

## Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Wind Power Projects

### 1. Introduction

The Ministry of Power (“MoP”) notification dated August 21, 2023 unveils crucial guidelines for the Tariff Based Competitive Bidding Process for the procurement of power from Grid-Connected Wind Solar Hybrid Projects (“Guidelines”). The Guidelines are a significant step towards harnessing the combined potential of wind and solar energy sources, promoting competition, transparency, and sustainability in India's energy sector.

### 2. Objectives of the Guidelines

The Guidelines are structured with specific objectives in mind, which encompass promoting competitive procurement to safeguard consumer interests, facilitating the addition of renewable energy capacity to enable distribution companies (“DISCOMs”) in meeting their Renewable Purchase Obligation (“RPO”) mandates, ensuring transparency and fairness in procurement processes, and establishing a standardized framework for Intermediary Procurers acting as aggregators/traders.

### 3. Eligibility

To engage in this process, projects connected to intra-state transmission systems must have a minimum bid capacity of 10 MW or more and projects linked to inter-state transmission systems should have a minimum bid capacity of 50 MW or more. It is important to note that at least 33% of the total contracted capacity must be sourced from either wind or solar power.

### 4. Procurer and Intermediary Procurer

Procurer under the Guideline means the distribution licensee/licensees, or their Authorized Representative, or an Intermediary Procurer. Intermediary Procurer, as the name suggests is an intermediary, designated by the Ministry of New and Renewable Energy, Government of India, or the State Government(s). They are tasked with aggregating power from different generators and selling it to distribution licensees, consuming entities, or open access consumers.

## 5. Bid Structure

**Bid Size:** The Procurer will request bids in terms of Power Capacity (MW). Bidders can bid for a minimum capacity as specified above. The Procurer may also define the maximum capacity that can be awarded to a single bidder, including their affiliates.

**Bidding Parameters:** For Wind Solar Hybrid Power Procurement, the tariff quoted by the bidder shall be the bidding parameter. It shall be fixed tariff in Rs. /kWh for PPA period. A maximum of 50 percent of the total capacity as specified in the Request for Selection (“**RfS**”) shall be allotted to a single bidder.

## 6. Power Purchase Agreement (“PPA”)

**PPA Period:** The standard PPA period shall be 20 years from the Scheduled Commencement of Supply Date (“**SCSD**”), but it can be extended up to 25 years. Developers can operate their plants beyond the PPA period, upgrade and repower them, and participate in subsequent bids to the extent of their untied capacity. Developers with existing or under-construction plants can also participate and receive a longer PPA duration accordingly.

**Quantum of Power:** Power procurement will be in power (MW) terms.

- Capacity Utilization Factor (“**CUF**”): The CUF range is to be specified in the bidding documents. The calculation of CUF will be on annual basis. Hybrid Power Generator (“**HPG**”) will be liable to pay to the Procurer for energy generation below the minimum contracted CUF. The penalty will be equal to one and a half times of the PPA tariff for the shortfall in energy terms.
- Excess Energy: If energy generation exceeds the maximum annual CUF, the HPG can sell it to third parties. The Procurer has the first right of refusal within 15 days; otherwise, it would be considered a deemed refusal.

## 7. Generation Compensation

If the Procurer does not off-take power scheduled by HPG, the penalty will be in accordance with the Electricity (Promotion of Generation of Electricity from Must-Run Power Plant) Rules, 2021. The Guidelines, under the clause 7.6.3, provide that in order to claim the compensation, the HPG must sell its power in the power exchange as a price taker. Thus, the compensation would be limited to the difference of the actual generation up to declared capacity subject to a maximum of up to the contracted capacity and the quantum of power scheduled by the Procurer.

## 8. Bidding Process

- a. Procurer / Intermediary Procurer will call for the bids adopting a single stage two-part (Technical Bid & Financial Bid) bidding process to be conducted through electronic mode (e-bidding). The technical bid will be opened first. It is to be noted that the financial bids of only those bidders who qualify in the technical bid will be opened. The Procurer may also opt for e-reverse auction for final selection of bidders, in such a case, this will be specifically mentioned in the notice inviting bids and bid document.



