

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.152
ANSWERED ON 20.07.2026

BATTERY ENERGY STORAGE SYSTEMS (BESS)

152 # DR. KALPANA SAINI:
SHRI RAJIB BHATTACHARJEE:

Will the Minister of **POWER** be pleased to state:

- (a) the progress made in implementation of the Viability Gap Funding scheme for Battery Energy Storage Systems (BESS), including the details of the allocated and commissioned storage capacity awarded;
- (b) the measures taken to promote standalone and co-located battery storage projects for integration of renewable energy;
- (c) the role envisaged for battery energy storage systems in meeting peak electricity demand and ensuring grid reliability;
- (d) whether Government proposes additional policy or financial support to accelerate the deployment of energy storage technologies; and
- (e) if so, the details thereof?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): Ministry of Power is administering two Viability Gap Funding (VGF) schemes for the development of 43.8 GWh of Battery Energy Storage Systems (BESS). The details, including the implementation status of the two schemes, are as under:

(i) Viability Gap Funding (VGF) Scheme through Budgetary Support: The Central Government approved the Viability Gap Funding (VGF) Scheme on 6th September, 2023 for the development of 4 GWh of Battery Energy Storage System (BESS) capacity with a budgetary outlay of ₹3,760 crore. Subsequently, owing to the decline in BESS prices, the capacity supported under the Scheme has been enhanced to 13.8 GWh within the approved budgetary outlay. As on date, Battery Energy Storage Purchase Agreements (BESPAs) have been executed for 12.7 GWh, financial closure has been achieved for 6.54 GWh, 0.5 GWh capacity has been commissioned and VGF amounting to ₹168.04 crore has been disbursed.

(ii) Viability Gap Funding (VGF) scheme for development of 30 GWh of BESS supported through Power System Development Fund (PSDF): Ministry of Power, vide order dated 09.06.2025, launched another VGF scheme for development of 30 GWh of BESS with financial support of ₹5,400 crore from the Power System Development Fund. Under this scheme, 25 GWh has been allocated to 15 States for meeting their storage requirements, while 5 GWh has been allocated to NTPC Ltd. to support electricity demand during non-solar hours and optimize utilization of existing thermal and transmission infrastructure. As on date, Letters of Award (LoAs) have been issued for 22.43 GWh, Battery Energy Storage Purchase Agreements (BESPAs) have been executed for 19.65 GWh, and financial closure has been achieved for 5 GWh capacity. Further, sanction for the disbursement of ₹180 crore towards VGF, consequent upon the achievement of financial closure, has been issued.

(b), (d) & (e) : For the integration of renewable energy, Government has undertaken a series of coordinated policy, regulatory, demand-side, and supply-side measures to promote the development and deployment of Energy Storage Systems (ESS), including Battery Energy Storage Systems (BESS). The details of these measures are provided in the **Annexure**.

(c) : Battery Energy Storage Systems (BESS) can play a vital role in meeting peak electricity demand and ensuring grid reliability by storing electricity during periods of low demand or high renewable energy generation and supplying it during periods of peak demand. BESS enables time-shifting of energy, enhances grid flexibility, facilitates the integration of renewable energy, and reduces dependence on expensive peak power. Generating companies can use BESS to maximize the value of their generation by shifting off-peak energy to peak periods, while grid operators and distribution licensees can utilize BESS for peak load and congestion management, demand-supply balancing and ensuring reliable and quality power supply to consumers. BESS with Grid Forming Inverters may also help in stable grid operation.

**ANNEXURE REFERRED IN REPLY TO PARTS (b), (d) & (e) OF UNSTARRED QUESTION NO. 152
ANSWERED IN THE RAJYA SABHA ON 20.07.2026**

I. Policy and Regulatory Measures

1. The Electricity Rules were amended in December 2022 to explicitly recognize Energy Storage Systems (ESS) as an integral part of the power system, enabling their participation across generation, transmission and distribution functions.
2. In October 2022, ESS were included in the Harmonised Master List of Infrastructure of the Ministry of Finance, facilitating access to long-tenure and lower-cost financing.
3. In June 2023, the Government issued Guidelines for Preparation of Resource Adequacy Plans by State utilities, under which energy storage has been incorporated as a key planning resource for meeting peak demand and ensuring system reliability.
4. A National Framework for Promotion of Energy Storage Systems was issued in September 2023, providing a comprehensive roadmap for deployment, market integration and regulatory facilitation of storage technologies.

II. Demand-Side Enablers and Market Development Measures

5. Waiver of Inter-State Transmission System (ISTS) charges has been provided for co-located BESS projects commissioned up to June 2028, to improve project viability. For non co-located BESS, 100% ISTS charges waiver has been extended for projects commissioned by June 2025 with 25% annual reduction in waiver thereafter.
6. In January 2022, CERC allowed storage-based resources to provide ancillary services, including secondary and tertiary reserves, enabling ESS to support real-time grid balancing alongside conventional generators.
7. Tariff-Based Competitive Bidding (TBCB) Guidelines for procurement of BESS by distribution licensees were notified in March 2022, creating a transparent mechanism for large-scale storage procurement.
8. Under the Electricity (Rights of Consumers) Rules, 2020, amended in December 2022, consumers using diesel generator sets have been mandated to shift to cleaner backup solutions, including energy storage, within timelines specified by State Commissions.
9. Electricity supplied from BESS has been allowed to participate in the High-Price Day-Ahead Market, launched in March 2023, enabling storage to respond to peak price signals similar to gas-based generation.

III. Supply-Side and Manufacturing-Focused Measures

10. The Ministry of Heavy Industries is implementing a Production-Linked Incentive (PLI) Scheme with an outlay of ₹18,100 crore for establishing 50 GWh of Advanced Chemistry Cell manufacturing capacity, of which 10 GWh is earmarked for grid-scale stationary storage.
11. CERC has allowed separate grid connectivity during non-solar hours, enabling additional renewable capacity at existing substations and facilitating storage-based shifting of power to evening and night hours (September 2025).
12. Through amendment of the Electricity Rules in September 2025, energy storage systems have been permitted to be developed, owned, leased or operated by consumers, expanding the range of ownership and business models.
13. In February 2025, CEA issued an advisory on co-location of ESS with solar power projects, recommending storage capacity of at least 10% of installed solar capacity for a minimum duration of two hours, to improve dispatchability of solar power.
