europe **Bosnia and Herzegovina**



# Emergency Electric Power Improvement Project

Contributing to a stable electric power supply in the post-war era by rehabilitating thermal power plants and coal mines

**[External Evaluator]**

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**Rating**

Effectiveness, Impact	a	Overall Rating <b>B</b>
Relevance	a	
Efficiency	b	
Sustainability	b	

**Project Objectives**

To increase electricity supply by revitalizing the Kakanj thermal power plant and six coal mines adjacent to four thermal power plants (including the Kakanj plant), thereby contributing to post-war economic reconstruction and the stabilization and improvement of the people's livelihood.

**Outline of the Loan Agreement**

- Loan amount / Disbursed amount: 4,110 million yen / 4,102 million yen
- Loan agreement: December 1998
- Terms and conditions: 0.75% interest rate; 40-year repayment period (including a 10-year grace period; general untied
- Final disbursement date: August 2006
- Executing agency: The Federation of Bosnia and Herzegovina: Elektroprivreda Bosne i Hercegovine (EPBiH), Brown Coal Mine Kakanj (BCBK), Brown Coal Mine Breza (BCBR), Coal Mines Kreka-Durdvik (CKMD), Brown Coal Mines Banovici (BCBA). Republic of Srpska: Elektroprivreda Republike Srpske (EPRS)

**Effects of Project Implementation (Effectiveness, Impact)**

This project provided almost 20% of all post-war facility investment in the two units of the Kakanj Power Plant and the six coal mines. Although the railroad facilities at the Kakanj Coal Mines have not been utilized, over 80% of the facilities supplied by this project have been fully utilized. The facilities have contributed to improving performance of the Kakanj Thermal Power Plant and maintaining and restoring productivity at Breza Coal Mines and Kreka Coal Mines. Consequently, the project promoted a drastic increase in energy production at the Kakanj Power Plant as well as securement of necessary coal supply for the four thermal power plants including Kakanj.

Bosnia and Herzegovina's power supply was secured during the post-war era. Since the four thermal plants account for about 70% of the nation's entire power production, this project can be deemed contributory to economic reconstruction and improvement in the people's livelihood. Further, this project had a positive impact for the Kakanj Thermal Power Plant to reduce contaminants in emission gas. Therefore, this project has largely achieved its objectives, and its effectiveness is high.

**Relevance**

After the war, reconstruction of the electricity sector was given overriding priority, and the revitalization of power generation facilities, power plants, and coal mines was urgently needed. The electricity sector remains important for the country although restoration of the power generation system no longer requires an urgent response. Current concern has shifted to limited production capacity of coal mines. To respond to expected increase in power demand, tireless reinforcement of power generation and coal supply capacity is necessary. Therefore, this project has been highly relevant with Bosnia and Herzegovina's national policies and development needs at the times of both appraisal and ex-post evaluation.

**Efficiency**

Due to delays in L/A effectuation for more than one year, a significant portion of the project, which was originally to respond to emergency needs, were modified. The implementation period at Unit #7 of the Kakanj Thermal Plant and Breza Coal Mines increased significantly. Although the project period was much longer than planned, project cost was almost as planned; therefore, the evaluation of efficiency is moderate.

**Sustainability**

The technical level of the executing agencies in terms of facility operation and maintenance is high. However, the coal mines hold issues such as surplus of labor force, persistent deficits, and insufficient equipment investment, which bring concerns in financial resources for facility maintenance and renewal. The federal government is trying to solve this issue through management integration with a power company, and close observation must be kept on this situation.

**Conclusion, Lessons Learned and Recommendations**

In light of the above, despite significant delays in project implementation and the concerns for the future sustainability of the coal mine portion, this project is evaluated to be satisfactory due to its high relevance and effectiveness. A recommendation to the Kakanj Power Plant is to procure necessary equipment for the railroad facilities and to start coal transportation by the railroad. A recommendation to the federal government is to invest in facilities for coal mines continuously.



Kakanj Thermal Power Plant

\*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" ([URL:http://www.jica.go.jp/english/operations/evaluation/oda\\_loan/post/](http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/))