- b. Procurer(s) will invite the bidders to participate in the RfS for installation of Hybrid Power Project(s) in terms of the Guidelines.
- c. Developers who have already set up capacity or who have spare untied capacity may also participate in the bid.
- d. The bidding documents including the RfS, draft PPA and draft PSA (if applicable) are to be prepared by Procurer(s) in consonance with the Guidelines and the Standard Bidding Documents (“SBDs”).
- e. Procurer(s) must publish the RfS notice in at least two national newspapers or its own website.
- f. Procurer(s) are supposed to provide opportunity for pre-bid conference to the prospective bidders and shall provide written interpretation of the bid documents to any bidder which shall also be made available to all other bidders. All the concerned parties should rely solely on the written communication. Any clarification or revision to the bidding documents must be uploaded on the website of Procurer(s) for adequate information.
- g. In the event of the issuance of any revision or amendment of the bidding documents, the bidders must be provided a period of at least 7 (seven) days therefrom, for submission of bids.

#### 9. Request for Selection Document

As per the Guidelines, the standard provisions to be provided by the Procurer in the RfS must include the following particulars:

**Bid Responsiveness:** Bids will be evaluated if they meet certain conditions, including that the bidder or its Affiliates is not a willful defaulter to any lender. Additionally, as of the last date of bid submission, the bidder and its Affiliates should not have been barred by any government agency or authority in India, the bidder's jurisdiction, the jurisdiction of their principal place of business, any international financial institution, or the United Nations or any of its agencies.

**Qualification Requirements:** The Procurer may specify technical criteria to encourage competition and ensure proper project implementation.

- Financial Criteria: Financial criteria include a specified net worth requirement i.e., at least 20% of the Estimated Capital Cost for the project.
- Liquidity: Procurers may also set parameters like annual turnover, internal resource generation, and bidding capacity to ensure bidders have sufficient cash flow for project funding.

**Earnest Money Deposit (“EMD”):** Procurers will specify the quantum of EMD, which should be at least 2% of the estimated capital cost of the hybrid power project, provided as a bank guarantee or letter of undertaking. Forfeiture of EMD may occur if the HPG fails to execute the PPA within the stipulated time.



**Compliance of Laws by Foreign Bidders:** If a foreign company is chosen as the successful bidder, it must adhere to all laws and provisions related to Foreign Direct Investment in India.

**10. Shareholding by the Promoter:**

The successful bidder, whether a single company or consortium, must ensure that its shareholding in the Special Purpose Vehicle /project company executing the PPA does not fall below 51% at any time prior to one year from the SCSD, except with the prior approval of the Procurer. If the successful bidder is executing the PPA itself, it must ensure that its promoters do not cede control for one year from the SCSD, except with the prior approval of the Procurer. The successful bidder, in this case, must provide information about its promoters and their shareholding to the Procurer before signing the PPA. Any change in shareholding after the expiry of one year from the SCSD can be undertaken under intimation to the Procurer. In the event the HPG is in default to the lender(s), lenders have the right to undertake 'Substitution of Promoter' in concurrence with the Procurers.

**11. Conclusion:**

The Guidelines outline a well-structured bid structure, emphasizing the importance of power capacity, tariff parameters, and capacity utilization factors, all designed to promote efficient and transparent procurement processes. The Power Purchase Agreement (PPA) terms, which allow for up to 25 years of operation and participation in subsequent bids, further encourage long-term investments in renewable energy. The generation compensation and bidding process details ensure accountability and adherence to rules, while qualification requirements and financial criteria are put in place to encourage competition and the proper implementation of projects. Additionally, the guidelines emphasize compliance with laws for foreign bidders and mandate that the majority shareholding in project companies remains with the successful bidders for at least one year. This holistic approach to regulation and accountability in the renewable energy sector is a significant step towards a greener, more sustainable energy future for India.

## National Framework for Promoting Energy Storage Systems, 2023

### Introduction and Background

The Government of India, in its commitment to increase the share of Renewable Energy ("RE") sources and bring about the energy transition from fossil fuel-based sources to RE sources has set an ambitious goal to achieve 50% cumulative installed capacity from non-fossil fuel-based energy sources by the year 2030. Energy Storage Systems ("ESS") are crucial in order to achieve this ambitious target because of the inherent difficulties encountered in the production and the usage of the RE sources when compared with the conventional sources of energy. Conventional sources of energy like coal, nuclear, etc. can be stockpiled, their generation and energy output can also be controlled, however the same is not possible with the RE sources such as Solar, Wind, etc. which are to be used instantly or else they are lost forever. ESS are used for storing energy available from RE sources which can then be used as per our requirements. Such storage, *inter alia*, helps in reducing the variability of generation in RE sources, improves grid stability and also benefits consumers by reducing peak deficits. In this backdrop, the Ministry of Power ("MoP") has released a National Framework for Promoting Energy Storage Systems, 2023 ("ESS Framework").

