Evaluation Summary

Huoi Quang Hydropower plant project (520 MW)

Country: **Vietnam** | Sector: **Hydropower**

Evaluator: **Nodalis**
Date of the evaluation: **May 2021**

Key data on AFD's support

Project number: CVN1099
Amount: 100 MUSD
Disbursement rate: 82%
Signature of financing agreement: 09/11/2010
Completion date: 31/08/2015
Total duration: Approximately 5 years

Context

The Huoi Quang Hydropower-Plant (HPP, 520 MW) project is part of the Power Master Plan VI launched by the Vietnamese government to increase the country's generation capacity and fill the gap in unmet demand. Established on the Nam Mu River, within the Da river cascade in northern Vietnam, this USD 672 million project began in January 2006 and was completed in June 2016.
AFD contributed in first to the financing of electromechanical equipment and the panels of experts and then, from 2013, to the civil works contract.

Actors and operating method

The contracting authority:
EVN (public utility Vietnam Electricity)

The beneficiary:
Direct beneficiary: EVN
Final beneficiary: the Vietnamese population

The technical partners:
Song Da, Alstom, BCEOM, Artelia, Tonkin & Taylor International Ltd, Parsons Brinckerhoff, and resident advisor in charge of E&S training and management support

The Ministries & Local authorities
This project was financed via loan from The Bank for Investment and Development of Vietnam, The Vietnam Development Bank, and AFD's first ~~ever~~ non-sovereign loan in Vietnam to EVN.

Objectives

The objective of the project, is "to improve economic efficiency, public infrastructure and social welfare through reliable, flexible, cost-effective and low-carbon power supply". More specifically, the objectives pursued by AFD through its involvement with EVN can be summarised as follows:

- Promote competitive and secured energy
- Increasing energy production from renewable sources
- Limiting greenhouse gas emissions
- Raising awareness of international standards for environmental and social management
- Develop the non-sovereign financing in Vietnam

Expected outputs

- The operation of the dam and 520MW hydropower plant ~~at~~ Huoi Quang
- Improving the management of electricity production in the river basin

Performance assessment

Relevance

In line with Vietnam's national energy strategy and AFD's strategies at the time of project appraisal and currently, the Huoi Quang project is relevant. It has addressed both EVN's needs, by increasing its hydropower production capacities, and met the needs of electricity end-users, via additional renewable production capacity in a context of exponential electricity demand growth.

Coherence

The choice of a non-sovereign loan has allowed EVN to diversify its funding sources, in a context of reduced financial involvement of the Vietnamese Government and DFIs. It also allowed AFD to innovatively support the project despite the Vietnamese limit on sovereign lending.

Effectiveness

With an output slightly exceeding expected feasibility estimates (More than 1 925 GWh/year produced, compared to an expected level of production of 1 903 GWh/year) and an added renewable capacity of 520 MW, the project is achieving its main objectives, both technically and in terms of GHG emissions (Around 785,000 tCO2eq/year of avoided annual GHG emissions, compared to a scenario with thermal energy production). Furthermore, the non-sovereign financing instrument responded perfectly to EVN and the Vietnamese State's needs, fostering exchanges between the two parties on EVN's long-term financial equilibrium, but the implementation of efficient cost-based tariffs remained a challenge.

Efficiency

The project encountered 19 months delays and 60% cost overruns justified by financial difficulties (2008-mid-2012), an exceptional flood in 2009 and unexpected underground conditions. The quality of project organisation was overall good without being the most efficient to deal with H&S and E&S aspects, especially because of a lack of awareness on these issues. The added-complexity of using a non-sovereign financing instrument on the appraisal and monitoring side did not have a negative impact on the project as it was is largely offset by simpler administrative processes on the Vietnamese side (less State involvement).

Impact

In terms of E&S impacts, the implementation of the SEAP was not fully satisfactory. The misalignment of Vietnamese standards and international best practices was very difficult to remedy, with EVN having no authority to impose dissuasive penalties on the organizations that were legally or contractually responsible for implementing the mitigation measures. On both AFD and EVN sides, the resources dedicated to E&S issues were quite insufficient to guarantee the application of international best practices. But subsequently AFD hired several consultants, to provide support and thus mitigate unavoidable impacts.

Sustainability

EVN, through and with its subsidiary Huoi Quang HPC, is operating and maintaining the HPP in a sustainable way as shown by the electricity generation and unplanned outage track records.

Added value of AFD's contribution

The value added of AFD in the project implementation and supervision comes mainly from its ability to follow the project from its local office in Hanoi which improve its reactiveness and facilitate communication with the counterparts and for the added emphasis on the E&S aspects.

Conclusions and lessons learnt

The Huoi Quang hydropower project encompassed several new challenges, which AFD and EVN had to work closely together to ensure its success. Despite a few setbacks, the project has met and surpassed the objectives, providing additional low-carbon electricity to Vietnamese electricity system.

Nevertheless, E&S practices were overall unsatisfactory and below AFD's ambitions and international standards, mainly because EVN's latitude was limited by the project's contractual history and lack of internal capacity.

By providing some flexibility and financial independence to EVN, this experience constitutes a springboard for future collaborations between AFD and EVN. However, the difficulties in raising electricity tariffs and ensuring costs coverage show that political considerations remain influential.

To ensure the successful implementation of similar projects in the future, it is recommended that EVN and AFD continue dedicating more internal and external resources to managing and monitoring E&S issues. One of the key challenges will be to encourage all the stakeholders involved in E&S measures to apply the international best practices. Rigorous monitoring is essential to make sure that the project is and remains continuously on track.