

Chinese students invent environment-friendly power system

A group of Chinese students have invented a system to increase the electricity generation of small and medium-sized hydropower stations during dry seasons.

The system is based on a variable speed, constant frequency motor for small and medium-sized hydropower plants designed by a doctoral team from Hunan University.

“Traditional hydroelectric power stations have a fixed water flow requirement, which means electricity outputs drop dramatically during the dry season,” said Lyu Mingsheng, one of the students.

The invention fixes the current situation where power output is directly proportional to river flow, allowing small and medium-sized hydropower plants to maintain output throughout all seasons, according to Lyu.

Improving generating capacity is expected to reduce the number of hydropower plants needed in the future, therefore lessening their effect on the environment.

“The new technology will transform the dam construction in China, making it more environment-friendly,” he said.

Lyu cited official figures published in 2013 that stated China had more than 45,000 hydropower stations in rural areas, with the total installed capacity exceeding 65 million kilowatt (kW).

If the new system was applied to all of these stations, the total installed capacity would be increased by 19.5 million kW, almost equivalent to the output of the Three Gorges Dam which is 22.4 million kW, Lyu added.

The core technology has received 10 national patents and several companies have signed cooperation agreements with Lyu’s team.