Discussion Paper

TARIFF FRAMEWORK FOR PROCUREMENT OF POWER BY THE DISTRIBUTION LICENSEES AND OTHERS FROM WIND POWER PROJECTS FOR THE STATE OF GUJARAT

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INTRODUCTION

The Gujarat Electricity Regulatory Commission (GERC or Commission) vide Order No. 02 of 2012 dated August 8, 2012 and Order No. 02 of 2016 dated August 30, 2016 had issued Generic Tariff Order for Procurement of Power by Distribution Licensees and others from Wind Power Projects which were applicable up to March 31, 2016 and March 31, 2019 respectively. Thereafter, the GERC vide Order No 02 of 2020 dated April 30, 2020 had issued order in the matter of Tariff framework for procurement of power by the distribution licensees and other from Wind Turbine Generator (WTG) and other commercial issues for the state of Gujarat. Moreover, the Commission vide Order No. 04 of 2020 dated 26.05.2020 had issued the Order for the determination of tariff for Distribution Licensees for Procurement of Power from Wind Power Projects below the threshold limit of eligibility for participating in Competitive Bidding. The control period of the said Order No. 02 of 2020 was up to 31st March 2022. With effect from Order No. 02 of 2020, the Commission discontinued with approach of the 'generic tariff determination' regime for Procurement of Power by distribution licensees from Wind Power Projects and mandated the Distribution Licensees to procure power from Wind Power Projects through competitive bidding route, in order to discover the most competitive price.

The Ministry of Power had notified the Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022 on 6th June 2022 ("MoP Rules") outlining the policy and regulatory provisions for promotion of renewable sources of energy through Open Access. Further, the MoP Rules are effective from the date of its Notification. The Commission also notes that the Order No. 02 of 2020 dated 30.04.2020 for Wind Power Project was having control period up to 31.03.2022 and thereafter no extension in control period of said order is granted. Therefore, in order to give effect to the provision of Green Energy Open Access Rules 2022 notified by Ministry of Power under the Electricity Act, 2003 and specifically when there was no tariff order of the Commission after 31.03.2022 with regard to Wind Power Project tariff framework, the Commission found it more appropriate to adopt the regulatory provisions outlined in

MoP Green Energy Open Access Rules, 2022 and defined the Control Period of new tariff order to be made effective from 06.06.2022.

Accordingly, in exercise of the powers conferred under Sections 61(h), 62(1) (a), and 86(1) (b) & (e) of the Electricity Act, 2003, National Electricity Policy, 2005 and Tariff Policy, 2016, the Commission intends to provide clarity on the tariff framework for the next Control Period effective from 06.06.2022 to 31st March 2027, for Procurement of Power generated from the Wind Power Projects in the State of Gujarat by Distribution Licensees.

The Commission presents this Discussion Paper as part of the regulatory process for providing 'Tariff Framework for Procurement of Power from Wind Power Project and other Commercial issues for next Control Period based on comments/suggestions/objections received from stakeholders on this Discussion Paper.

EXECUTIVE SUMMARY

The Gujarat Electricity Regulatory Commission (GERC or Commission) vide Order No. 02 of 2016 dated 30th August, 2016 had issued generic Tariff Order for Procurement of Power by Distribution Licensees and Others from Wind Power Projects which were applicable up to 31st March, 2019. Thereafter, the Gujarat Electricity Regulatory Commission vide Order No. 02 of 2020 dated 30th April 2020 had specified the Tariff Framework for Procurement of Power by the distribution licensees and other from Wind Turbine Generator and Other Commercial Issues. The control period of the said order was up to 31st March 2022.

The Gujarat Electricity Regulatory Commission (GERC) proposes the present 'Tariff Framework for Procurement of Power by Distribution Licensees and Others from Wind Power Projects to be commissioned in the Control Period of this Order under Sections 61 (h), 62 (1) (a), and 86 (1) (b)&(e) of the Electricity Act, 2003, and National Electricity Policy, 2005, and Tariff Policy, 2016.

The Ministry of Power had notified the Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022 on 6th June 2022 ("MoP Rules") outlining the policy and regulatory provisions for promotion of renewable sources of energy through Open Access. Further, the MoP Rules are effective from the date of its Notification. The Commission also notes that the Order No. 02 of 2020 dated 30.04.2020 for Wind Power Project was having control period up to 31.03.2022 and thereafter no extension in control period of said order is granted. Therefore, in order to give effect to the provision of Green Energy Open Access Rules 2022 notified by Ministry of Power under the Electricity Act, 2003 and specifically when there was no tariff order of the Commission after 31.03.2022 with regard to Wind Power Project tariff framework, the Commission found it more appropriate to adopt the regulatory provisions outlined in MoP Green Energy Open Access Rules, 2022 and defined the Control Period of new tariff order to be made effective from 06.06.2022. The Wind Power Projects commissioned during the intervening period from 01.04.2022 to 05.06.2022 shall be governed by the provisions of Order No. 02 of 2020 dated 30.04.2020. Accordingly, the Control period of Order No. 2 of 2020 dated 30.04.2020 shall deemed to be extended upto 0 5.06.2022.

The State of Gujarat is blessed with excellent wind resources. The National Institute of Wind Energy (NIWE) had published 120m high wind potential assessment study in October 2019. This study was carried out at a spatial resolution of 500m, using the advanced meso-micro coupled numerical wind flow model with the corroboration from 406 actual measurement sites spread across the Country. The indicative wind potential at 120m agl is estimated by excluding unsuitable area / land features. The onshore wind power potential of India is estimated as 695 GW at 120m agl (above ground level). This report had estimated the onshore wind potential of 1,42,56 0MW for the State of Gujarat. The current installed wind power capacity of the State is around 10144 MW as on 30th April 2023. This indicates ample scope for future wind power development in the State.

Apart from the onshore wind power potential, the State of Gujarat is also having the excellent off-shore wind power resources and the National Institute of Wind Energy, in its recent strategy paper for 'Establishment of Offshore Wind Energy Projects' has identified 1GW of offshore Wind Power Project locations for further development.

