



## Indonesia

# 8 Banjarmasin Coal Fired Steam Power Plant Project

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The project's objectives were to respond to increasing demand for power and promote oil-dependency circumvention policies by constructing a coal-fired steam power plant in the southeastern part of Kalimantan, thereby contribute to infrastructure developments targeting economic growth and supporting regional development.

**Loan Amount/Disbursed Amount:** 6,464 million yen/6,444 million yen

**Loan Agreement:** November 1994

**Terms and Conditions:** Interest rate, 2.6%; Repayment period, 30 years (grace period, 10 years); General untied

**Final Disbursement Date:** December 2001

**External Evaluator:** Atsushi Fujino (KRI International Corp.)

**Field Survey:** August 2003



## Evaluation Result

This project was co-financed by the World Bank, with JBIC funding the procurement of steam generators and related facilities; the project as a whole, including civil works, and the installation of turbine generators and electrical equipment was implemented almost as planned. The project period exceeded the plan due to delay in the contract procedures and the political and economic unrest that occurred after the currency crisis, but project costs were almost as planned. In terms of operational performance, against planned electricity production capacity of 717.4GWh, a plant load factor of 63.0%, and maximum output of 130.00MW, in 2002, electricity production capacity was 865.2GWh, and the plant load factor was 76.0%, with both figures exceeding the original targets; maximum output was as planned. The availability factor of the plant exceeds 80%, and it is running smoothly without any major problems. Further, a comparison between 1994 (pre-implementation) and 2002 (post-implementation) reveals that electricity production, net energy demand and peak load have all more than doubled in southeastern Kalimantan (South Kalimantan Province population = 3.17 million vs. Shizuoka Prefecture population = 3.8 million), indicating that the project is contributing to power supplies to this area. Added to which, oil-fired generation

in the region has been reduced from 79.5% (1994) to 31.5% (2002), with coal-fired production now accounting for 60.2% and progress is being made on the bid to relinquish dependency on oil. There are no problems in the technical capacity, or operation and maintenance system of the state electricity company (PLN) - the project's executing agency - but for financial status, its earnings performance is not satisfactory. PLN is undertaking various measures, which include reviewing its tariff system and its contracts with independent power producers (IPP) and attempting to improve its managerial efficiency and to improve distribution efficiency by enhancing the supply situation (reducing technical losses). It is recommended the establishment of a comprehensive ash treatment system.

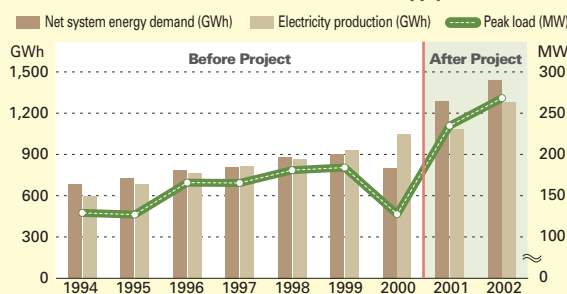
## Third-Party Evaluator's Opinion

The project contributes to stable electricity supply and out of dependence on oil in South Kalimantan, where demand for electricity increased due to increased economic activities.

**Third-Party Evaluator:** Ms. Armida Salsiah Alisjahbana

Obtained a doctorate in economics from University of Washington. Presently holds the post of Lecturer and Head of Center for Economics and Development Studies, Faculty of Economics, Padjadjaran University. Specializes in public finance, economic development, economics of education, and microeconomics.

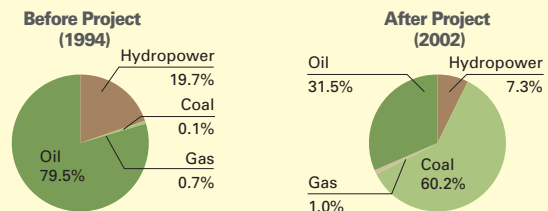
South Kalimantan and Central Kalimantan Grid Supply Status



Source: PLN

Because the South/Central Kalimantan grid was primarily served by small diesel production plants prior to the implementation of this project, power supply capacity was frequently outstripped by demand. The construction of a coal-fired power plant has resulted in massive increases in production and is contributing to power supplies to this area.

Composition of Electric Power Industry in South Kalimantan/Central Kalimantan Service Area: Before and After Project Comparison



Source: PLN

In 1994, aside from oil-fired plants, which accounted for 79.5% of production, and hydropower, which accounted for 19.7%, there were virtually no other power generation facilities in the region. By contrast, in 2002, after the completion of the project, the ratio of oil-fired production had decreased dramatically to 31.5% to be replaced by coal-fired generation, which now accounted for 60.2%. All of this coal-fired power is being generated by the Banjarmasin power plant.