



## Lugouhe small run-of-river hydro, China

Hydropower is a form of energy 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 is located in the county of Ebian Yi in Sichuan Province, China. The project area is mountainous and inhabited by the Yi, an ethnic group that lives in several mountainous locations in China, Vietnam and Thailand.

### Project



In the remote mountains of Sichuan, a small hydropower station with an installed capacity of 5MW generates clean energy for the local population and the regional grid. It uses a natural height difference of 245 meters to generate electricity from the inherent energy of freely falling water. Thanks to this set up, the project could be implemented without the need for a retaining dam, which would have negative aspects for fauna and landscape.

By providing this rural region with reliable and sustainable energy, the project activity replaces the once common diesel generators and wood-fired heating and lighting, which leads to improved indoor and outdoor air quality. One direct effect is a reduction of respiratory and eye diseases, particularly among women and children. Additionally, without the need for firewood collection, they have more time to devote to other tasks.

Reduced wood consumption also lowers the pressure on the surrounding mountain forests and benefits general soil and water conditions, an important topic in a region typified by steep hillsides and torrents.

To support socio-economic development, the project owners have engaged in the construction of irrigation canals, bridges and roads. In a joint approach with the villagers, maintenance of the infrastructure is being secured on a long-term basis.



## Achievements



### Socio-economic impact:

- The project has generated local employment (in the construction, operation and maintenance phases).
- The project upgraded roads and bridges during the construction phase, leading to better access to regional markets and development of local small-scale economy.
- The project upgraded irrigation canals during the construction phase, leading to improved agricultural conditions for local small-scale farmers.
- The project owners continue to provide financial support for the maintenance of the above-mentioned infrastructure.
- The project reduces the need for women to collect firewood, relieving them from a difficult and burdensome activity and giving them more time for other tasks.
- The project replaces indoor wood fires with clean electricity and, in doing so, reduces the occurrence of respiratory and eye diseases associated with wood burning.

### Environmental impact:

- The project reduces the need for firewood, thus allowing the forest to regenerate, improving soil conditions, hydrology and biodiversity.
- The project improves regional air quality by reducing the need for diesel generators and wood fires.

## Checklist Project 300070



|                                      |                                           |
|--------------------------------------|-------------------------------------------|
| ✓ Additionality and permanence:      | according to the rules of the VCS         |
| ✓ 3 <sup>rd</sup> party verified::   | by German Lloyd                           |
| ✓ Transparency:                      | provided by Markit Environmental Registry |
| ✓ Annual CO <sub>2</sub> -reduction: | 7,000 tCO <sub>2</sub> e                  |
| ✓ Social and environmental benefits: | as documented in our database             |
| ✓ Marketing material:                | high resolution pictures available        |

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