After issuing the Competitive Bidding Guidelines (CBG), the Ministry of New and Renewable Energy (MNRE) informed all the SERCs that since the CBG issued are for plants with above 25 MW capacity, the Commission can determine the Feed-in-Tariff for Wind Plant with capacity below 25 MW. Accordingly, the Commission with effect from the Order No. 02 of 2020 dated 30th April, 2020 discontinued the 'generic tariff' determination regime and mandated the distribution licensees to procure power from Wind Power Projects through competitive bidding under Section 63 of the Act as per guidelines prepared by the Government of India.

Gujarat Renewable Energy Policy 2023

Government of Gujrat notified Gujarat Renewable Energy Policy 2023 on 4th October 2023 which aims to tap the renewable energy potential of State in a maximum possible manner. The Policy aims to (a) attract participation from Industries, MSMEs, Organizations, and Consumers etc. for augmenting clean energy sources in

the State, (b) achieve the State's Sustainable Development Goals by rapid transition to clean energy sources, (c) make available quality, reliable and cost competitive renewable power to consumers with conducive policy framework, (d) achieve 50% of cumulative electric power installed capacity from non-fossil fuel-based energy resources by the year 2030.

This policy come into effect from the date of its Notification and shall remain in operation up to 30th Sept-2028 or till Notification of the new policy, whichever is earlier.

The Key Findings of this Discussion Paper are:

The Commission proposes to adopt the tariff for procurement of energy from Wind Power Projects, based on the rates discovered through competitive bidding as was done during the control period of previous Order No. 02 of 2020.

Gujarat Renewable Energy policy 2023 provides that Energy Settlement Mechanism, Energy Banking facility & charges and applicability of Open Access charges for wheeling of energy from RE projects shall be governed by the provisions of MoP's Green Energy Open Access Rules, 2022 and Regulations framed by GERC from time to time.

The Commission proposes to fix the Control Period of this Order effective from 06.06.2022 up to 31.03.2027. Accordingly, the Control Period of the Commission's previous Order No. 02 of 2020 shall be deemed to be extended upto 05.06.2022. All the Wind Power Projects commissioned during the period from 01.04.2022 to 05.06.2022 shall be governed by the provisions of Order No. 02 of 2020 dated 30.04.2020. Whereas, the tariff framework proposed in this Discussion Paper shall be effective from 06.06.2022 upto 31.03.2027.

In case of tariff for Wind Power Projects below the threshold limit of eligibility for participating in Competitive Bidding, two options are being proposed in the discussion paper as given below:

a) *Tariff for Wind Power Projects falling below the threshold limit of eligibility shall be* considered as lowest of the weighted average tariff for Wind Energy, available as on 1st April, as discovered in the competitive bidding undertaken by GUVNL/Distribution Licensees and SECI during previous six months (October to March) or available as on 1st October, as discovered in the competitive bidding undertaken by GUVNL/Distribution Licensees and SECI during previous six months (April to September), depending on commissioning date of Wind project capacity subject to adoption of discovered tariff by the Commission and such tariff shall remain fixed for the 25 year.

b) The Commission shall determine the tariff for Wind Power Projects below the threshold limit of eligibility for participating in Competitive Bidding under Section 62 of the Electricity Act, 2003

The Commission shall firm up its decision on tariff for Wind Power Projects below the threshold limit of eligibility for participating in Competitive Bidding after examining the comments/suggestions of the stakeholders.

Others Commercial Issues:

Transmission and Wheeling Charges:

The norms for wheeling of power from Wind Projects for Third Party Sale/Captive Use commissioned during the control period of this Order shall be governed by Ministry of Power's Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022 and the GERC (Terms and Conditions for Green Energy Open Access) Regulations 2024 and subsequent amendments, if any.

In case of consumption of Wind /Green Energy under Third Party Sale wherein the Wind Generator and consumer does not claim RE attribute and allow the distribution licensees to avail the same for RPO compliance of distribution licensee, in such case 25 % concession in Cross Subsidy Surcharge and Additional Surcharge shall be applicable. Further, in case of consumption of Wind Energy for Captive Use/Third Party Sale, the Open Access Charges such as Transmission Charges, Wheeling

Charges, Banking Charges, Standby Charge etc shall be applicable as applicable to Green Energy Open Access Transaction as specified in GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 as amended from time to time.

Metering Point & Interconnection Point

- The Metering Point and Interconnection Point for the Wind Power Project shall be the point of connection at the GETCO substation where feasibility and connectivity is granted by GETCO. The Wind Project Developers shall provide energy metering and communication facility in accordance with the (a) CEA (Installation and Operation of Meters) (Amendment) Regulations 2014 and its subsequent amendments, (b) Gujarat Electricity Grid Code 2013 and its subsequent amendments (c) GERC (Terms and Conditions of Intra-State Open Access) Regulations, 2011 and its subsequent amendments and (d) GERC Distribution Code 2004 and its subsequent amendments and (e) GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 and its subsequent amendments.

- Wind Projects shall have to provide ABT compliant meters at the interface points and shall conform to the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2014, as amended from time to time.

Provided that in case of Wind Project connected with Inter-State Transmission System (ISTS) Network through State Network, the provisions related to Metering Point and Interconnection Point shall be governed by the provisions of Intra-State Generator provided in this Order. While in case of the Wind Projects directly connected to ISTS Network shall be governed by the provisions of CERC Regulations.

Pricing of Reactive Power

- The Pricing of Reactive Power shall be same as decided by the Commission in the GETCO Tariff Order time to time read with GERC Grid Code.

