

**GOVERNMENT OF INDIA
POWER
LOK SABHA**

UNSTARRED QUESTION NO:2278

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NEW TECHNOLOGIES FOR POWER PROJECTS

Joshi Dr. Murli Manohar;Singh Shri Rajiv Ranjan (Lalan)

Will the Minister of POWER be pleased to state:

- (a) whether the Government is promoting use of supercritical boilers and setting up of Mega Power Projects so as to improve generation of power in the country;
- (b) if so, the details thereof;
- (c) whether new and innovative technologies are being used in such power projects;
- (d) if so, the details thereof alongwith the names of countries from which latest technologies are being imported; and
- (e) the likely impact of these technologies on the cost of power production in the country?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF POWER (SHRI K.C. VENUGOPAL)

(a) to (c) : Large size units with supercritical technology and Ultra Mega Power Projects (UMPPs) are being set-up to improve generation of power in the country. So far, four UMPPs namely, Mundra, Sasan, Krishnapatnam and Tilaiya have been awarded and these are at various stages of construction. Supercritical units entailing capacity of about 3500 MW are likely to be added in the Eleventh Plan. In the 12th Plan, supercritical units are expected to constitute about 50%- 60% of coal based capacity addition.

(d) : The developer of Mundra Ultra Mega Power Project has sourced the main plant equipment from Doosan, Korea and Toshiba, Japan, whereas the developer of Sasan, Krishnapatnam UMPPs are sourcing their main plant equipment from Shanghai Electric Company (SEC), China. For Tilaiya UMPP main plant equipment has been tied up with SEC, China.

Moreover, BHEL has entered into technology collaboration agreements with M/s. Alstom (France) and Siemens (Germany) for manufacturing supercritical boilers and turbine generators, respectively. A few Joint Ventures have been set-up in the country to manufacture supercritical boilers & turbine generators with technology tie-ups from Japan & Europe. The details are given below:

Joint Ventures	Manufacturing Capacity (MW per annum)	Technology Tie-ups/ transfer
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Boilers Generators	Turbine Generators
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L&T- MHI	4000 MW	4000 MW	MHI (Japan)
Bharat Forge- Alstom	-	5000 MW	Alstom (France)
JSW- Toshiba	-	3000 MW	Toshiba (Japan)
Gammon- Ansaldo	4000 MW	-	AnsaldoCaldie (Italy)
Thermax- Babcock & Wilcox	3000 MW	-	Babcock & Wilcox (USA)
BGR- Hitachi Ltd.	-	5 Turbine Generators	Hitachi Ltd. (Japan)
BGR- Hitachi Power Europe GmbH	5 Boilers	-	Hitachi Power Europe GmbH (Germany)

(e) : The cost of power produced depends on a number of factors such as cost of equipment, cost of financing, project implementation period, operating efficiency and cost of fuel etc. While supercritical technology may involve higher capital costs initially, it is expected that progressive indigenization of technology and the competition would result in reduction of cost in the long run.