

## Small Hydro Power

The Government of Andhra Pradesh has announced policies on establishment of Mini Hydro Power Projects (up to 25 MW) way back in 2007. The projects are being implemented through New & Renewable Energy Development Corporation of Andhra Pradesh Ltd. (NREDCAP), which is the nodal agency for development of renewable energy sector in the state. It is responsible for identification of sites and development of projects in collaboration with private sector investors. Till now, 53 projects have been sanctioned which will lead to increase in the total installed capacity of small hydro plants to 183 MW. The estimated potential of small hydro power in Andhra Pradesh is around 600 MW. This lever provides choices of small hydro power development in the state under different scenarios. In all the scenarios, it assumed that all 53 projects sanctioned by NREDCAP will be commissioned by 2020.

### Level 1

Level 1 is a pessimistic scenario, in which it is assumed that only current plants continue to operate. Capacity addition is very slow and only takes care of retirement to maintain the roughly committed capacity. The total electricity generated in 2050 would be 0.4 TWh only.

### Level 2

Level 2 assumes that in addition to replacing retired capacities, new plants will also be commissioned, however at slower rate. This could be because environmental and social concerns over the development of SHP might limit capacity addition. The total installed capacity would grow at a CAGR of 1% reaching up to 275 MW by 2050. Total electricity generation increases from 0.3 TWh in 2020 to 0.5 TWh in 2050.

### Level 3

Level 3 assumes an optimistic view wherein capacity addition increases significantly at CAGR of 2.5%. The growth could be fueled by government efforts and fiscal incentives. Total installed capacity will reach 395 MW by 2050 resulting in electricity generation of 0.8 TWh.

### Level 4

Level 4 is the most aggressive scenario which assumes that there might not be any constraints for development of hydro plants. Full potential of small hydro power will be exploited by 2050 resulting in annual growth rate of 3.9%. Total electricity generation from small hydro will increase by four times in 30 years, from 0.3 TWh in 2020 to 1.2 TWh in 2050.

