



Nam Chien 2 run-of-river hydro, Vietnam

Hydropower is a form of energy that is generated by the conversion of free-falling water into electricity. It generates no emissions or waste. In addition to producing clean energy, hydropower is often used for irrigation and water distribution purposes.

Location



The project activity is located at the Chien stream in Chieng Muon and Chieng San communes, Muong La district, Son La province - the north-western province of Viet Nam. The population of this mountainous region includes Black and White Tai and various other minorities.

Project



In this mountainous region, one can see the benefits of sustainable energy production: until recently, light and heat came from burning wood (which lead to deforestation and soil erosion) or from dirty and inefficient diesel generators. Now, the use of locally produced renewable energy allows for sustainable development without emissions harmful to people and planet.

The Nam Chien 2 hydropower project comprises the construction of a two-step hydropower plant with a total capacity of 2x16 MW and an annual electricity generation of 131,730 MWh. The hydro plant operates without a dam (with its known problems of dam construction, flooding, resettlement, environmental impacts on river flora, etc.) but converts the force of water through a penstock over 86.4 height difference into electrical energy. The emission reductions result from the replacement of carbon intensive coal power – still common in Vietnam – with clean hydro power.

By supplying a stable electricity output, this project supports sustainable economic development of rural villages by improving infrastructure, supplying stable electricity, and generating jobs. Among other concrete benefits, the project owner supports the local authorities with technical equipment such as computers and invested into the local road infrastructure.



Achievements



Socio-economic impact:

- 48 new jobs have been created in maintenance and operation, of which 32 are for locals.
- Regular courses on safety and technology are given to the employees.
- The project owner built new roads and upgraded 15 kilometres of existing roads, improving the former low-quality infrastructure systems of the Tra Nam commune, and contributing to economic development.
- Modern telecommunication and water treatment facilities have been installed for the hydro plant and are shared with the local population.
- The project owner contributes to social services in the region and supported the local authorities by donating modern computers.
- The communication system and clean water treatment serving for workers of the project during the both construction, operation phases will be shared with local people.
- The project contribute to improve their living standard of local residents living in the project area which are mainly from the ethnic minorities like Thai, Mong and La Ha and fills gap in development between different ethnic groups in Vietnam

Environmental impact:

- The project maintains sufficient flow at the downstream section which secures fish habitat and migration during construction and operation.
- An environmental protection plan secured minimum impact on the environment (dust avoidance, recreation of plant cover, etc.) during both construction and operation phases.
- The decrease of open fires for light and heating leads to less deforestation and soil erosion, while the decrease of diesel generator use improves local air quality and mitigates air pollutants such as sulphur dioxide and nitrogen oxide.
- The project has reduced the need for firewood for heating, cooking, and lighting, thus allowing the forest to regenerate and improving soil conditions, hydrology and biodiversity.
- The project has improved regional air quality by reducing the need for diesel generators and wood fires.

Checklist Project 300691



✓ Additionality and permanence:	according to the rules of the CDM
✓ 3 rd party verified:	by TÜV Nord
✓ Transparency:	provided by the UNFCCC Registry
✓ Annual CO ₂ -reduction:	60,000 tCO ₂ e
✓ Social and environmental benefits:	as documented in our database
✓ Marketing material:	high resolution pictures available

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