south pole
Carbon Asset Management Ltd.

Small Hydro Power Project, Taiwan

Hydropower is a form of energy that is generated by the conversion of free-falling water into electricity, generating no emissions or waste. Often hydropower generation as well is used in connection with controlling irrigation and water distribution.

The Location

The project is a run-of-river reservoir hydropower plant with a total installed capacity of 11.52 MW. It is located in Tainan in South-Western Taiwan, a rural center for the marketing and processing of sugarcane, rice, peanuts, and salt.

The Project

The project activity involves the development of an 11.52 MW grid connected run-of-river reservoir based hydropower plant, which is expected to produce an average annual power generation of 42,000 MWh.

The project owner is a local association, which is a rural autonomous, public organization, which develops, maintains, and manages irrigation in agricultural areas in Southwest Taiwan. It coordinates the implementation of government policies on farm land, agricultural industry, and rural constructions. The project owner looks after 668 irrigation groups, 1,910 working teams and 200,166 farmer members. Moreover, the project owner has deliberately sought an additional income source that does not conflict with its primary roles. For instance, the hydropower project utilizes the downstream flows from two existing reservoirs (Zengwen and Wushantou), both of which are managed by the association. Also, the electricity and carbon revenue from the project is going to generate an additional small-income for the association, while contributing in renewable energy development in region.

The power generated is delivered to the national grid; thus, it contributes to the reduction in local dependency on fossil-fuel power generation. In addition, it maximizes the use of the water resources at the same time.

The Benefits

In addition to global warming mitigation, this project has given the following broader sustainable development benefits:

- Contribution to sustainable investment in a suburban region which would not have happened in the absence of project activity.
- Contribution to diversification of the national energy supply, which today is dominated by fossil fuel based electricity generation (mainly coal).
- Development of the hydropower energy sector in Taiwan.
- Advancement of the grid stability and availability of clean electricity to consumers.
- Clean electricity supply to the equivalent of 12,789 households per year
- Creation of local employment both during the construction and operational phase of the project.
- Technology stimulation and know-how transfer to the region.
- Improvement of Taiwan's energy sustainability and security.
- Significant CO_2, SO_x, and NO_x emission reductions, mitigation of air pollution and its adverse impacts on human health typically associated to the production of power from fossil fuels.

South Pole Project 300 414
Average Emission Reductions per year: 36' 227 tCO_2e
Standard: VCS 2007

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