Sharing of CDM benefits:

It is proposed that the sharing of CDM benefits or any other benefit such as Carbon Credit or any other benefits under Clean Development Mechanism or any other mechanism under any provision from any source providing such benefits to the Wind Power Project for which it shall qualify to receive such benefit on the energy generation from the Wind Based Power Generation Project shall be shared with concerned authority by the Wind Power Project. The benefits which shall be receivable or received shall be shared with the procurer of power and / or licensee as under:

a) 100% of the gross proceeds on account of such CDM benefit or any other benefit under Clean Energy Mechanism from any source to be retained by the project Developer in the first year after the date of commercial operation of the generating station.

b) In the second year, the share of the Beneficiaries like power procurer/licensee shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, there after the proceeds shall be shared in equal proportion, by the Generating Company and the Beneficiaries like power procurer/licensee

c) In case of PPA signed under competitive bidding process, the sharing of benefits received by the wind power project shall be as per terms and conditions of bid documents read with the PPA.

d) In case of Wind Power Project set up under Open Access regime, the sharing of above benefits shall be in accordance with the Agreement between Power Producer and Consumer.

Banking of Surplus Wind Energy & Energy Accounting

Banking facility

The Energy Banking facility and settlement of banked energy for Wind Energy based Projects propose to be allowed as per provisions of MoP's Electricity (Promotion of

Renewable Energy through Green Energy Open Access) Regulations 2022 and GERC (Terms and Conditions for Green Energy Open Access) Regulations 2024 and the subsequent amendments thereof.

Energy Accounting

The Energy Accounting and Energy Banking facility for Wind Energy Project, shall be as per the provisions under MoP's Green Energy Open Access Rules 2022 and GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 and the subsequent amendments, if any.

In case of the consumers availing energy banking facility, the settlement of renewable energy against consumer's consumption shall be carried out on billing cycle basis upon payment of applicable banking charges as per the provisions of GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 and the subsequent amendments, if any.

In case the consumer is not availing energy banking facility, the energy settlement shall be carried out on 15-minute time blocks basis and no banking charges will be applicable.

Treatment for Surplus Banked Energy from Wind Power Projects opting for Captive Use and Third-Party Sale under Open Access

The treatment for un-utilized surplus banked energy from Wind Power Projects opting for Captive Use / Third party Sale under Open Access shall be governed by MoP's Green Energy Open Access Rules 2022 and GERC (Terms and Conditions for Green Energy Open Access) Regulations,2024 and the subsequent amendments, if any.

Renewable Energy Certificates for Third-Party Sale and Captive Use of Wind Energy

Third party sale and Captive Use of wind energy will be eligible for availing RECs as per CERC REC Regulations and subsequent amendments.

Security Deposit

- The WTG developers have to furnish a Bank Guarantee of Rs. 10 lakh /MW to GETCO based on allotment of transmission capacity. .

- In case of delay in commissioning of Wind Power Project, the project developer shall have liberty to approach the Commission seeking for extension of time period which will be decided by the Commission on the merit of the case.

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Abbreviations

ABT	Availability Based Tariff
APPC	Average Power Pooled Cost
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CTU	Central Transmission Utility
CUF	Capacity Utilization Factor
GEDA	Gujarat Energy Development Agency
GERC	Gujarat Electricity Regulatory Commission
GETCO	Gujarat Energy Transmission Corporation Limited
GUVNL	Gujarat Urja Vikas Nigam Limited
KERC	Karnataka Electricity Regulatory Commission
MNRE	Ministry of New and Renewable Energy
MSEDCL	Maharashtra State Electricity Distribution Company Limited
NIWE	National Institute of Wind Energy
PPA	Power Purchase Agreement
PTC	Power Trading Corporation
REC	Renewable Energy Certificates
RPO	Renewable Purchase Obligation
RTU	Remote Terminal Unit
RLMM	Revised List of Models and Manufacturers
SECI	Solar Energy Corporation of India Limited
SERC	State Electricity Regulatory Commission
SLDC	State Load Despatch Centre
STU	State Transmission Utility
TANGEDCO	Tamil Nadu Generation and Distribution Corporation Limited
TNERC	Tamil Nadu Electricity Regulatory Commission
WPD	Wind Project Developer

1. INTRODUCTION

1.1. Background

In exercise of the powers conferred under Sections 3 (1), 61 (h), 62 (1) (a), and 86 (1) (b)& (e) of the Electricity Act, 2003, National Electricity Policy, 2005, and Tariff Policy, 2016 and all other powers enabling it in this behalf, the Gujarat Electricity Regulatory Commission (GERC or Commission) presents this Discussion Paper on 'Tariff framework for Procurement of Power by Distribution Licensees and Others from Wind Power Projects to be commissioned during the Control Period defined in the Order.

The Commission had considered the provisions under the Gujarat Renewable Energy Policy, 2023 notified by the Government of Gujarat as well as the provisions under Green Energy Open Access Rules 2022 notified by the Ministry of Power and GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024, while preparing this Discussion Paper. The Commission had issued the previous Order No. 02 of 2020 on 30th April, 2020 on 'Tariff Framework for Procurement of Power by Distribution Licensees from Wind Turbine Generators in Gujarat. The control period of said Order dated 30th April , 2020 has been expired on 31st March 2022. This Discussion Paper details out the tariff framework for the new control period to be specified in this Order.

1.2. The Electricity Act, 2003

The following provisions of the Act provide the enabling legal framework for promotion of renewable sources of energy by the State Electricity Regulatory Commissions (SERCs):

1.2.1. Section 3 (1) of the Act requires the Central Government to formulate, inter alia, the National Electricity Policy in consultation with the Central Electricity Authority (CEA) and State Governments for inter-alia, development of the renewable sources of energy. The provision is quoted below:

"The Central Government shall, from time to time, prepare the National Electricity Policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilization of resources such as coal,

natural gas, nuclear substances or materials, hydro and renewable sources of energy."

1.2.2. Section 61(h) of the Act provides that, while specifying the terms and conditions of determination of tariff, the Commission shall be guided by the objective of promotion of co-generation and generation of electricity from renewable sources of energy.

1.2.3. The Section 62(1)(a) of the Act provides for determination of tariff for supply of electricity by a Generating Company to a distribution licensee as under:

"Supply of electricity by a generating company to a distribution licensee: Provided that the Appropriate Commission may, in case of shortage of supply of electricity, fix the minimum and maximum ceiling of tariff for sale or purchase of electricity in pursuance of an agreement, entered into between a generating company and a licensee or between licensees, for a period not exceeding one year to ensure reasonable prices of electricity;"

The Section 86 (1) (b) of the Act provides to regulate the procurement process of electricity by the distribution licensees as under:

"regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;"

1.2.4. The Section 86 (1) (e) of the Act mandates promotion of co-generation and generation of electricity from renewable sources of energy:

"Promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee."

