



## Small hydro, Taiwan

Hydropower is a form of energy that is generated by the conversion of free-falling water into electricity. Combined with irrigation, it can serve as a holistic water management solution.

### Location



The project has been set up in an existing agricultural community irrigation system in Tainan in South-West Taiwan, a rural center for the marketing and processing of sugarcane, rice, peanuts, and salt.

### Project



The project owner is a local farmers' association that manages agricultural irrigation of rice and other crop fields in rural South-West Taiwan. To help its members carry the water management costs associated with the maintenance of the irrigation system, the small hydropower station was built to make use of water from the association's existing water reservoirs.

Today, thousands of small scale farmers not only benefit from the irrigation system but also from revenues from the sale of green power and carbon credits, enabling them to pay maintenance cost and enjoy better living conditions.



Technically, the project activity involves the development of an 11 MW grid connected run-of-river reservoir based hydropower plant for the generation of 42,000 MWh of sustainable energy, supplying about 12,000 households in the region. At the same time, it maximizes the use of the water resources formerly stored for irrigation only.

The project serves as an example of how to include emission free power generation into existing water systems and make use of carbon revenues for sustainable development.

## Project achievements



### Socio-economic impact:

- Clean electricity is supplied to the equivalent of 12,000 households per year
- The project created local employment both during the construction and operational phase.
- Technology stimulation and know-how transfer to the region are fostered by the project activity.
- Experience on power generation from slow flowing water in low gradient canals was gained in the project activity and according data was used in the planning of other hydro and even tidal generation plants in Taiwan.
- Before farmers had to pay yearly for access to irrigation canals, and now the project owner funds this.
- A research power facility generating energy from slow flowing and low gradient canals was established and technology would be eventually be implemented along the Taiwan coast.

### Environmental impact:

- The replacement of fossil fuels thanks to the project activity leads to sulphur oxides (SO<sub>x</sub>) and nitric oxides (NO<sub>x</sub>) emission reductions and mitigation of air pollution.

## Checklist Project 300414



✓ Additionality and permanence:	according to the rules of the VCS
✓ 3 <sup>rd</sup> party verified:	by Bureau Veritas
✓ Transparency:	provided by Markit Environmental Registry
✓ Annual CO <sub>2</sub> reduction:	36,000 tCO <sub>2</sub> e
✓ Social and environmental benefits:	as documented in our database
✓ Marketing material:	high resolution pictures available

### Further information:

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