

# 17.4 MW Kiangan Run-of-River Hydro Project



## Project Highlights

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- Engineering innovation: combining flow of Asin, Hungduan and Ibulao Rivers bundled into single project to maximize power output
- Close community consultation with the indigenous Tawali people to preserve natural beauty of their ancestral domains
- Partnership with Renova Renewables of Japan and Sta Clara International



## Overview

The Asin, Hungduan, and Ibulao Rivers sit at the foot of 2,000-year-old rice terraces, home for centuries of the Tawali tribe of Kiangan. An essential element for agriculture and daily life for all who live near them, these rivers will also serve as the site of a portfolio of three run-of-river mini-hydro facilities.



The municipality of Kiangan in Ifugao province sits on the banks of the ancient Ibulao River. Legend has it that the mythical ancestors of the Ifugao people, Kabiggat and his wife Bugan, settled and founded a village that could thrive beside these waters. The Ibulao River, along with the Asin and Hungduan Rivers, will give birth to a sustainable development for the local communities via the Kiangan run-of-river mini hydro complex of Kiangan Mini Hydro Corporation (KMHC).

Our engineering team determined that by combining the flow of the Asin and Hungduan Rivers, then bringing their aggregate power to the powerhouse at the Ibulao River – would lead to a greater overall power output. Once completed, the Kiangan Hydro project will have a combined capacity of 17.4 MW. Project ownership of Kiangan Hydro was transferred to KMHC in 2013, and in 2015, the DOE awarded the Hydro Service Contracts over the three rivers to KMHC.

Equivalent in Kilowatt Hours



**82,380**

MWh/year

at 54.7% Net Capacity Factor

Equivalent Number of Households to be Electrified

**122,586**  
Households



Employment during Construction  
(Including Local Employment)



**349**

(including 236 local hires, of which 178 are Indigenous Peoples)

Equivalent Number of Tons of Carbon Emissions Reduction

**39,282**  
tCO<sub>2</sub>e/year



## Hand-in-Hand

The rich cultural heritage and stunning natural beauty of the project site necessitated especially close community engagement every step of the way. Alternergy has taken great care to ensure that KMHC's project has all the necessary permits and consents. Alternergy has obtained major regulatory permits, among them the DOE Confirmation of Commerciality, LGU endorsements, DENR Environmental Compliance Certificate, NWRB Water Permit, BOI Certificate of Registration and Entitlement for Zero-rated VAT, NCIP Free and Prior Informed Consent (FPIC) process and Certificate of Precondition, and hundreds of long-term land lease agreements with local farmers and MOAs for the Road Right of Way with Host LGUs.

Every Alternergy project must first be thoroughly assessed by its host communities before receiving any endorsement. Alternergy has always put the local populace first, and proactive engagement has been ongoing from conceptualization. As the barangays of Bokiawan, Dalligan, and Mungayang are populated by ancestral domains of the indigenous Tawali people, Alternergy sought their consents and secured approval of the National Commission on Indigenous Peoples in December 2018.

## Collaborative Partnership

Alternergy knows that to travel far, one needs to travel together. That is why we have been selective in our choice of partners for Kiangnan Hydro.

Renova Renewables of Japan is our key equity partner in Kiangnan Hydro, their first investment in the Philippines. Renova is a listed Japanese renewable company with 600MW assets in operation and under construction.



## Community Impact

### Livelihood

To generate sustainable livelihood, Alternergy rehabilitated the Barangay Water System of Upper and Lower Bokiawan and improved the Farm-to-Market road of Barangay Dalligan.

### Education

To help the indigenous people propagate their way of life and preserve their heritage, Alternergy supported the Rice Terraces IKSP Learning Resource Center and the Community Heritage Library.

To help host communities adapt to new learning methods enforced on our youth due to the pandemic, KMHC donated color printers and computers to Bokiawan Elementary School and Mungayang National High School.





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Joining Renova is Sta. Clara International Corporation, a Philippine construction engineering firm with substantial experience in hydro projects.

Sta. Clara International was awarded the Civil Works Contract, while Gugler Water Turbines of Austria signed on as the Electro-Mechanical Works supplier. The contract for the 3 km transmission line was granted to MN Electro Industrial Supply and Services, and an Owner’s Engineer Contract was given to Pacific Tech Solutions.

Apart from these, extensive technical studies have been conducted on the three rivers. These include a Comprehensive Feasibility Study, an Optimization Study, Hydrology Revalidation, Grid Impact Study, Facility Study and Detailed Engineering Design.

The Development Bank of the Philippines granted a loan of PHP 2.65 billion for the completion of the Kiangnan hydro project, which will consolidate the hydropower output along the three rivers and usher in clean energy for the Tawali people.



### Health

Amidst the raging pandemic, we were there alongside our frontliners by providing handwash systems to the local communities in Ifugao.

### Disaster Relief

To prevent landslides in hilly regions, Alternergy projects are carefully constructed to ensure safety of its host communities.

### Stakeholder Engagement

We respect and uphold the rights of our host Indigenous Cultural Communities. Giving due respect to culture and way of life of the communities.

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