### Existing Framework for the Promotion of ESS

#### 1. Legal Status of ESS

As per the Electricity (Amendment) Rules, 2022, ESS are considered a part of the power system, as defined under clause (50) of section 2 of the Electricity Act, 2003 ("Act"). ESS owners/developers are permitted to lease or sell storage space to utility companies or Load Despatch Centres ("LDCs") as well as to use the storage space themselves to buy and store electricity for future sale. It is pertinent to note that independent ESS is a delicensed activity at par with a generating company in accordance with section 7 of the Act.

#### 2. Energy Storage Obligation

MoP notification dated July 22, 2022 envisions a long-term trajectory for Energy Storage Obligations ("ESOs") by specifying a minimum percentage of electricity consumption within a distribution licensee's area that must be procured from RE through ESS. The RE purchased from an ESS also qualifies for Renewable Purchase Obligation ("RPO") compliance.

#### 3. Waiver of Inter-State Transmission System Charges

MoP notification dated November 23, 2021 has exempted ESS from transmission charges for using Inter-State Transmission System ("ISTS"). This is done to facilitate RE integration in the grid and is in line with the National Tariff Policy of 2016.

#### 4. Rules for Replacement of Diesel Generator ("DG") sets with RE/Storage

To further promote adoption of ESS by commercial and industrial consumers, the Electricity (Rights of Consumers) Amendment Rules, 2022 mandate that the consumers using DG sets as essential backup power should endeavor to shift to cleaner technology such as RE with battery storage in five years or as per the timelines specified by their respective state commissions.

## 5. Introduction of High Price Day Ahead Market

MoP vide notification dated October 11, 2022 has come up with a detailed framework for the High Price Day Ahead Market segment (HP-DAM) in the existing Integrated Day Ahead Market, wherein sellers with high cost of generation would be allowed to participate. Battery Energy Storage Systems ("BESS") have been included in the list of eligible generators that are allowed to participate in the HP DAM segment of the Energy Exchange. This enables ESS developers to take suitable advantage of the price differential between Peak and Off-Peak tariffs.

## 6. Inclusion in Harmonized Master List for Infrastructure

In order to ensure easy access to institutional credit, concessional funds and reduce cost of borrowing, Department of Economic Affairs ("DEA") vide notification dated October 11, 2022 has included ESS in the Harmonized Master List ("HML") of Infrastructure sub sectors by insertion of a new item in the category of 'Energy'.

## 7. Inclusion of ESS in Technical Standards for Connectivity to the Grid

To promote faster and smoother integration of ESS with the grid, the Central Electricity Authority ("CEA") has notified CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007 and CEA (Amendment) Regulations, 2019 on February 6, 2019 which provide the requirements to be complied by ESS to get connectivity to the Grid at voltage level of 33kV and above.

### Measures under Consideration

Above discussed policy measures have so far been instrumental in establishment of ESS in the country. However, keeping in view, the recent developments in the power sector in the country, following policy and regulatory measures are under active consideration as part of the present framework.

#### 1. Financial Incentives

##### a. Viability Gap Funding for BESS

Viability Gap Funding ("VGF") is essential for supporting initial uptake of BESS by consumers as the costs are high in the initial years owing to the lower volumes of production. In order to decrease the levelized cost of storage and make BESS a viable option, it has been proposed to offer VGF of up to 40% of the capital cost of the project, with the condition that the projects must be commissioned within 18 to 24 months.

##### b. Green Finance

In order to accelerate the pace of establishment of ESS industry, the ESS Framework envisions use of sovereign green bonds for funding green infrastructure. This will also reduce the carbon intensity of the economy. Further, financial institutions like PFC, REC, and IREDA may also extend long term loans to ESS projects.

#### 2. Guidelines for Resource Adequacy Plan ("RAP")

The CEA will release a Long-term National Resource Adequacy Plan ("LT-NRAP") estimating the storage requirement at the national level for the next 10 years. Additionally, the distribution licenses will also be required to undertake a Long-term Discom Resource Adequacy Plan ("LT-DRAP") for a period of 10 years.



