

# Nuclear Power

The total nuclear power generation capacity in the country is 6.8 GW in 2017. This includes seven nuclear power stations which are located in the states of Maharashtra, Tamil Nadu, Rajasthan, Karnataka, Gujarat and Uttar Pradesh. These seven plants are maintained and operated by Nuclear Power Corporation of India Limited (NPCIL), which is government owned enterprise. In Maharashtra, there are four units with a cumulative capacity of 1400MW (Tarapur Atomic Power Station). NPCIL is planning six indigenous reactors of 1650 MW each at Jaitapur, which are expected to commission in coming years.

## Level 1

Level 1 assumes that 1,650 MW Jaitapur units will commission in the period 2040-2050. This could be because of public sentiment regarding nuclear power and issues related to land acquisition and environment concerns.

## Level 2

Level 2 assumes that 1,650 MW Jaitapur units will commission in the period 2035-2050. This could be because public sentiment regarding nuclear power continues and changes over a long period of time and total capacity rise to 11.3 GW. Total generation from nuclear power plants will be 79 TWh in 2050.

## Level 3

Level 3 assumes that 1,650 MW Jaitapur units gets commission in the period 2030-2045. Fast Breeder Reactor (FBR) is also proven and additional 0.5 GW FBR technology is commissioned by 2050. This could be because of improved government efforts which improves public sentiments on nuclear power early. Total generation from nuclear power stations will be 83 TWh in 2050 corresponding to 11.8 GW installed capacity.

## Level 4

In this scenario, it is assumed that challenges related to commissioning of nuclear plants are overcome. FBR is also proven and additional 1 GW (FBR) is commissioned by 2050. Total generation from nuclear power plants will reach 86 TWh in 2050 corresponding to 12.3 GW installed capacity.

