

Energy Sector in Lao People's Democratic Republic

As an input to the country assistance program evaluation, this study assesses the performance of ADB assistance to the Lao PDR energy sector. The study examines the development effectiveness of ADB-funded energy projects, identifies lessons and makes recommendations for future interventions in the energy sector.

Lao People's Democratic Republic (Lao PDR) is a landlocked, mostly rural and agrarian country rich in natural resources, and a country that is becoming more urbanized and better integrated within the Greater Mekong Subregion. Traditional energy sources (mostly fuelwood and charcoal) are giving way to electricity and petroleum. While the Lao PDR imports all of its petroleum products, it has large hydropower potential, and a major portion of existing hydropower capacity is for power exports. The key energy sector objectives of the government include bringing electricity to all by expanding and improving the main grid or, where cost effective, by off-grid electrification; and earning foreign exchange by setting up export-oriented hydropower projects and exporting electricity.

ADB has made substantial contributions towards creating energy infrastructure in the Lao PDR. In line with government policies and programs and in conjunction with assistance from other development partners, ADB energy sector assistance since the late-1980s has focused on hydropower projects, high-voltage grid extension, rural electrification, and capacity building to manage power sector infrastructure and utility operations.

Total ADB energy sector assistance from 1988 to 2009 was about \$290 million for loan projects and \$13.9 million for technical assistance projects. During the study period (2000-2009), ADB approved support for two energy sector projects: the Nam Theun 2 Hydropower Project and the Northern Area Rural Power Distribution Project. ADB's total energy sector assistance approvals during the study period comprised \$100.0 million in loans and \$5.6 million in technical assistance support. Seventy percent of loans and more than 50% of technical assistance approvals were linked directly to the Nam Theun 2 project.

Overall Assessment

The overall rating of ADB's program is *successful*. This rating reflects several factors, most saliently that (i) the interventions have been consistent with government policies, programs, and priorities; and (ii) the assistance program has enabled positive outcomes at the national level (e.g., boosting foreign exchange earnings and recognizing the need to mainstream environmental and social mitigations) and the local level (e.g., increasing electricity access).

Key Issues

- It is essential to mainstream screening of hydropower project developers and to build capacity to do so. There is a need to improve capacity to screen the developers and instill competition among them, and enhance technical, financial, commercial, and environmental and social mitigation skills and expertise to improve capabilities with regard to project agreement negotiations.



Power transmission lines from ADB-funded Nam Theun 2 Hydropower Facility. Ninety percent of electricity produced is sold to Thailand. The funds generated are earmarked to finance health and education services and other poverty alleviation programs across Lao PDR.

QUICK LINKS

Energy Sector in Lao People's Democratic Republic

www.adb.org/Documents/Reports/SAPE/LAO/SAP-LAO-2010-42/default.asp

Lao People's Democratic Republic: Sustainable Growth and Integration

www.adb.org/Documents/CAPES/LAO/CAP-LAO-2010-43/default.asp

ADB Management Response

www.adb.org/Documents/Evaluation/Management-Response/SAPE/MR-SAP-LAO-2010-42.pdf

Chair's Summary of the Development Effectiveness Committee (DEC)

www.adb.org/BOD/dec/DEC-Chair-Sum-10Nov2010.pdf

- A requisite institutional base needs to be built over the medium term to ensure that all new hydropower projects comply with a certain minimum level of environmental and social safeguards.
- Financial and operational performance of Electricité du Laos needs to improve. It needs to continue making efforts in several directions to improve its operational and financial performance.
- Greater Mekong Subregion-wide power system integration remains a medium-term goal. It is necessary that harmonization of standards for transmission regulations, metering arrangements, grid codes, etc., are also addressed and agreed upon by the Greater Mekong Subregion countries concerned.
- A holistic energy sector perspective is needed. There is no integrated energy policy, and the emerging issues related to environmentally and socially sound lignite mining practices need to be suitably addressed.

Lessons

- **One-off and stand-alone interventions are ineffective for capacity building related to environmental and social mitigation.** A continued stream of interventions is necessary to improve the environmental and social impact identification and management capabilities of the Water Resources and Environment Administration at the central, provincial, and local levels.
- **Some allowance must be made for unforeseen environmental and social impacts.** It is useful if the project agreement(s) provide for a certain minimum budgetary allocation for the management of such unforeseen impacts during the entire project cycle.
- **Monitoring and evaluation of environmental and social aspects needs to be appropriately designed.** To enable sustained performance in terms of compliance with environmental and social safeguards, it is useful to divide the responsibilities between the government and the developer or sponsor in line with their capabilities and natural advantage.
- **ADB oversight is useful to ensure that hydropower projects comply with applicable environmental and social safeguards.** The Theun-Hinboun and Nam Leuk hydropower projects experience shows that ADB must continue—even after loan closure—to ensure that the requisite environmental and social safeguards are being complied with.
- **A multifaceted approach must be adopted to ensure that power tariffs remain affordable in the coming years.** The Electricité du Laos has to pursue measures that will help reduce the cost of supply (to avoid the need to raise tariffs) by further reducing technical and nontechnical transmission and distribution losses, managing accounts receivable, implementing demand-side management measures, and extending credit for payment of service connection costs.

Feedback

ADB Management appreciates the comprehensive analysis of ADB's assistance in the energy sector in Lao PDR. Management concurs with the overall assessment that ADB's program has been successful and that ADB's performance has been successful. The study has identified areas for further development of the sector and has made recommendations for future success and sustainability of ADB's operational program.

The Chair's Summary of the Development Effectiveness Committee (DEC) noted the solid progress in rural electrification in Lao PDR. DEC members also noted that Nam Theun 2 has been successfully completed and sufficient progress has been made in implementing environment and social safeguards. DEC members underlined the need for improving implementation of projects and reducing the large delays observed in the past. There was a need for improving coordination, strengthening the Lao Resident Mission, and having a medium to long-term strategy based on policies and programs in the energy sector. ADB, including the private sector, should remain engaged in the upstream generation projects.

Recommendations

- *Focus ADB's capacity development interventions on the need to increase electricity access, improve the operational and financial efficiency of the power utility, and better manage the development of large hydropower*
- *Work with development partners towards designing a knowledge management framework and delivering knowledge management solutions given the need for capacity development on several aspects*
- *Continue to offer financial assistance, particularly for (i) hydropower projects with a view to better comply with environmental and social safeguards, and (ii) electricity access projects*
- *Conduct policy dialog to accelerate moves towards formulating a comprehensive energy policy and accelerating power systems integration across the Greater Mekong Subregion*

Team Leader: Kapil Thukral
Tel +63 2 632 6117
Email: kthukral@adb.org

Contact Us

Independent Evaluation Department
Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
Tel +63 2 632 4100
Fax +63 2 636 2161
Email: evaluation@adb.org
www.adb.org/evaluation

Learning Curves are handy, two-page quick reference designed to feed findings and recommendations from evaluations to a broader range of clients.