1.3. National Electricity Policy (NEP)

The Clause 5.2.20 of the NEP stipulates the need for fully exploiting the feasible potential of non-conventional energy sources, as reproduced below:

"5.2.20 Feasible potential of non-conventional energy resources, mainly small hydro, and wind and bio-mass would also need to be exploited fully to create additional power generation capacity. With a view to increase the overall share of non-conventional energy sources in the electricity mix, efforts will be made to encourage private sector participation through suitable promotional measures."

Clause 5.6.1 of the Policy stipulates about the need for Technology Development and R&D on non-conventional energy systems, as reproduced below:

"Special efforts would be made for research, development demonstration and commercialization of non-conventional energy systems. Such systems would need to meet international standards, specifications and performance parameters."

Clause 5.12 stipulates several conditions for promotion and harnessing of renewable energy sources. The salient features of the said provisions of NEP are reproduced below.

***5.12.1** : Non-conventional sources of energy being the most environment-friendly, there is an urgent need to promote generation of electricity based on such sources of energy. For this purpose, efforts need to be made to reduce the capital cost of projects based on non-conventional and renewable sources of energy. Cost of energy can also be reduced by promoting competition within such projects. At the same time, adequate promotional measures would also have to be taken for development of technologies and a sustained growth of these sources.*

***5.12.2** : The Electricity Act, 2003, provides that co-generation and generation of electricity from non- conventional sources would be promoted by the SERCs by providing suitable measures for connectivity with the grid and sale of electricity to any person and also by specifying, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee. Such percentage for purchase of power from non-conventional sources should be made applicable for the tariffs to be determined by the SERCs at the earliest. Progressively, the share of electricity from non-conventional sources would need to be increased*

5.12.3 *As prescribed by State Electricity Regulatory Commissions. Such purchase by distribution companies shall be through competitive bidding process. Considering the fact that it will take some time before non-conventional technologies compete, in terms of cost, with conventional sources, the Commission may determine an appropriate differential in prices to promote these technologies.*

1.4. Tariff Policy-2016

In compliance with the Section (3) of the Act, the Central Government has notified the revised Tariff Policy on 28 January, 2016. The Tariff Policy elaborates the role of Regulatory Commissions, the mechanism for promoting renewable source of energy, the time-frame for implementation, etc. Clause 5.2 of the Tariff Policy provides as under:

"Provided also that the State Government can notify a policy to encourage investment in the State by allowing setting up of generating plants, including from renewable energy sources out of which a maximum of 35% of the installed capacity can be procured by the Distribution Licensees of that State for which the tariff may be determined under Section 62 of the Electricity Act, 2003."

Clause 6.4 of the Tariff Policy states about various aspects associated with promoting and harnessing renewable sources of energy generation including co-generation from renewable energy sources, as reproduced below:

1) "*Pursuant to provisions of Section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE.*

Provided that cogeneration from sources other than renewable sources shall not be excluded from the applicability of RPOs.

(i) Within the percentage so made applicable, to start with, the SERCs shall also reserve a minimum percentage for purchase of solar energy from the date of notification of this policy which shall be such that it reaches 8% of total consumption of energy, excluding Hydro Power, by March 2022 or as notified by the Central Government from time to time.

(ii) Distribution Licensee(s) shall compulsorily procure 100% power produced from all the Waste-to-Energy plants in the State, in the ratio of their procurement of power from all sources including their own, at the tariff determined by the Appropriate Commission under Section 62 of the Act.

(iii) It is desirable that purchase of energy from renewable sources of energy takes place more or less in the same proportion in different States. To achieve this objective in the current scenario of large availability of such resources only in certain parts of the country, an appropriate mechanism such as Renewable Energy Certificate (REC) would need to be promoted. Through such a mechanism, the renewable energy based generation companies can sell the electricity to local distribution licensee at the rates for conventional power and can recover the balance cost by selling certificates to other distribution companies and obligated entities enabling the latter to meet their renewable power purchase obligations. The REC mechanism should also have a solar specific REC.

(iv) Appropriate Commission may also provide for a suitable regulatory framework for encouraging such other emerging renewable energy technologies by prescribing separate technology based REC multiplier (i.e. granting higher or lower number of RECs to such emerging technologies for the same level of generation). Similarly, considering the change in prices of renewable energy technologies with passage of time, the Appropriate Commission may prescribe vintage based REC multiplier (i.e. granting higher or lower number of RECs for the same level of generation based on year of commissioning of plant).

2) States shall endeavour to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants. Procurement of power by Distribution Licensee from renewable energy sources from projects above the notified capacity, shall be done through competitive bidding process, from the date to be notified by the Central Government.

However, till such notification, any such procurement of power from renewable energy sources projects, may be done under Section 62 of the Electricity Act, 2003. While determining the tariff from such sources, the Appropriate Commission shall take into account the solar radiation and wind intensity which may differ from area to area to ensure that the benefits are passed on to the consumers.

3) The Central Commission should lay down guidelines for pricing intermittent power, especially from renewable energy sources, where such procurement is not through competitive bidding. The tariff stipulated by CERC shall act as a ceiling for that category.

4) In order to incentivize the Distribution Companies to procure power from renewable sources of energy, the Central Government may notify, from time to time, an appropriate bid-based tariff framework for renewable energy, allowing the tariff to be increased progressively in a back-loaded or any other manner in the public interest during the period of PPA, over the life cycle of such a generating plant. Correspondingly, the procurer of such bid-based renewable energy shall comply with the obligations for payment of tariff so determined.

