

## **Project Overview and Description**

(More detailed information about the project)

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## **Overview**

The US\$1.45 billion construction is over 98 percent complete at the 1,070 megawatt Nam Theun 2 Hydroelectric Project in Lao People's Democratic Republic (Lao PDR), and work to mitigate the environmental and social impacts of the project on the people living in the project areas continues making progress.

NT2 will enable Lao PDR to export 995 MW of electricity-generating capacity and electrical energy to the Electricity Generating Authority of Thailand. The hydroelectric project will also supply 75 MW of electricity for domestic use in Lao PDR. The project is expected to generate annual revenues to the Government of Lao PDR (GoL) averaging about US\$30 million (nominal) per year during the first ten years while commercial debt service is paid, then rising sharply thereafter to an average of approximately US\$110 million (nominal) from 2020 to 2034. If the revenues are spent efficiently, and transparently – in accordance with project agreements – NT2 could provide significant, incremental support to Lao PDR's poverty reduction and environmental management efforts.

The project was approved on March 31, 2005 by the International Development Association (IDA) and the Multilateral Investment Guarantee Agency (MIGA).

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World Bank Group support consists of:

- a US\$42 million IDA Partial Risk Guarantee,
- a US\$20 million IDA Grant for NTSEP (Nam Theun 2 Social and Environment Project, which finances a part of the GoL's equity in the project to be used for management of environmental and social impacts and independent monitoring and evaluation of the NT2 project), and
- US\$91 million in MIGA Guarantees.

- NT2 implementation is being undertaken by the Nam Theun 2 Power Company (NTPC) and the Government of Lao PDR.

Following the World Bank Group's decision to support the project, the Nam Theun 2 Power Company (NTPC) and the Government of Lao PDR proceeded to sign a number of agreements with public and private lenders and guarantors [1] to complete the project financing arrangements for Nam Theun 2. A total of US\$1.45 billion equivalent (excluding bonding facilities) in US dollars and Thai Baht has been committed by various financing partners to fund the base project cost of US\$1.25 billion, plus an additional US\$200 million for contingency.

GoL seeks to generate revenues, through environmentally and socially sustainable development of NT2's hydropower potential, which will be used to finance priority poverty reduction and environmental management programs. The project plays an important role in the broader development of the country by building capacity to manage natural resources and develop infrastructure; and by improving transparency and the effectiveness of public expenditure management systems.

The decision by the World Bank to approve the project followed careful consideration of the substantial preparation work done, which included almost a decade of studying the project and evaluating the risks, taking into account valuable lessons learned from past projects, an intense process of consultations, and due diligence on environmental and social impacts and the economic costs of the project. Project implementation is being monitored and supervised closely through a coordinated program being carried out by a number of public and private entities.

NT2 provides impetus for the Government of Lao PDR to continue economic, social and public financial management reforms, while at the same time it furthers cooperation among donors, deepens engagement with private sector and civil society, and strengthens the nascent regional electricity market.

Despite more than a decade of strong growth and progress on poverty reduction, Lao PDR remains one of the poorest countries in the world. The country's per-capita income is US\$380, and many of its social indicators are among the lowest in East Asia. Lao PDR has few options to earn the money it needs to invest in basic health, education and infrastructure.

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### **Project Description**

NT2 has been designed as a build-own-operate-transfer (BOOT) project. The project includes the development, construction, and operation of a trans-basin diversion power plant that would use water from the Nam Theun River, a tributary of the Mekong River, releasing the water into the Xe Bang Fai River. The proposed project site is located in the Khammouane and Bolikhamxay provinces in central Lao, about 250 kilometers east of Vientiane. It would stretch from the Nakai Plateau to the lower Xe Bang Fai River confluence with the Mekong. The main features of the project include:

- A 39-meter-high gravity dam on the Nam Theun river.

- A 450-square-kilometer reservoir.
- A powerhouse (from which water would flow into the Xe Bang Fai).
- A 130-kilometer-long, double-circuit 500-kV transmission line to the Thai grid.
- A 70-kilometer-long, single-circuit 115-kV transmission line to Lao's domestic grid.

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NT2 consists of four components supported by the World Bank Group (IDA and MIGA):

1. a hydropower facility providing 995 MW of power for export to Thailand and an additional 75 MW for domestic consumption;
2. management of the project's environmental and social impacts on the Nakai Plateau, in the NT2 Watershed (the Nakai Nam Theun National Protected Area and two corridors linking it to other national protected areas), and in the downstream areas of the Nam Theun and Xe Bang Fai rivers;
3. Assisting the Government with the design and implementation of the NT2 revenue and expenditure management arrangements which focus on strengthening the national public expenditure management systems over the next few years before NT2 revenues begin to flow to the GoL. This framework helps to ensure that NT2 revenues received by GoL are applied effectively – with transparency and accountability – to reduce poverty and improve environmental management.
4. Monitoring and evaluation arrangements designed to meet sound engineering practices, fiduciary responsibilities, and the respective oversight requirements of the participating financial institutions in a timely and cost-effective manner.

