



#### A. ENVIRONMENT CLEARANCE

■ The installed capacity of thermal power plants (TPPs) in India (September 2012) is 138,806 megawatt (MW). Out of these, coal based TPPs presently account for 86 per cent (119,375 MW).

■ During the 11<sup>th</sup> five year plan (FYP) period (April 2007 – March 2012), TPPs of total 217,794 MW capacities were granted Environment Clearance (EC) (*see Table 1: Environment Clearance granted to TPPs during 11<sup>th</sup> FYP*). This includes coal, gas and biomass based TPPs. This is 78,988 MW more than the present installed capacity of all TPPs operating in the country.

**Table 1: Environment Clearance granted to TPPs during 11<sup>th</sup> FYP**

Category	Capacity (MW)
Coal	181,964.5
Gas	35,395.5
Others	433.7
<b>Total</b>	<b>217,793.7</b>

■ In 2007 and 2010 over 50,000 MW of TPPs were cleared (*see Table 2: Year-wise EC granted to TPPs during 11<sup>th</sup> FYP*)

**Table 2: Year-wise EC granted to TPPs during 11<sup>th</sup> FYP**

Year	2007 (April-December)	2008	2009	2010	2011	2012 (till March)
<b>Capacity (MW)</b>	55,724	35,558	35,176	53,598	33,654	4,084

■ Out of the 276 TPPs (coal, gas and others) granted clearance by the Ministry of Environment and Forests (MoEF) during the 11<sup>th</sup> FYP period, 206 were coal-based with a total capacity of 181,965 MW, followed by 46 gas-based TPPs of 35,395.5 MW capacity (*see Table 3: State and fuel-wise environment clearance granted to TPPs during 11<sup>th</sup> FYP*).

■ As can be seen from Table 3, for coal-based TPPs, the state of Tamil Nadu has been granted the maximum number of clearances (27), closely followed by Maharashtra (23), Chhattisgarh (23) and Andhra Pradesh (20). With 20 coal-based TPPs cleared, Andhra Pradesh tops the list of production capacity (24,630 MW) followed by Tamil Nadu (22,034 MW).

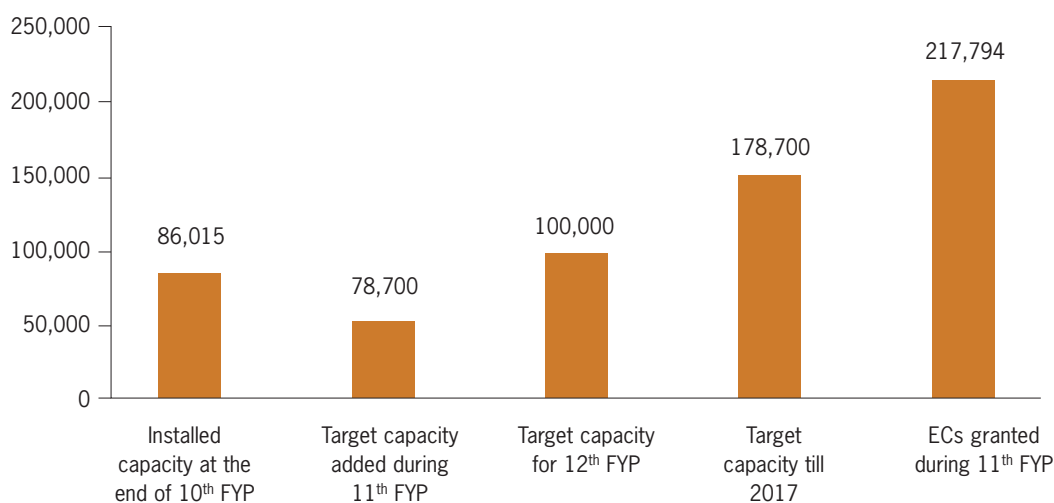
■ During the 10<sup>th</sup> FYP about 12,114 MW capacity TPPs were installed. During the 11<sup>th</sup> FYP, about 53,000 MW capacity TPPs was installed. The annual installation capacity during 11<sup>th</sup> FYP was 10,600 MW. On an average every year during the 11<sup>th</sup> FYP, about 45,000 MW capacity TPPs were granted ECs. So, ECs are being granted at a rate which more than four times the installation capacity.

