

Socialist Republic of Vietnam

Renewable Energy in Harmony with Nature

By Martin Koubek
martin.koubek@andritz.com

Vietnam has a fast growing population of about 90 million people and an economy which is rapidly developing. Nowadays Vietnam has an electrification rate of 99%. The country is focusing on renewable energy, mainly hydropower, which contributes 33% of the total power generation. The electricity masterplan intends to install more than 20,000 MW in Vietnam and in the border area of Laos in the upcoming years.

› Rice fields on terraced in sunset at Mu Cang Chai, Vietnam



➤ Contract signing for Thuong Kon Tum hydropower project

ANDRITZ HYDRO in Vietnam

With a hydro potential of 120,000 GWh, of which less than half has been developed as of today, Vietnam is one of the most vital and prospective hydropower markets.

For more than 15 years, ANDRITZ HYDRO has run a representative office in the Vietnamese capital of Hanoi. In 2016 ANDRITZ HYDRO is going to establish it as a full legal entity.

ANDRITZ HYDRO has installed or rehabilitated about 50 units with a capacity of about 1,000 MW.

HPP Thuong Kon Tum: In 2012, ANDRITZ HYDRO signed a contract for the electro-mechanical works for one of the most prestigious hydropower projects in Vietnam, HPP Thuong Kon Tum, located at the border between Laos and Vietnam, near the city of Kon Tum.

ANDRITZ HYDRO is going to supply turnkey electrical- and mechanical equipment, including two high-head Pelton turbines with speed governors, generators, and auxiliary systems. After completion in 2017, this hydropower plant will have an installed capacity of 220 MW and will generate about 1,000 GWh of electrical energy per year.

HPP Chi Khe: At the end of 2013, ANDRITZ HYDRO received an order from AGRIMECO for the Chi Khe hydropower plant on the Ca River, approximately 150 km south of the capital of Hanoi. ANDRITZ HYDRO supplied electro-mechanical equipment including two 20.5 MW Bulb turbines, generators, and associated electrical equipment. Start of commercial operation was end of 2015.

HPP Sap Viet: In October 2014, ANDRITZ HYDRO signed a contract with Sap Viet JSC for the delivery of a complete Compact Hydro “from water-to-wire” package including two 10.5 MW horizontal Francis units for the Sap Viet hydropower plant, in the province of Son La.

The customer decided to use the from ANDRITZ HYDRO offered solution of horizontal turbine arrangements, which will bring a significant benefit regarding costs and installation time and will also be of great advantage for subsequent maintenance. ►



HPP Nam Tha 3: ANDRITZ HYDRO has received an order from PHUC KHANH Energy Development and Construction Investment JSC for the 14 MW Nam Tha3 hydropower plant, which is located on the Nam Tha river in the Van Ban district, Lao Cai province.

ANDRITZ HYDRO's scope of supply comprises the complete electro-mechanical equipment including two four-jet Pelton turbines, generators, and mechanical auxiliaries. The project is scheduled to be put into commercial operation in mid-2016.

HPP Dak Mi 2: In 2014, after the HPP Chi Khe project, ANDRITZ HYDRO signed a second contract with AGRITA QUANG NAM Energy JS Company (AGRITAM) for the complete electro-mechanical scope for Dak Mi 2 hydropower plant, located on the Dak Mi River, in the province of Quang Nam. It is a multipurpose scheme used for irrigation and hydropower generation.

ANDRITZ HYDRO supplies the complete electro-mechanical equipment, including two vertical 49 MW Francis turbines, governors, and generators. HPP Dak Mi 2 will supply 415 GWh of sustainable and clean electrical energy per year.



► Area near Hoi Xuan hydropower plant

HPP Chau Thang: In February 2015, ANDRITZ HYDRO's Compact Hydro business division made a breakthrough in the field of low-head turbines in Vietnam.

ANDRITZ HYDRO signed a contract with Prime Que Phong JSC for the supply of two vertical Kaplan units for the 14 MW Chau Thang hydropower plant, located on the Quang River in the communes of Chau Thang and Que Son, some 330 km north of Hanoi. The project is scheduled to be put into commercial operation in 2016.

HPP Xim Vang 2: In July 2015, ANDRITZ HYDRO received an order from XIM VANG HYDROPOWER JSC for the Xim Vang 2 hydropower plant, located on the Xim Vang River, in Son La province, about 34 km east of the city of Phu Yen. HPP Xim Vang 2 will have a total installed capacity of 18 MW.

ANDRITZ HYDRO's scope of supply comprises electro-mechanical equipment, including two Pelton turbines, generators, and auxiliary systems. The hydropower plant is planned to be put into commercial operation in 2017. ►

► Powerhouse of Dakpsi hydropower plant



HPP Hoi Xuan: ANDRITZ HYDRO won a contract for the supply of electro- and hydro-mechanical equipment for the new 102 MW Hoi Xuan hydropower plant, owned by Hoi Xuan VNECO Investment and Construction JSC. The scope of supply includes design, delivery, installation, and commissioning of three Bulb turbines and generators, as well as automation and the hydraulic equipment. Commissioning of the plant is scheduled for the beginning of 2018. Thereafter more than 425 GWh of renewable energy every year for Vietnamese households and the local industry will be supplied.

Vietnam is a rising country with a well developed economy. Due to the large hydropower potential it offers good opportunities for investments in the energy sector. ANDRITZ HYDRO with its long-lasting history in Vietnam is positive for the future and is looking forward to providing tailor-made solutions to its customers. ■



› Installation works at Dakpsi hydropower plant

VIETNAM FACTS	90 Mio.	Population
	99%	Access to electricity
	14,000 MW	Installed hydro capacity
	2,500 MW	Hydro capacity under construction
	33%	Share of generation from hydropower
	47,950 GWh	Hydro generation
	120,000 GWh	Technically feasible hydro generation potential

Hydropower & Dams World Atlas 2015 and The World Bank

› Machine hall at Nam Chim hydropower plant