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A number of complementary projects are being designed to support Nam Theun 2 and prevent it from being an isolated, stand-alone “enclave” project by extending some of the standards and programs established for NT2 beyond the project area. These programs include:

The [Lao Environment and Social Project \(LEnS\)](#), currently under implementation, which will help the Government, on a national level design and implement environmental and social safeguard policies and management programs in the hydropower and other infrastructure sectors; will assist GOL improve their biodiversity conservation efforts in five provinces – and with river basin management efforts; and efforts to increase public awareness raising and institutional capacity building around environmental issues.

The proposed [Khammouane Rural Livelihoods Project](#) to enhance broader development opportunities for villages and communities living in the project area, helping them to be better able to participate in growth opportunities resulting from Nam Theun 2, East West Corridor, and trade integration.

The [Rural Electrification Project](#) which will help expands access to electricity in rural areas through off-grid renewable resources and grid connections, and further strengthen Electricite de Lao, a key

counterpart for Nam Theun 2 Hydroelectric project.

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## Monitoring and Evaluation

NT2 has a robust, multi-layer monitoring and evaluation framework consisting of the following elements:

1. **Supervision of physical implementation** of the hydropower project by professional engineering firms under contract to the Nam Theun 2 Power Company Limited (NTPC) and the Government of Lao PDR, respectively.
2. **Lenders' Engineer** to monitor progress in project construction, and implementation of environmental and social management plans (covering the plateau where the reservoir will be formed, and the watershed and downstream areas) through review of monthly and half-yearly progress reports submitted by implementing agencies and through quarterly site visits.
3. **Dam Safety Review Panel** to advice on technical issues.
4. **Independent Monitoring Agencies**, reporting to the Government of Lao implementing agencies, to monitor progress on resettlement, environmental impact mitigation, and watershed management issues. The Independent Monitoring Agencies are in the process of being contracted. Their findings will be made public by the Government.
5. **Panel of Environmental and Social Experts (POE)**, reporting to Government, to advice on environmental and social issues. The POE normally visits the Lao PDR at least once per year (or more often at the Government's request). The latest visit took place in March-April 2009. [Click here](#) for more information about the POE and to read their reports.
6. **International Advisory Group (IAG)**, advising the World Bank's President and senior management on implementation of the project, covering revenue management arrangements as well as environmental and social aspects. The World Bank is in the process of expanding the IAG's membership to include expertise in revenue management and public participation; appointments to the NT2 IAG are made by the President of the World Bank. The IAG normally visits Lao PDR at least once per year (or more often depending on the IAG's assessment). The latest visit took place in April 2008. [Click here](#) for more information about the IAG and to read their reports.

7. **Regular supervision by staff of the World Bank, other international financial institutions and bilateral agencies** – in the form of site visits and management missions. For revenue management, teams will join regular Bank missions, but will also hold separate missions carried out by the public financial management experts of the World Bank and ADB. Since GoL will only start receiving NT2 revenues in early 2010, in the interim, supervision will monitor progress in strengthening the country’s public financial management systems.

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## Reporting Arrangements

**World Bank: Half-Yearly Reports:** Approximately every six months, the World Bank and the Asian Development Bank will release project reports to inform their respective Boards and the public on the status of project implementation. [View the reports](#).

**NTPC:** NTPC will also release half-yearly reports, scheduled for June/July and December/January each year, updating information on project implementation and responding to issues raised through supervision missions and reports by the IAG, POE, and others including the IMAs. Visit the NTPC website for more information.

**Additional Reports:** The IAG, POE, and the DSRP are expected to make 1 to 2 visits per year and to issue reports following each visit. The findings and recommendations of the various panels of advisors will be taken into account for implementation by the implementing agencies and for supervision by the international financial institutions – and will be responded to in NTPC’s semi annual reports. In addition, the updates on the past findings and recommendations of these panels are likely to find place in subsequent reports of the panels. [Click here](#) for POE and IAG reports.

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[1] The project is being financed largely by the private sector with support from multilateral and bilateral agencies. Donor involvement includes the World Bank, Asian Development Bank (ADB), Agence Française de Développement (AFD), European Investment Bank (EIB), and Nordic Investment Bank (NIB).

Export credit agencies – including COFACE (France), EKN (Sweden), and GIEK (Norway) – are also involved.