

**GOVERNMENT OF INDIA
POWER
LOK SABHA**

UNSTARRED QUESTION NO:4572
ANSWERED ON:20.12.2012
COST OF POWER GENERATION
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Will the Minister of POWER be pleased to state:

- (a) the details of the factors determining the cost of power generation through various sources;
- (b) the average cost of power generation per unit, source-wise at all India level for power projects during the last three years;
- (c) the current cost of power generation in the country, source-wise;
- (d) whether the Government have taken any steps to curtail the cost of power generation including the use of proper technology; and
- (e) if so, the details thereof and the results therefor?

Answer

THE MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF POWER (SHRI JYOTIRADITYA M. SCINDIA)

(a) : The cost of power production generated by different sources include the initial capital and its cost, interest rate on working capital, cost of continuous operation, fuel and maintenance.

(b) & (c) : The source-wise weighted average rate of sale of power generation per unit (Unit = 1 kWh) from generating stations to Power Utilities, as per data available in CEA, is given below :

Source (Figures in Paise / kWh)

	2008-09	2009-10	2010-11#
Hydro	201.26	214.70	211.57
Thermal	242.49	252.98	305.41
Nuclear	231.18	223.50	248.78
All India	236.00	239.00	290.87

Latest available

The estimated per MW cost of thermal generation projects recently commissioned is in the range of Rs.4 to 5.77 crore per MW. Further, the estimated capital cost of hydro power projects concurred by CEA during the year 2011 is in the range of Rs.6.10 crore per MW to Rs.8.02 crore per MW. The capital cost of a last few commissioned nuclear units is in the range of Rs.6.03 to 6.36 crore per MW.

- (d) & (e): For reducing the cost of electricity generation, Government has taken following steps including use of improved technology:
- (i) Promoting use of more efficient super-critical technology in thermal power generation with a view to reduce the cost of fuel required per unit of generation.
 - (ii) Encouraging captive coal mining for thermal power projects with the object of inter-alia lowering cost of fuel for coal-fired stations.
 - (iii) Renovation and Modernization of ageing / not well performing thermal and hydro power stations for improving operational efficiency.
 - (iv) Use of technical developments including greaseless turbine components, improved generator components, variable speed technologies, double-stage adjustable pump turbines, governor technology, state-of-art diagnostic and analytical methods, welding materials, high strength steel, improved F-class insulation, vacuum circuit breakers, micro-processor based numerical relays as well as site-specific developments to suit Indian conditions in hydro power stations.

(v) Tariff Policy notified on 06.01.2006 mandates procurement of power by distribution licensees competitively except in cases of expansion of existing projects of where there is a State controlled / owned company as an identified developer. For Public Sector projects also, the tariff of all new generation projects is to be decided on the basis of competitive bidding after 5th January, 2011.

(vi) Improved operational norms in the tariff regulations issued by the Central Electricity Regulatory Commission (CERC) for the period 2009-14.

(vii) Promotion of higher unit size / plant capacity to reduce capital cost on account of economy of scale.

(viii) Initiative to set up Ultra Mega Power Projects (UMPPs) of 4000 MW capacity each through tariff-based International Competitive Bidding to reap benefits of economy of scale.

Competitive tariffs have been discovered through tariff based competitive bidding for procurement of power. Improvements in operational norms specified by CERC have resulted in reduction of tariff. Introduction of super-critical technology in new thermal projects would result in saving of fuel, reduction in CO₂, NO_x, SO_x and particulate emissions, etc.