

**Proposals to Tap Unconventional sources of Energy to overcome Energy Crisis**

1002 SHRI DHAMANKAR Will the Minister of ENERGY be pleased to state

(a) whether there are certain proposals to tap the unconventional energy sources like solar geothermal tidal and wind, synthetic oil from coal and gasification to overcome energy crisis, and

(b) if so, the main features thereof?

THE MINISTER OF ENERGY (SHRI K C PANT) (a) and (b) The following steps have been taken to tap the various non conventional sources of energy

1 **Solar Energy**—Research and development work on solar energy has been initiated in different centres during the last two years mainly in the following areas of application —

- (i) Solar irrigation pumps
- (ii) Solar water heaters cookers and ovens
- (iii) Space Heating
- (iv) Drying of grains and other agricultural and forest products
- (v) Water stills for desalination
- (vi) Solar cooling and refrigeration
- (vii) Production of electricity

**2 Geothermal Energy.**

- (i) A project for exploration and development of geo thermal power has been taken up with UNDP assistance
- (ii) A project for setting up a pilot geo-thermal power plant at Puga in Jammu and Kashmir has been prepared

(iii) A Geo-thermal Energy Co-ordinating Committee has been constituted with the objective of promoting the development and utilisation of geo-thermal energy in the country

3 **Tidal Power**—An Expert under the auspices of the UNDP had visited the country recently to tender advice on the development of tidal power His report is awaited and further action would be taken after examining the recommendations made

4 **Wind Power**—Horizontal axis wind-mills are under design and fabrication and will be tried out in various States by the end of the year R & D efforts on the vertical axis wind mills are in progress

5 **Synthetic Oil from Coal** An Expert Group has been appointed to assess the status of the technology for conversion of coal to oil

6 **Gasification of Coal** Work is mainly being done on the production of low BTU gas from coal It has also been decided to set up two Low Temperature Carbonisation Plants one each at Dankuni near Calcutta and at Ramakrishnapur in Andhra Pradesh The plant at Dankuni will also produce gas for industrial and domestic use Three coal based fertiliser plants based on coal gasification process by Koppers have been taken up Two of the plants are in advanced stages of construction at Talcher and Ramagundam

**Targets and achievements of Power Units in the Fifth Plan**

1003 DR K L RAO Will the Minister of ENERGY be pleased to state

(a) the Fourth Plan Power Projects, together with their quantum which have spilled over into the Fifth Plan;

(b) when are these expected to be commissioned, and

(c) the targets and actual achievements of Power Units in the Fifth Plan, excluding the Fourth Plan Power Projects, spilled over into the Fifth Plan?

THE DEPUTY MINISTER IN THE MINISTRY OF ENERGY (PROF SIDDHESHWAR PRASAD) (a) to (c) The installation of about 923 million KW of additional generating capacity had been envisaged for the Fourth Plan period out of which a capacity of 503 million KW spilled over to the Fifth Plan During 1974-75 which was the first year of the Fifth Plan and so far in 1975-76 additional generating capacity of 172 million KW and about 1 million KW respectively has been commissioned All efforts are being made to commission the remaining Fourth Plan projects expeditiously

2 The Draft Fifth Plan envisage the installation of additional generating capacity aggregating 1655 million

KW during the Plan period This included the capacity expected to become available following the completion of Fourth Plan projects New projects included in the Draft Fifth Plan add upto about 114 million KW and the execution of a number of these schemes has been taken up keeping in view the availability of resources

#### Performance of Thermal Plants

1004 DR K L RAO Will the Minister of ENERGY be pleased to state

(a) the names of the thermal stations where the machines are working 4,000 kw hours or less annually, and

(b) the reasons therefor?

THE DEPUTY MINISTER IN THE MINISTRY OF ENERGY (PROF SIDDHESHWAR PRASAD) (a) and (b) Names of the thermal stations operating at less than 4000 Kwh/KW based on energy generated in 1974-75 are given below —

Sl No	Name of Station	Reasons
1	Rajghat (Delhi)	Old age of sets, rehabilitation of boilers, involving large scale repair to fire bricks in arches
2	Ernore (Tamil Nadu)	Frequent failure of boiler auxiliaries, slagging in the boiler, forced outage of boilers due to tube leakages, fire in one of the generator transformer
3	Basin Bridge (Tamil Nadu)	This is an old power station. The cooling tower is being replaced. The capacity of the available cooling tower is half which has limited the generation of power from this station