

15 January 2016

## Allowing the electricity of the MINGJIAN HYDRO PROJECT, TAIWAN, for sales of EKOenergy

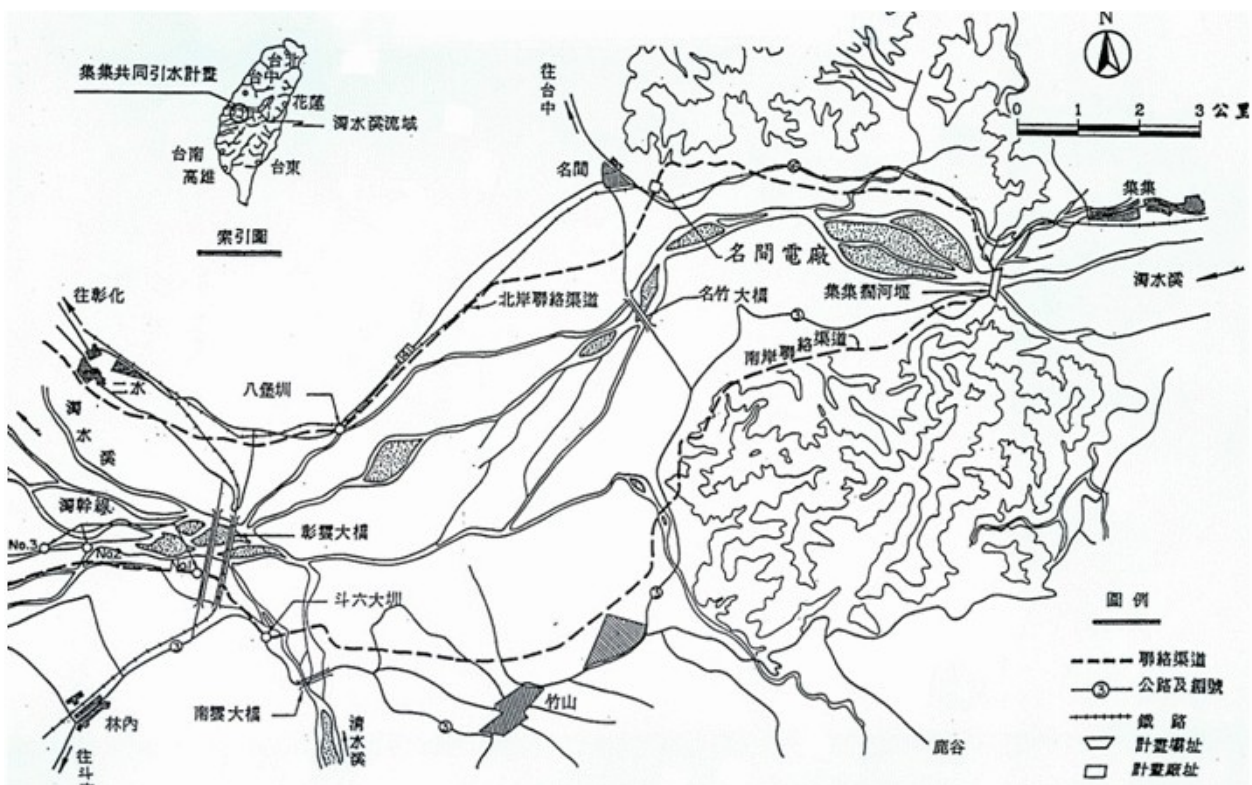
### Decision of EKOenergy's Board

#### 1. Background

- **Project Overview**

The MINGJIAN HYDRO PROJECT applied for EKOenergy eligibility for their hydropower plant in Central Taiwan. Detailed location is No.36-82, Yuanji Rd., Mingjian Township, Nantou County 551, Taiwan (R.O.C.).

The MINGJIAN HYDRO PROJECT is a run-of-river hydropower electricity generation project under a BOT concession from the Central Water Resources Bureau of Taiwan, utilizing the potential resulting from the construction of Chichi Common Diversion Weir Project, built in December 2001.



