

# 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 Tamil Nadu, Maharashtra, 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 2017, Tamil Nadu has four units with a cumulative capacity of 2440MW (M.A.P.P. and Kundankulam). NPCIL is planning four indigenous reactors of 1000 MW each at Kundankulam and two reactors of 600 each at kalpakkam which are expected to commission in coming years.

## Level 2

Level 2 assumes that 4,000 MW Kundankulam and 600 MW kalpakkam 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 7 GW. Total generation from nuclear power plants will be 49.4 TWh in 2050.

## Level 1

Level 1 assumes that 2,000 MW Kundankulam 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 3

Level 3 assumes that 4,000 MW Kundankulam and 1200 MW kalpakkam units gets commission in the period 2030-2050. 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 57 TWh in 2050 corresponding to 8.1 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 61 TWh in 2050 corresponding to 8.6 GW installed capacity.