The long-term RAP would give the trajectory for requirement of ESS from distribution level up to the national level. This will facilitate the developers, to plan for the additional capacity, well ahead of time. Further the Electricity (Amendment) Rules, 2022 mandate that guidelines for assessment of resource adequacy shall be issued by the Central Government in consultation with CEA. Respective State Electricity Regulatory Commissions (“SERCs”) have also been mandated to issue regulations in accordance with the said guidelines. This statutory obligation of RAP would provide certainty in future demand of ESS.

### **3. Connectivity and Grid Access**

The ESS Framework envisions connectivity of ESS to nearest ISTS on a priority basis. It is also under consideration that CEA and Central Transmission Utility (“CTU”) will include ESS while planning the ISTS system.

### **4. Storage Capacity with future Renewable Generations**

In order to ensure adequate storage capacity to supply reliable power, new RE projects (excluding Hydro Projects) with an installed capacity of over 5 MW may be mandated to install ESS (of at least 1 hour storage) for minimum 5% of the RE capacity.

### **5. Facilitating Ease of Doing Business (“EoDB”)**

To facilitate EoDB in the field of ESS, the entire process, from bidding to installation and connectivity of the ESS is supposed to be completed within a specified timeframe. Simplification of the procedures for ESS developers and investors is a priority area in this regard. The framework further outlines a system with minimum and concurrent clearance and permission procedures. A nodal agency would also be appointed to oversee the entire process and ensure the compliance with the rules and regulations in place.

### **6. Regulatory Measures**

To achieve financial and commercial viability, ESS developers and intermediary agencies would be permitted to offer a range of market-based energy and power products. These products may include:

- a) Spot Energy Market
- b) Capacity Market/Energy Arbitrage (boosting capacity value by shifting off-peak generation to peak times)
- c) Provision of ancillary services to the grid
- d) Providing storage to other generating stations
- e) Bundling to make RE firm and dispatchable RE power
- f) Replacing DGs in various sites such as construction sites, commercial and residential areas, and islands.

Further, ESSs that use renewable energy for charging may be provided with carbon credits based on appropriate calculation methodology.



#### 7. Waiver of Cess, Tax and Duties

The government may also consider tax benefits to ensure faster development of ESS.

Given that storage is an intermediary system where energy is stored and released later, Electricity Duty (“ED”) and Cross Subsidy Surcharge (“CSS”) may not be made applicable on input power for charging of ESS as these systems are merely facilitating conversion of energy where electricity is stored during off-peak hours and discharged during peak hours. ED and CSS may only be levied on the final consumption of electricity. Further, state governments apart from providing government lands for setting up the ESS projects at a concessional rate, may also provide exemptions from stamp duty and other charges.

#### 7. Quality and Standards

In order to maintain quality and standards for BESSs, the Central Government may consider issuing an Approved List of Models and Manufacturers (“ALMM”) for BESS for power sector applications, similar to the list of ALMM for Solar Photovoltaic Modules issued by the Ministry of New and Renewable Energy. Models and manufacturers included in the list would qualify for use in government or government assisted projects, projects under government schemes and projects set-up for sale of electricity to public utilities within the country.

#### 9. Recycling and Sustainability

In order to ensure the shift from a linear economy to a circular economy based on the principles of 3Rs i.e., Reduce, Reuse, and Recycle, the end-of-life management plan may be included in the bidding documents of all ESS projects.

#### 10. Evaluation under the ESS Framework

The strategy under the ESS Framework is to promote and accelerate the development of ESS in the country. The framework pertaining to ESS will be periodically revised as per feedback gathered from the stakeholders and based on advances in technology. The concessions and incentives will be provided only for a limited period of time. With the deepening of supply chain in the upcoming years, there is an expectation of decrease in prices of ESS. The government will review the situation regularly to determine whether to continue with the concessions and incentives. In the long-term, ESS deployment must be self-incentivized.

#### Conclusion

For energy transition, shifting from fossil fuel-based capacity to RE capacity, it is necessary that the RE becomes dispatchable and available 24x7. This is possible only with ESSs. The ESS Framework provides a complete roadmap to achieve this. It takes into account the financial incentives and tax waivers needed to attract potential ESS developers, plans for connectivity of ESS projects with the grid, measures for ensuring commercial viability of the projects in order to sustain their long-term operations. Finally, it also throws light on how the various efforts would be evaluated and how the changes in the same would be adopted in accordance with development in technology and growth in ESS ecosystem.



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