

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO. 1570
ANSWERED ON 14.03.2023

RENEWABLE ENERGY AND STORAGE ISSUES

1570. SHRI JAWHAR SIRCAR

Will the Minister of New and Renewable Energy be pleased to state:

- (a) Government's strategy to optimise renewable energy by tackling the vagaries caused by weather conditions;
- (b) the viable options to store renewable energy and their related issues;
- (c) whether battery storage can be cost-effective;
- (d) the reasons pump storage is not really taking off in the country; and
- (e) what Government is doing specifically to improve transmission grids in remote areas which are a great challenge for such projects?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) Government have taken several measures including the following, to address the vagaries in Renewable Energy (RE) generation caused by weather conditions and ensure smoother integration of RE generation with the grid:

- a. Construction of Intra-State and Inter-State transmission systems for evacuation of Renewable power.
- b. Setting up of Renewable Energy Management Centers (REMCs) for accurate forecasting of renewable power and for assisting grid operators to manage variability and intermittency of renewable power.
- c. Innovative products like solar-wind hybrid projects, Round the Clock RE projects, RE projects with energy storage systems and supply of RE power balanced with power from non-RE sources started to reduce intermittency.
- d. Implementation of Green Term Ahead Market (GTAM) and Green Day Ahead Market (GDAM) for sale of renewable power.
- e. Flexibility in Generation and Scheduling of Thermal/Hydro Power Stations through bundling with Renewable power and Storage Power.
- f. Notification of Energy Storage Obligation trajectory till 2029-30.

(b) As of now, Pumped Storage Projects (PSP) and Battery Energy Storage Systems (BESS) are the major feasible options to store RE. The PSPs have long gestation period, and their capacity is dependent on location, however, they have longer life. On the other hand, BESS have short gestation period, are non- dependent on location but limited by availability of minerals and technology.

(c) Under Tariff Based Global Competitive Bidding, issued by the Solar Energy Corporation of India Ltd., for setting up of 500 MW/1000 MWh standalone BESS pilot project, the lowest bid discovered is Rs 10,83,500 /- per MW/Month. To reduce the Levelized Cost of Storage, a viability gap funding scheme for 4,000 MWh of BESS has been announced in the Budget for the year 2023-24.

(d) As reported by Central Electricity Authority the present installed capacity of PSPs in the country is 4745.6 MW and another 1500 MW capacity is under active construction. The growth of PSPs in the country has been slow due to variety of factors, which include long gestation period, capacity being location dependent, requirement of Environment Clearance, etc.

(e) A detailed Plan titled "Transmission System for Integration of over 500 GW RE Capacity by 2030" has been prepared in consultation with States and other stakeholders by the Committee constituted under Chairperson, Central Electricity Authority by the Ministry of Power. The Plan was launched on 7th December 2022. Further, under the Green Energy Corridor Project, Intra-State Transmission Systems are being created with financial support from Central Government.
