

# Electrical Energy Storage

With increasing capacity of renewable energy based power generation, importance of grid connected energy storage systems is becoming important. Energy storage system would be required for balancing intermittent generation from renewable energy based power plants. This lever analyzes scenarios of exploitation of the available storage capacity. User can select different level of electrical energy storage addition, under different demand/supply conditions.

## Level 1

Total grid connected storage in the state will reach up to 0.09 GW by 2030, 0.8 GW by 2040 and then increases to 3.2 GW by 2050. This could be because, the cost of batteries can remain a major barrier and thus, installation of grid connected battery storage is slow.

## Level 2

Total grid connected storage in the state will reach up to 0.8 GW by 2030, 3.5 GW by 2040 and then increases to 7.5 GW by 2050. This could be because, electric vehicles can be used as grid connected storage option. Various storage technologies can be deployed to manage intermittency in generation from renewable energy sources. The storage market may also be developed significantly but at slower pace.

## Level 3

Total grid connected storage in the state will reach up to 1.2 GW by 2030, 5.5 GW by 2040 and then increases to 11.1 GW by 2050. This could be because, new technologies can emerge as low cost storage options. Further, hybrid plants can use new battery and compressed storage technologies.

## Level 4

Total grid connected storage in the state will reach up to 1.8 GW by 2030, 7 GW by 2040 and then increases to 14 GW by 2050. This could be because, new micro grids can be implemented not only in rural areas but also in urban centers to ensure continuous and sustainable electricity supply even during natural calamities.