**Table 3: State and fuel-wise environment clearance granted to TPPs during 11<sup>th</sup> FYP**

State	Coal		Gas		Others		Total	
	Number	Capacity (in MW)	Number	Capacity (in MW)	Number	Capacity (in MW)	Number	Capacity (in MW)
Andhra Pradesh	20	24,630	9	10,303	2	26	31	34,959
Assam	1	750					1	750
Bihar	4	6,330					4	6,330
Chhattisgarh	23	18,683			2	19.5	25	18,702.5
Delhi			2	1,400			2	1,400
Gujarat	13	14,584	9	5,932.2	3	100.2	25	20,616.4
Haryana	3	4,020	3	1,218.5	1	9	7	5,247.5
Jharkhand	14	10,645					14	10,645
Karnataka	6	4,820			2	77	8	4,897
Madhya Pradesh	11	12,502	2	1,306			13	13,808
Maharashtra	23	21,025	7	1,0845	2	39	32	31,909
Meghalaya	1	43					1	43
Orissa	18	13,667			1	20	19	13,687
Punjab	3	3,920			2	9	5	3,929
Rajasthan	15	5,002	1	800	3	40	19	5,842
Tamil Nadu	27	22,033.5	5	1,303.4	5	88	37	23,424.9
Uttar Pradesh	11	11,890			1	6	12	11,896
West Bengal	13	7,420	1	20			14	7,440
Others			7	2,267.4			7	2,267.4
<b>Total</b>	<b>206</b>	<b>181,964.5</b>	<b>46</b>	<b>35,395.5</b>	<b>24</b>	<b>433.7</b>	<b>276</b>	<b>217,793.7</b>

- The projected target for adding thermal power capacity during the 12<sup>th</sup> FYP is 100,000 (see Figure 1: Target vs environment clearance granted) Thus, till 2017 the government has a target of setting up of 178,700 MW thermal power capacity.

**Figure 1: Target vs environment clearance granted (capacity in MW)**



- During the 11<sup>th</sup> FYP however, ECs have been granted upto 217,794 MW thermal power capacity – about 40,000 MW more than the target set by the government for 2017.
- Evidently, environment clearance is no impediment to the setting up of TPPs in the country. In fact, MoEF has granted ECs to way too many TPPs without considering their cumulative impact on the environment and people.

## B. CLEARANCE GRANTED WITHOUT CONSIDERING CUMULATIVE IMPACT

■ Environment clearance is being given in already critically polluted areas without considering the cumulative impact (*see Table 4: Top 10*). Of the top 10 districts where ECs have been granted to coal-based power plants, six were declared critically polluted by MoEF in 2010. ECs have been granted to power and steel plants in Janjgir-Champa (Chhattisgarh) mindlessly and this district will soon join the list of critically polluted areas at this pace.

**Table 4: Top 10**

District	Capacity of coal-based TPP (MW)	Remark
Nellore	12,260	Impact on marine ecology likely
Kutch	10,195	Impact on marine ecology likely
Singrauli	10,080	Critically polluted area
Cuddalore	8,020	Critically polluted area
Nagpur-Chandrapur	7,260	Critically polluted area
Janjgir-Champa	6,043	Emerging coal-based power and steel industry hub
Angul	5,734	Critically polluted area
Nagapattinam	5,510	Fishing as the main occupation, the impact of sea discharge will be immense
Jharsuguda	5,095	Critically polluted area
Korba	4,220	Critically polluted area

■ Total land required for TPP projects granted EC during the 11<sup>th</sup> FYP is 61,328 hectares (ha), and the water requirement totals to approximately 21.12 million m<sup>3</sup>/day or 7.2 billion m<sup>3</sup>/year (*see Table 5: Water and land requirements*). In other words, the water requirement of these TPPs is equivalent to the daily domestic water requirement of about one-fifth of India's population.

**Table 5: Water and land requirements**

Capacity (MW)	Freshwater allocated (billion m <sup>3</sup> /year)	Land allocated/acquired (ha)
21,7793.7	7.2	61,328

■ No cumulative assessment is done while granting ECs. For instance, in the last five years, 25 TPPs of about 20,763 MW installed capacity have been granted ECs which will withdraw water from the river Mahanadi and some of its tributaries (*see Table 6: Water allocated from Mahanadi*). The total water that will be consumed by these TPPs from Mahanadi is about 1.59 million m<sup>3</sup> per day or about 0.51 billion m<sup>3</sup> per year.

**Table 6: Water allocated from Mahanadi**

State	Number of coal-based TPPs	Installed capacity (MW)	Water allocated (million m <sup>3</sup> /day)
Chhattisgarh	20	17,853	1.35
Orissa	5	2,910	0.24
Total	25	20,763	1.59

■ ECs are, therefore, being granted without considering the impact of water consumption by power plants on competing users or regions. They are granted based on a water allocation letter from water resources departments of the states. Interestingly, these letters clearly mention that the state governments take no responsibility if allotted.