



Manggani micro hydropower, Indonesia

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

Location



The project is located in Puar Datar Village, Gunung Omeh Sub-district, Limapuluh Kota regency, West Sumatra Province, Indonesia.

Sumatra is the world's fifth highest island, and in the area around the project, big rivers flow down from the mountains. The area is called the Indonesian Yosemite, where there are many waterfalls of more than 50–90 meters in height and high cliffs of 300 meters or more.

Project



The project is utilizing the natural fall of water in the Batang Rambutan River to generate low impact sustainable energy. The hydro plant has an installed capacity of 1.1 MW only, making it dependent on additional funding from carbon revenues.

Beyond the provision of the region with clean energy that replaces fossil fuel fired power, the project is also concerned with saving local landscape and nature. In addition, the local population benefits from the small hydro plant. During the construction phase, most of the building material (except for the penstock) was bought in the region. Heavy machinery in this sensitive environment was avoided during construction, generating an over-average level of temporary employment, thus providing about 75 people with safe income. In the operational phase, about 25 locals are employed as technicians. The power plant management is in female hands which make for a strong signal of gender equality.

This micro hydro plant serves as a good example for sustainable development in a remote region, at the same time benefitting global climate and local communities.



Project achievements



Socio-economic benefits

- Around 50 jobs created during construction and 25 jobs created during operation with 99% local employment.
- Project leads to more development in the rural region such as improved access roads.
- The generated electricity is fed into regional grid through the local grid, thereby improving the grid stability and availability of electricity to local consumers.
- Due to the increased grid reliability, new opportunities for industries and economic activities arise with a chance for more local employment and better overall development.
- The project promotes local products developed in the region when spare parts replacement is needed to support renewable technology development
- Various kinds of mechanical work generate employment on a regular and permanent basis for the local people that increase the young people's expertise and experiences in the rural region.

Environmental benefits

- The project activity leads to diversification of the regional energy supply, which is dominated by conventional fuel based generating units. Thus, it is contributing to a reduction in specific emissions (emissions of pollutant/unit of energy generated), including GHG emissions
- Run-of-river hydro energy contributes to resources conservation

Checklist Project 300 468



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