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# India Approves Viability Gap Funding Scheme for Battery Energy Storage Systems

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***The Government of India has approved the Scheme for Viability Gap Funding for the battery energy storage systems (BESS) industry, with a goal of developing 4000 MWh worth BESS projects by 2030-31. We briefly discuss how the scheme will be operationalized.***

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The Union Cabinet, presided over by Prime Minister Narendra Modi, has given the green light to the [Battery Energy Storage Systems \(BESS\) Scheme](#). This scheme is designed to foster the development of BESS projects, totaling a remarkable 4,000 MWh by the year 2030-31, through a competitive bidding process.

By harnessing the potential of renewable energy and advocating for the adoption of battery storage, the government aspires to create a greener economy.

## Viability Gap Funding Scheme

### Subsidizing costs under the BESS Scheme

The Government of India will provide substantial financial support of up to 40 percent of the capital cost as viability gap funding (VGF), marking a significant milestone in the nation's ongoing commitment to environmental sustainability.

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The primary goal of this initiative is to drive down the cost of battery storage systems, making them more accessible and affordable for distribution companies and consumers alike. VGF funding is considered necessary for projects that possess sound economic justifications but still fall slightly short of achieving full financial viability.

Generally, the Indian government offers viability gap funding only for infrastructure projects where private sector sponsors are chosen through a rigorous competitive bidding process.

- **Budget outlay**

At its core, the BESS Scheme is geared towards harnessing the immense potential of renewable energy sources, such as solar and wind power. Its overarching aim is to ensure that Indian consumers have access to clean, dependable, and cost-effective electricity. With an initial allocation of INR 94 billion (US\$1.129 billion), including budgetary support of INR 37.6 billion (US\$451.95 million), this initiative underscores the government's dedication to sustainable energy solutions.

- **Implementation and impact**

By providing VGF support, the BESS Scheme targets the achievement of a Levelized Cost of Storage (LCoS) ranging from INR 5.50-6.60 per kilowatt-hour (kWh). This reduction in cost makes stored renewable energy a practical option for managing peak power demand nationwide. The disbursement of viability gap funding will occur in five stages, aligned with the various phases of BESS project implementation.

To ensure that the advantages of this scheme extend to consumers, a minimum of 85 percent of BESS project capacity will be made available to power distribution companies (Discoms). This not only enhances the integration of renewable energy into the electricity grid but also minimizes waste while optimizing the use of transmission networks. Consequently, this reduces the need for expensive infrastructure upgrades.

- **How to secure VGF grants**

The selection of BESS developers for VGF grants will be conducted through a transparent competitive bidding process. This approach fosters equitable opportunities for both public and private sector entities, promoting healthy competition and nurturing a robust ecosystem for BESS. It will attract substantial investments and create opportunities for associated industries.

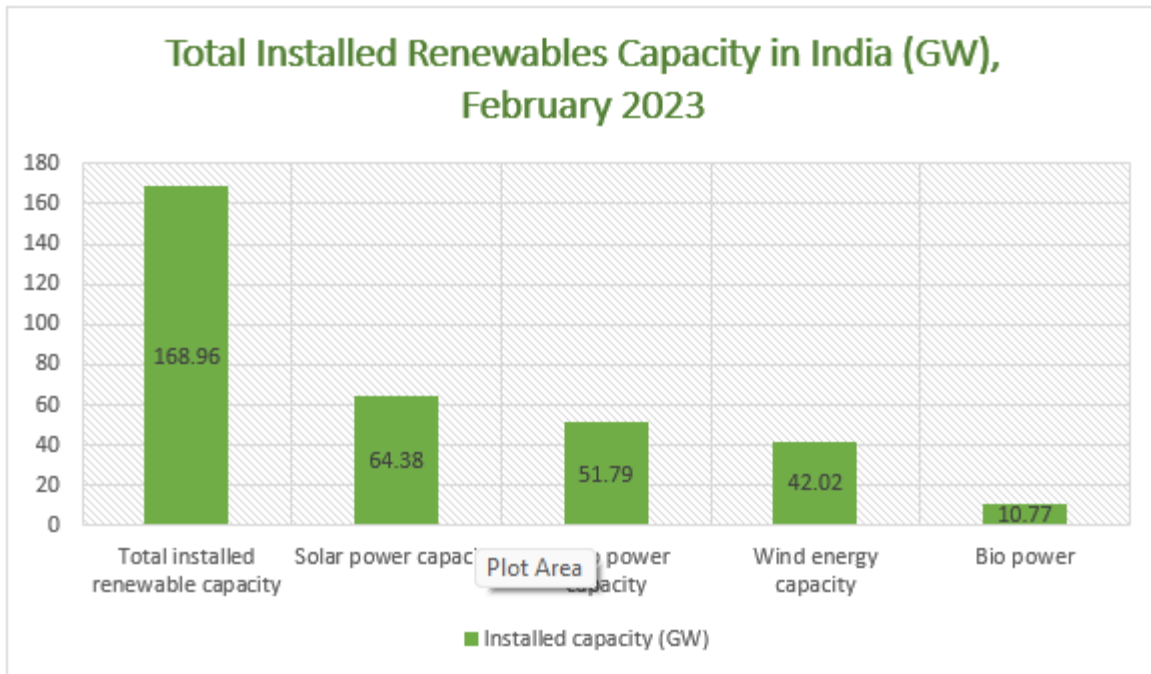
India is ambitious in its commitment to promoting clean and sustainable energy solutions. The BESS Scheme represents another significant step towards meeting climate action goals and achieving decarbonization targets. Foreign firms operating in the clean energy sector can take advantage of the subsidies and pro-environment initiatives taken by the central and state governments.