5) In order to promote renewable energy sources, any generating company proposing to establish a coal/lignite based thermal generating station after a specified date shall be required to establish such renewable energy generating capacity or procure and supply renewable energy equivalent to such capacity, as may be prescribed by the Central Government from time to time after due consultation with stakeholders. The renewable energy produced by each generator may be bundled with its thermal generation for the purpose of sale. In case an obligated entity procures this renewable power, then the SERCs will consider the obligated entity to have met the Renewable

Purchase Obligation (RPO) to the extent of power bought from such renewable energy generating stations.

6) Provided further that in case any existing coal and lignite based thermal power generating station, with the concurrence of power procurers under the existing Power Purchase Agreements, chooses to set up additional renewable energy generating capacity, the power from such plant shall be allowed to be bundled and tariff of such renewable energy shall be allowed to be pass through by the Appropriate Commission. The Obligated Entities who finally buy such power shall account towards their renewable purchase obligations.

7) Provided also that scheduling and despatch of such conventional and renewable generating plants shall be done separately.

8) In order to further encourage renewable sources of energy, no inter-State transmission charges and losses may be levied till such period as may be notified by the Central Government on transmission of the electricity generated from solar and wind sources of energy through the inter-State transmission system for sale.

9) Appropriate Commission may provide regulatory framework to facilitate generation and sale of electricity from renewable energy sources particularly from roof-top solar system by any entity including local authority, Panchayat Institution, user institution, cooperative society, Non-Governmental Organization, franchisee or by Renewable Energy Service Company. The Appropriate Government may also provide complementary policy support for this purpose."

1.5. Government of Gujarat Renewable Energy 2023

The Government of Gujarat notified the 'Renewable Energy Policy, 2023' on 4th October 2023 for development of Renewable Source of Energy in the State. Some important provisions of this Policy are listed below:

- This Policy shall come into force with effect from the date of Notification and shall be remained in operation till 30th September 2028.

- The Policy states that the RE projects can be set up under this policy for captive use and / or for selling electricity to any other third party whether registered under the REC mechanism or not, or selling electricity to distribution licensees, subject to the provisions of this Policy and in accordance with the provisions of the Electricity Act 2003, as amended from time to time.

- There shall be no capacity restriction for setting up of RE projects for captive use or for selling electricity to third party consumer with respect to the consumer's contracted demand / sanctioned load (kW/kVA/MVA) with DlSCOMs. The AC capacity of the RE project shall be considered as the project installed capacity.

- Energy accounting and banking for all renewable energy projects, including rooftop projects, shall be as per the regulations framed by GERC from time to time in accordance with the Green Energy Open Access Rules 2022 notified by the Ministry of Power, Govt of India. In case of the consumers availing energy banking facility, the settlement of renewable energy against consumer's consumption shall be carried out on billing cycle basis upon payment of applicable banking charges as determined by GERC from time to time. No banking charges shall be applicable on solar power consumed by Residential consumers.

- In case the consumer is not availing energy banking facility and consumption is from RE projects registered under REC mechanism, the energy settlement shall be carried out on 15-minute time block basis and no banking charges will be applicable.

- For utilization of State transmission / distribution network for wheeling of power from RE projects located within the state or from outside the state to consumer end, transmission and wheeling charges and losses as determined by GERC shall be levied as applicable to normal open access consumer depending on the location of the RE plant and the point of consumption.

- DISCOM may purchase power from RE projects from time to time to economize overall power purchase costs for the benefit of consumers by following the competitive bidding process in accordance with the guidelines notified by the

Government of India from time to time under Section 63 of the Electricity Act. The terms and conditions for the supply of power shall be governed by the provisions of respective Power Purchase Agreement signed between the RE project and DISCOM.

- DISCOMs may procure power from small size Wind Power Projects up to 10 MW capacity at a pre fixed levelized tariff equal to the simple average of tariff discovered and contracted under the competitive bidding process conducted by GUVNL for wind projects in the preceding 6-month period, i.e. either April to September or October to March, as the case may be, which shall be applicable for the signing of PPAs in subsequent 6-month period and such tariff shall remain fixed for the 25 year term of the PPA.

- GUVNL shall be implementing, facilitating and monitoring agency for this policy while GEDA shall act as the State Nodal Agency (SNA) for implementation of policy.

- The provisions related to Re-powering of Wind Power Project in the RE Policy, 2023 is as under:

  29. Repowering of wind projects

  29.1 With an objective to re-energize the old, small-sized and inefficient wind turbines and replace with bigger and more efficient wind turbines with better technology (improved rotor diameters, larger blades, taller towers and pole lengths, increased hub heights, etc.) so as to optimally utilize the existing land and infrastructure, the repowering of wind turbine generators shall have to be done by the RE developers on or before the completion of 25 years from the date of commissioning of the project or extended term of the agreement.

  29.2 The repowering of wind turbine generators shall have to be done by the RE developers within six months from the date of issuance of this policy whose wind turbine generators have either completed the 25 years or about to complete the 25 years from the date of commissioning of the project. The developer whose agreements with GETCO and DISCOM are either extended or expired within one year from the date of issuance of this policy shall be eligible for the repowering.

29.3 If the Wind Project developer fails to repower its wind turbine generator at the expiry of the project's life term of agreement / extended terms of agreement, as the case may be, such RE developer shall have to decommission the wind power project and surrender the connectivity, and if the WTG is set up on leased land, they shall also have to surrender their leasehold rights to Government.

29.4 The life of the repowered project shall be 25 years or the actual life of the turbines, whichever is earlier.

29.5 RE developer shall be allowed for full partial repowering without any ceiling limit during the operation period.

29.6 The repowering of projects shall have to be done under intimation to the beneficiary and with the prior consent of the SNA.

29.7 After completion of repowering RE Developer is required to inform SNA for certification of repowering. Date certified by SNA shall be considered as date of Repowering.

