Capital Cost

Consider a 500 MW (Mega Watt) coal based thermal power plant. 4 Crore / MW is considered to be the cost of setting up the power plant as per norms.

Total units of electricity generated in a year =

$$\frac{500 \text{ X } 1000000 \text{ W X } 365 \text{ days X } 24 \text{ hours X } 85\% \text{ availability X } 80\% \text{ plant load factor}}{1000 \; for \; KW}$$

=2978 X 10^6 units

Plant cost – 500 MW X 4 Cr / MW = 2000 Cr

Assume 70:30 D/E ratio

Loan : 1400 Cr

Equity : 600 Cr

Sl	Item	Cost
1	**Return on Equity:** Calculated @ 15.5% 600 Cr X 15.5 %	93 Cr
2	**Interest on Loan:** Calculated @ 10% 1400 Cr X 10 %	140 Cr
3	**Interest on working capital:** 10 % of capital cost is assumed as working capital , ie 200 Cr Interest calculated at 10% - 200 Cr X 10 %	20 Cr
4	**Depreciation:** Calculated at 5.28% 2000 Cr X 5.28%	105 Cr
5	**O&M Cost:** 13 lac per MW is the norm .13 X 500	65 Cr
6	**Total capital cost = 1 + 2 + 3 +4 + 5**	**423 Cr**
7	Total units generated	2978 X 10^6 units
8	**Capital cost per unit of power 6 / 7**	**INR 1.42 / unit**