## Market opportunity for battery energy storage systems in India

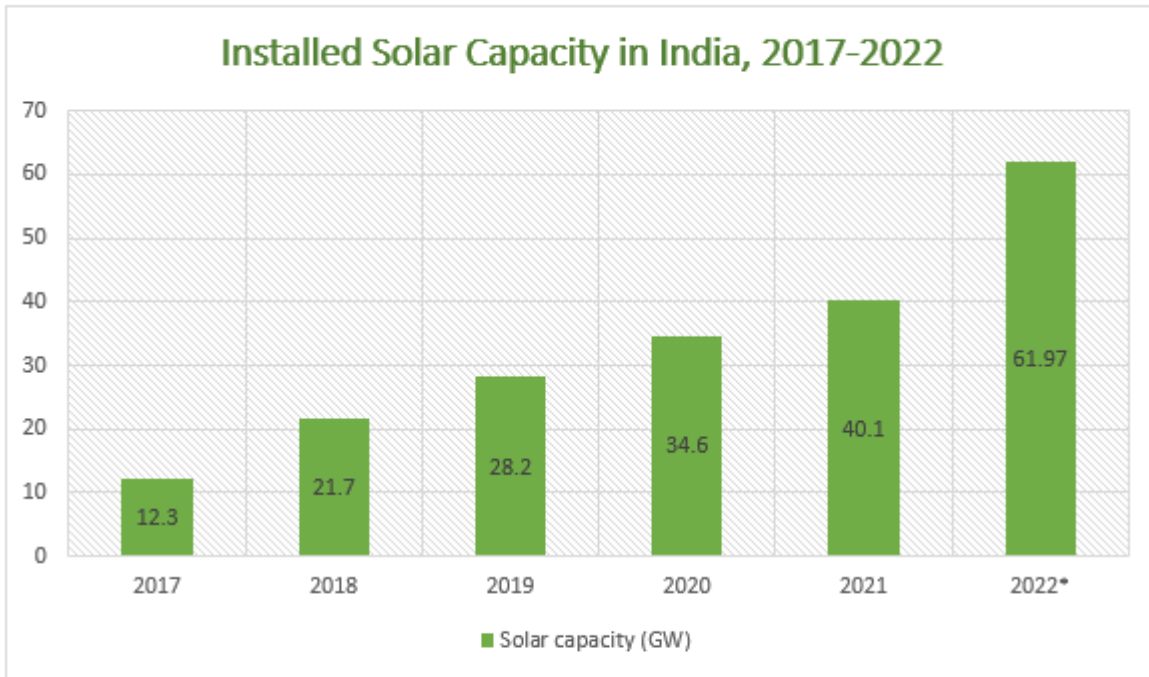
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India ranks as the world's third-largest energy consumer. Additionally, India holds the fourth position globally in terms of renewable energy installed capacity, which encompasses large hydro, wind power capacity, and solar power capacity, according to the REN21 Renewables 2022 Global Status Report. The total installed renewable energy capacity touched 168.96 GW as of the end of February 2023, according to a Parliament briefing. This is far from India's target to achieve 500 GW of non-fossil fuel-based energy by 2030, as announced at [COP26](#).



Source: Ministry of New and Renewable Energy (MNRE) Briefing, Parliamentary Proceedings, March 2023



*\*Till November 2022.*

*Source: MNRE, Government of India*

Such renewable targets are propelling the market for battery energy storage systems in India. Battery storage plays a vital role in facilitating the generation of renewable energy, ensuring a consistent supply to meet consumer energy demands, even in the face of the inherently intermittent nature of renewable sources. BESS is a crucial component for various applications, including peak load management, optimizing self-consumption, and providing backup power during outages.

The Indian battery energy storage system market is currently at a nascent stage and valued at approximately US\$3.10 billion. It is projected to increase to US\$5.27 billion over the next five years, per research from Mordor Intelligence. The BESS industry is expected to maintain a compound annual growth rate (CAGR) exceeding 11.20 percent in the period 2023-28.

The Indian BESS market is categorized into segments based on two key factors: battery type (including lithium-ion, lead-acid, flow, and other battery types) and connection type (on-grid and off-grid).

India's battery energy storage systems market displays a moderate degree of fragmentation. Some key players are Toshiba Corporation, AES Corporation, Exide Industries Ltd, Delta Electronics Inc., and the Amara Raja Group.

## Outlook for foreign investment

India's BESS market is on the cusp of remarkable growth, driven by government initiatives, renewable energy targets, and increasing consumer demand for clean and reliable power. The Viability Gap Funding Scheme offers a strategic entry point for investors keen on contributing to India's [sustainable](#) energy future. With the market poised for exponential expansion, now is the opportune time to invest in India's promising BESS industry.

Foreign direct investment (FDI) up to 100 percent is permitted through the automatic route for renewable energy generation and distribution projects, subject to the provisions of The Electricity Act 2003. India's pro-environment initiatives and subsidies present an attractive opportunity for foreign firms operating in the clean energy sector.

*(US\$1=INR 83.19)*