29.8 Repowering of Wind Projects selling power to DlSCOM:

i. In case Wind project is selling power to DISCOM under the PPA (under a preferential tariff, REC mechanism, or competitive bidding route), then such wind power generator shall continue to supply generation from the existing capacity prior to repowering as per the terms and conditions of the existing PPA.

ii. The generation corresponding to the existing capacity prior to repowering shall be equivalent to the average generation during the last three years prior to the repowering of the wind project, excluding the year in which repowering was undertaken.

iii. The additional generation capacity due to repowering may be procured by DISCOM as per Clause No. 16 of this policy, taking into account the RPO requirement and tariff discovered through the competitive bidding process, as may be decided from time to time. However, it will not be binding for the DISCOM to purchase additional power as a

result of repowering of wind project and RE developer shall have option to sell power or use for self consumption.

29.9 Repowering of Wind Projects setup under wheeling arrangement:

i. The consumption of existing wind generation quantum shall be governed by the existing wheeling and transmission agreement.

ii. Existing generation quantum shall be determined based on average generation in the previous 3 financial years prior to repowering, excluding the year in which repowering was undertaken. The wheeling of additional generation over and above the existing generation quantum will be governed as per the provisions of this policy.

iii. The Wheeling Agreement shall have to be modified or amended to give effect of the same.

iv. If the incremental capacity post-repowering is offered to concern DISCOM, the same may be procured by DISCOM in accordance with Clause No. 16 of this policy.

29.10 For existing wind projects completing 25 years of life from the date of CoD, the extensions in connectivity by STU and land lease extensions by GEDA shall be granted only upon repowering of the existing wind turbine generators. Additional wind capacity due to repowering will be governed by Clause No. 29.6 and 29.7, as applicable.

29.11 The dismantling and de-commissioning of existing RE projects, land acquisition, augmentation of the transmission system up to the GETCO (STU) Sub-Station, renewal of leases, renewal of consents, etc. shall be at the cost, risk, and responsibility of the RE developer.

29.12 The wind projects undergoing repowering shall be exempted from the obligations under the existing PPA for non-availability of generation during the period of execution of such repowering, subject to a maximum period of four months. Similarly, in the case of repowering by wind power project set up under wheeling arrangement, the wind project shall be allowed to purchase power from the grid during the period of execution

of repowering upon payment of tariff to concerned DISCOM as applicable to respective consumer category.

29.13 The 'Gujarat Repowering of Wind Projects Policy 2018' notified vide G.R. dated May 21, 2018 stand superseded."

1.6. GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024.

The Commission has notified the GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024. While notifying the present tariff framework, the Commission has also considered the provisions of GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024. The GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 stipulates various provisions related to grant of Open Access from Green Energy Generating Projects for consumption of green energy for captive use as well as purchase of green energy from third party generators including provisions related to energy banking facility, banking charges, energy settlement mechanism, applicability of various open access charges, etc.

1.7. Renewable Purchase Obligation in Gujarat

The GERC (Procurement of Energy from Renewable Sources), (Third Amendment) Regulations, 2022 dated 08.04.2022, specify the Renewable Purchase Obligation (RPO) targets till FY 2024-25 and beyond as below:

Year	**Minimum Quantum of Purchase (in %) from Renewable Energy Sources (in terms of energy in kWh)**				
	Wind	**Solar**	**Hydro Power Purchase Obligation (HPO) (%)**	**Others (Biomass, Bagasse, Hydro and MSW) (%)**	**Total (%)**
2017-18	7.75	1.75		0.50	10.00
2018-19	7.95	4.25		0.50	17.02
2019-20	8.05	5.50		0.75	14.30
2020-21	8.15	6.75		0.75	15.65
2021-22	8.25	8.00		0.75	17.00
2022-23	8.25	8.00		0.75	17.00
2023-24	8.40	9.50	0.05	0.75	18.70
2024-25	8.55	11.25	0.10	0.80	20.70

Source: GERC (Procurement of Energy from Renewable Sources) (Third Amendment) Regulations, 2022

As per the RPO regulation, the obligated entities have the obligation to purchase electricity (in kWh) from specified RE sources. The said purchase shall be at a defined minimum percentage of the total consumption of its consumers including T&D losses during a year.

This renewable purchase obligation applies to:

- distribution licensees; and
- any other captive and open-access users consuming electricity (i) generated from conventional captive generating plant having capacity of 5 MW and above for their own use and/or (ii) procured from conventional generation through open access and third party sale.

The aforesaid Regulations also provides that the targets specified for Obligated Entities for FY 2024-25 shall be continued beyond for FY 2025-26 and onwards unless specified by the Commission separately.

Further, this Regulation recognises the certificates issued within the scope of Central Electricity Regulatory Commission's (CERC) Renewable Energy Certificate (REC) as the valid instruments for the discharge of the mandatory obligations set out in these Regulations for the obligated entities to purchase electricity from renewable energy sources termed as Renewable Energy Certificates (REC).

1.8. Wind Power Tariffs in Other States

The Maharashtra Electricity Regulatory Commission (MERC) in its Generic RE Tariff for FY 2021-22 under MERC (Renewable Energy Tariff) Regulations, 2019 dated 01st April, 2021 had specified that the tariff shall invariably be determined through a transparent process of competitive bidding in accordance with the Guidelines issued by the Central Government under Section 63 of the Act, for Wind Power Projects, and that the Commission shall adopt such competitively discovered tariff.

The TNERC had issued its order on procurement of Wind Power and related issues vide its Order No. 8 of 2020 dated 07th October 07, 2020. The TNERC had adopted the tariff to be determined through competitive bidding mechanism. The TNERC had further

extended the control period of this order vide its order dated March 30, 2022 until issue of the next order after disposal of the Civil Appeals pending before the Hon'ble Supreme Court of India.

In case of Karnataka, the KERC had issued its generic tariff order for Wind Power Projects for FY 2022-23 on 10th February 2022. The KERC had issued an order to procure wind power through tariff discovered through competitive bidding process. However, due to pending case before the Hon'ble Appellate Tribunal, the Commission had ordered to continue with the generic tariff of Rs. 3.26 per kWh as a ceiling tariff FY 2022-23 for procurement of power through competitive bidding and for settlement of banked units.

