



Nam Hong small run-of-river hydro, Vietnam

This small hydro plant provides a rural region in Vietnam with clean energy. Without the need for a retaining dam, the plant uses a natural height difference to generate sustainable power.

Location



The project activity is located at the Nam Hong stream in the north-western Son La province, close to the border with Laos. The population of this ethnically diverse mountainous region includes Black and White H'Mông 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 Hong project comprises the construction of a two-step hydropower plant with a capacity of 2x8MW and an annual electricity generation of 63MWh. 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 a natural height difference of 120 and 100m respectively, into electrical energy. The emission reductions result from the replacement of carbon intensive coal power – still common in Vietnam – with clean hydro power.



The 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. In an attempt to improve biodiversity and soil conditions, afforestation measures are supported as well.

Project achievements



Socio-economic impact:

- 43 new jobs have been created in maintenance and operation, of which 30 are for locals.
- Regular courses on safety and technology are given to the employees.
- The project owner built new roads and upgraded several kilometers of existing roads, improving the former low-quality infrastructure systems of the Chieng Cong 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.

Environmental impact:

- To improve soil and general ecological conditions in the vulnerable mountains of Western Vietnam, the project owner supports a local afforestation project by providing seedlings and fertilizer.
- The hydro plant maintains sufficient flow at the downstream section which secures fish habitat and migration.
- An environmental protection plan secured minimum impact on the environment (dust avoidance, recreation of plant cover, etc.) during construction.
- 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.

Checklist Project



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✓ 3 rd party verified:	by China Environmental United Certification
✓ Transparency:	provided by Markit Environmental Registry
✓ Annual CO ₂ reduction:	14,000 tCO ₂ e
✓ Social and environmental benefits:	as documented in our database
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