From Central Region Water Resources Office, Water Resources Agency, Ministry of Economic Affairs, Taiwan

According to the document provided by the applicant, the hydro power plant's construction started from November 2, 2004, became operational on September 27, 2007 and obtained the electrical generation License on June 20, 2008.

The total installed capacity of the hydropower plant is 16.7MW. The project replaces the electricity generated and fed into the local Taiwan Power Company (Taipower) grid from burning of fossil fuels, thereby reducing greenhouse gas emissions.

According to projections, the project can produce 76,000 MWh/year, which will be fed and sold to the national grid (Taipower) resulting in greenhouse gas (GHG) emissions reduction of 56,164 tCO<sub>2</sub>eq annually and helping the region's sustainable development.

The MINGJIAN Hydroelectric power plant uses the different elevations of the existing north shore channel to generate electricity. After passing through the plant, the water returns to the channel and continues to be a source of irrigation. The electricity plant installed two Kaplan turbines, with the designed flow of 61.0 cubic meters per second, designed waterhead of 30.84 m and total installed capacity of 16.7 MW.

- **Public Consultation**

During September of 2015, we consulted NGO activists including Ms Shi from Changhua County Environmental Protection Union, and Mr Chang from Wild at Heart Legal Defense Association, Taiwan for any known environmental impact caused by MINGJIAN hydropower plant. We have also consulted river ecosystem restoration specialists including Dr. Su of Department of Water Resources Engineering and Conservation, Feng Chia University, and Mr. Huang of Observer Ecological Consultant Co., Ltd. for their input into the evaluation process. We also asked comments from two local district magistrates to understand whether and in what way the hydropower project has influenced the community development.

Not many of our consultants are familiar with the hydroelectricity plant nor have they heard any complaints about its environmental impacts. In fact, according to article 29, paragraph 2 of Taiwan's "Standards for Determining Specific Items and Scope of Environmental Impact Assessments for Development Activities", a new hydropower plant or expansion that falls under one of the following categories must perform an environmental impact assessment:

1. Located in the National Park
2. Located in the wildlife protected areas or important habitats
3. Located in the Reservoir Watershed.
4. Located in the protected of water quality and quantity.
5. Generation capacity more than 2,000 MW.

As the MINGJIAN HYDRO PROJECT does not fall under any of the above categories, a formal environmental impact assessment is not required by the authority.

However, the Chichi Common Diversion Weir that the hydroelectricity plant extracts water from has long caused known impact on the environment. Not only has the man-made construction become

an obstacle for migratory species and disrupted habitats, the flooding and sediment discharge also affected the richness, diversity and evenness of the fish and crustacean originally present in the Jhuoshuei River. The fact that the downstream flood plain of Jhuoshuei River is largely bare gravel and the frequent observation of fugitive dust also get serious complaint from the local groups and riverside communities.

Despite the negative impact of the Chichi Common Diversion Weir project on the environment, only one comment mentions "the chain of responsibility", urging the MINGJIAN HYDRO PROJECT to donate money for environmental purposes. Others believe that the hydro power plant helps the region's sustainable development by replacing the electricity gained through burning of fossil fuels. As for the environmental responsibility associated with the Chichi Common Diversion Weir, most consultants think that as a run-of-river hydropower electricity generation project, the plant is not the main reason for the dam's construction, but an additional infrastructure to effectively use water resources.

## **2. Decision**

The MINGJIAN HYDRO PROJECT can sell the electricity as EKOenergy.

The power plant is built on a heavily canalized water system (Canal taking its water from the Chi Chi weir). The canal dates from the beginning of this century and has been built in response to the increasing need for water in the region (mainly industry and irrigation for agriculture). There were (and are) discussions about the Chi Chi project (canalization and use of water for industry and agriculture), but not about the power plant itself. The hydropower project itself doesn't add to the impacts of the canalization itself.

The decision is valid until 10 December 2020.

We suggest that the Environmental Fund collected from the seller be spent on water resource and river conservation related educational programs, investigative research, or improvement projects. We also suggest a charitable trust fund be set up for a contracted professional third party to manage and operate the fund for exclusive conservation purposes.

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