1.9. Wind Power Tariffs in Gujarat

- ***GERC Tariff Order 2012 for procurement of Power from Wind Turbine Generators***

GERC, in its Order No. 02 of 2012 dated 08th August, 2012 determined the tariff for procurement of power by the Distribution Licensees from wind energy projects in the State of Gujarat. After due public consultation and regulatory process, GERC determined single part levelized tariff of Rs. 4.23/ kWh for procurement of wind energy by the Distribution Licensees in the State. This Tariff Order was made applicable for the Wind Energy Projects commissioned on or after 11th August, 2012. The Control Period of this tariff Order was expired on 31st March 2016. Along with the rate for sale of electricity to Distribution Licensees, the Commission in this Order addressed the other commercial issues associated with Wind Power Transactions for Third Party Sale and Captive Use. Further, in review of the Commission's Order No. 02 of 2012, in Petitions No. 1243 of 2012 and 1249 of2012, the Commission re-determined the tariff at Rs. 4.15/kWh, which was made applicable for the projects commissioned during the Control Period from 11th August, 2012 to 31st March, 2016.

- **GERC Tariff Order 2016 for Procurement of Power from Wind Turbine Generators**

GERC, in its Order No. 02 of 2016 dated 30th August, 2016 determined the tariff for procurement of power by the Distribution Licensees and others from Wind Energy Projects in the State of Gujarat. After due public consultation and regulatory process, GERC determined single part levelized tariff of Rs. 4.19/ kWh for procurement of wind power by the distribution licensees in the State. This Tariff Order was made applicable for the Wind Energy Projects commissioned on or after 30th August, 2016. The Control Period of this Tariff Order was expired on 31st March, 2019. The Commission issued an advisory dated 18th March, 2017 to the Distribution Licensees, which stated as under:

"The Commission has observed that, as per the provisions of the National Tariff Policy, procurement from renewable energy projects by distribution licensees is recommended through competitive bidding to keep the tariff low. Accordingly, the Govt. of India and various State Governments have initiated competitive bidding process for procurement of power from wind and Solar energy projects, in which the discovered tariff for Solar and Wind energy projects has shown a substantial reduction.

In view of above, the Commission directs that the distribution licensees may procure electricity from the Wind and Solar power projects through competitive bidding under Section 63 of the Act or by following competitive bidding process followed by SECI/MNRE etc. The tariff determined by the Commission in the respective category of renewable energy orders will act as a ceiling tariff.

The distribution licensees may approach the Commission for adoption of the tariff discovered through such competitive bidding process."

- **GERC Tariff Order 2020 for Procurement of Power from Wind Turbine Generators**

GERC through its Order No 02 of 2020 specified the Tariff framework for procurement of power by distribution licensees and others from Wind Turbine Generators and other commercial issues for the State of Gujarat. The said order mandated the Distribution licensees to procure power generated from Wind Power

Projects in the state through competitive bidding under Section 63 of the Act. The Commission's ruling under the said order reproduced below:

"*The tariff for all prospective Wind Power Projects shall be determined based on the rates discovered through competitive bidding. The tariff for Wind Power Projects below the threshold limit of eligibility for participating in Competitive Bidding shall be considered equal to weighted average of the latest Tariff discovered through Competitive Bidding by State owned DISCOMs for Wind Power Projects and adopted by the Commission*".

- **GERC Tariff Order No. 04 of 2020 dated 26.05.2020 for the determination of tariff for Distribution Licensees for procurement of power from Wind Power Projects below the threshold limit of eligibility for participating in Competitive Bidding.**

Commission vide Order No. 04 of 2020 had specified the mechanism for procurement of power by Distribution Licensee from Wind Power Projects below the threshold limit of eligibility for participating in Competitive Bidding.

:: End of Chapter 1::

2. STUDY OF COMPETITIVE BIDS FOR WIND POWER

2.1 Introduction

Solar Energy Corporation of India Ltd (SECI), a Central Public Sector Undertaking (CPSU) under the administrative control of MNRE, was set up on 20th September, 2011 to facilitate the implementation of JNNSM and achievement of targets set therein. The Government later on converted it into a Section-3 Company under the Companies Act, 2013 and the Company covers entire Renewable Energy projects.

The SECI plays the role of a nodal agency for conducting e-reverse auction for procurement for power from Solar, Wind, Solar and Wind -Solar Hybrid and Storage Projects. The SECI first started with the competitive bidding of Solar Power and with good response from investors, it floated the tenders for procurement of power from Wind projects, Solar and Wind-Solar Hybrid projects, and energy storage based RTC power projects. SECI BID have received very good response for power procurement from renewable energy sources in the past and achieved lower tariffs than that for conventional sources.

Followed by SECI, the distribution licensee in various states like Maharashtra, Gujarat, Tamil Nadu etc. started procurement of RE power under competitive bidding route under Section 63 of the Act. The SERCs of these states mandated the licensees to procure the electricity under competitive bidding. The following sections of this chapter discusses the result of the competitive bidding undertake by SECI and state DISCOMs / Holding Company.

2.2 SECI Bids for wind power projects

SECI conducted the first e-reverse auction for wind power in FY 2017-18 for procurement of power from 1000 MW of wind power projects through Trench I of bidding cycle. Now, the latest wind power procurement was done for procurement of power from 1200 MW of wind projects through Trench XII. The capacity of wind power and tariff discovered under SECI's different bids starting from 2017-18 are as follows:

SECI Bid Results

2.2.1 SECI Tranche I Dated 27th February, 2017

The first auction for purchase of wind power was done by SECI for the capacity of 1000 MW and the Tariff discovered was Rs. 3.46/kWh.

Table 1: SECI First Tranche Result of 1000 MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	Mytrah Energy India Private Limited	250.00	3.46
2	Green Infra Wind Energy Limited	249.90	3.46
3	Inox Wind Infrastructure Services Limited	250.00	3.46
4	Ostro Kutch Wind Private Limited	250.00	3.46
5	Adani Green Energy (MP) Limited	50.00	3.46

(Source: SECI)

2.2.2 SECI Tranche II-Dated 31st May, 2017

The Wind Power capacity auctioned in the second tranche was 1000 MW and the lowest Tariff discovered was Rs. 2.64/kWh.

