

Water Vortex Power Plants for India

Small Hydro Power (SHP) Programme is one of the thrust areas for the Ministry of New and Renewable Energy (MNRE), Govt. of India, for which it provides financial subsidy to attract more investments. The estimated potential for power generation in India from such plants is over 15,000 MW and MNRE aims to harness at least 50% of the potential in the next 10 years. Most of the potential for SHPs is in Himalayan States as the traditionally utilized technologies require high elevation differences and pressure pipes. Other rivers and irrigation channels in other States are not utilized sufficiently.

In India, hydro projects up to 100 kW station capacities have been categorized as Micro Hydro Power projects. Micro hydropower projects can play a critical role in improving the overall energy scenario of the country and in particular for remote and inaccessible areas. The Ministry is encouraging development of such projects both in the public as well as private sector. While India's total installed capacity for SHPs reported a steady increase over the past few years, considerable potential still remains untapped across States with favourable SHP potential.

Generation of hydro power represents pollution and inflation free energy due to absence of fuel costs. Micro-hydro power plants are needed in India in large numbers to allow more people, particularly in rural areas, access to reliable and affordable electricity.

The major challenges in setting up hydro plants are construction risks, long gestation periods, resettlement (R&R) issues and post commissioning hydrological risks with respect to availability of adequate water flow for power generation. All these challenges are adequately addressed in an optimal way by the inherent technological features of Water Vortex power plants, developed by the Cooperative Vortex Water Power Plants (GWWK). Water Vortex technology requires much lower vertical head and lower water flow rates compared to conventional micro hydro technologies. It positively contributes to sustainable development by revitalizing the water bodies and poses no danger to fish, crabs and snails.

Water Vortex Power plants are easy to install, operate and maintain locally with no need of imported spare parts. This state-of-the-art and yet simple technology offers generation of inflation free affordable power, which can go a long way in solving the power shortage in rural and remote areas of India, and thereby enhance growth of the (green) economy.

Verde International AG, a Swiss company, supports transfer of advanced clean technology from Switzerland and Europe to India. It enjoys long-standing and close links with Indian partner organisations, active in the environmental, energy and sustainability areas. The simple and sustainable Water Vortex plants will be built in India to remain cost competitive and readily available. Availability of this Swiss technology at affordable price with low operation and maintenance cost makes it an attractive and sustainable business model for tapping substantial micro hydro power generation potential in India.

Verde International AG, together with its Indian partners, has set up a distribution network in India and is constantly developing it further. Through its local partners Verde has relevant technical expertise for building the plant locally and excellent reach in the market place. The local partners have extensively worked in the renewable energy domain and been consistently involved in renewable energy promotional initiatives of the Central and State Renewable Energy Authorities in India.

A few sites are currently under consideration for the first pilot plant installation, including irrigation channels, small streams in remote and hilly areas. Verde International AG and GWWK together are optimistic to achieve its goal of generating clean energy in India in a sustainable and socially responsible manner and create a long-term mutually rewarding business cooperation.