Table 2: SECI Second Tranche Result of 1000 MW ISTS-connected Wind Power Project

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs/kWh)
1	ReNew Power Ventures Private ltd.	250.00	2.64
2	Orange Sironj Wind Power Private Limited	200.00	2.64
3	Inox Wind Infrastructure Services Limited	250.00	2.65
4	Green Infra Wind Energy Limited	250.00	2.65
5	Adani Green Energy (MP) Limited	50.00	2.65

(Source: SECI)

2.2.3 SECI Tranche III- Dated 12th January, 2018

In Tranche III, SECI auctioned 2000 MW capacity and the lowest Tariff discovered was Rs. 2.44/kWh.

Table 3: SECI Third Tranche Result of 2000 MW ISTS-connected Wind Power Project

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	ReNew Power Ventures Private ltd.	400.00	2.44
2	Green Infra Wind Energy Limited	300.00	2.44
3	Inox Wind Infrastructure Services Limited	200.00	2.44
4	Torrent Power Limited	499.80	2.44
5	Adani Green Energy (MP) Limited	250.00	2.45
6	Alfanar Company	300.00	2.45
7	Betam Wind Energy Pvt. Ltd	50.20	2.45

Source: SECI Website SECI Tranche IV-Dated 2nd February, 2018

2.2.4 SECI Tranche IV- Dated 05th February, 2018

In Tranche IV, SECI auctioned 2000 MW capacity and the lowest Tariff discovered was Rs. 2.51/kWh.

Table 4: SECI Fourth Tranche Result of 2000 MW ISTS-connected Wind Power Project

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs/kWh)
1	Srijan Energy Systems Private Limited	250.00	2.51
2	Sprng Energy Private Limited	300.00	2.51
3	BLP Energy Private Limited	285.00	2.51
4	Betam Wind Energy Private Limited	200.00	2.51
5	Inox Wind Infrastructure Services Limited	100.00	2.51
6	Adani Green Energy (MP) Limited	300.00	2.51
7	Mytrah Energy India Private Limited	300.00	2.52

8	ReNew Wind Energy (TN) Private Ltd.	265.00	2.52

Source: SECI Website

2.2.5 SECI Tranche V-Dated 25th September, 2018

SECI initiated another RFS for auction of 2000 MW capacity, which was cancelled due to the timid response from the bidders. SECI then retendered and reduced the capacity from 2000 MW to 1200 MW. The main reasons for lowering the bid size was due to the transmission issues being faced by the developers. The lowest Tariff discovered in this auction was Rs.2.76/kWh.

Table 5: SECI Fifth Tranche Result of 1200 MW ISTS-connected Wind Power Project

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	Torrent Power Limited	115.00	2.76
2	Adani Green Energy	300.00	2.76
3	Alfanar Company	300.00	2.77
4	SITAC Kabini Renewables	300.00	2.77
5	Ecoren Energy India	175.00	2.77

Source: SECI

2.2.6 SECI Tranche VI-Dated 14th February, 2019

SECI initiated another RFS for auction of 1200 MW. The lowest Tariff discovered in this auction was Rs.2.82/kWh.

Table 6: SECI Tranche VI Result of 1200 MW ISTS-connected Wind Power Project

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	Adani Green Energy	250	2.82
2	Ostro Energy	300	2.82
3	Srijan Energy Systems	150	2.82
4	Powerica Limited	50.6	2.82

5	Ecoren Energy India Pvt Ltd	125	2.83
6	Softbank Energy	324.4	2.83

Source: Mercom India

2.2.7 SECI Tranche VII-Dated 22nd February, 2019

SECI initiated another RFS for auction of 1200 MW. The lowest Tariff discovered in this auction was Rs. 2.79/kWh.

Table 7: SECI Tranche VII-Result of 1200 MW / 480MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	Betam Wind Energy Private Limited	200	2.79
2	Ostro Energy Private Limited	50	2.81
3	Sprng Wind Energy Private Limited	100	2.82
4	Adani Wind Energy Kutchh Five Limited	130	2.83

Source: SECI

2.2.8 SECI Tranche VIII-Dated 26th June, 2019

SECI initiated another RFS for auction of 1800 MW, however, discovered the capacity of 440.8 MW due to low response. The lowest Tariff discovered in this auction was Rs.2.83/kWh.

Table 8: SECI Tranche VIII, Result of 1800 MW / 440.8 MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	Apraava Energy Pvt Ltd	250.8	2.83
2	Avikiran Energy India Private Limited	190	2.84

Source: SECI

2.2.9 SECI Tranche IX-Dated 20th March, 2020

SECI initiated another RFS for auction of 2500 MW however, discovered the capacity of 970 MW due to low response. The lowest Tariff discovered in this auction was Rs.2.99/kWh.

Table 9: SECI Tranche IX, Result of 2500 MW /970 MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	Vena Energy Vidyuth Pvt. Ltd	160	2.99
2	JSW Renew Energy Ltd	540	3.00
3	JSW Renew Energy Ltd	270	3.00

Source: SECI

2.2.10 SECI Tranche X-Dated 21st December, 2020

SECI initiated another RFS for auction of 1200 MW. The lowest Tariff discovered in this auction was Rs.2.77/kWh.

Table 10: SECI Tranche X, Result of 1200 MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	Adani Renewable Energy Seven Ltd	300	2.77
2	Ayana Renewable Power Six Pvt. Ltd	300	2.78
3	Viento Renewables Pvt. Ltd	150	2.78
4	JSW Future Energy Ltd	450	2.78

Source: SECI

2.2.11 SECI Tranche XI-Dated 25th May, 2021

SECI initiated another RFS for auction of 1200 MW. The lowest Tariff discovered in this auction was Rs. 2.69/kWh.

Table 11: SECI Tranche XI, Result of 1200 MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	ReNew Naveen Urja Pvt Ltd	300	2.69
2	Green Infra Wind Energy Ltd	180	2.69
3	Anupavan Renewables Pvt Ltd	150	2.69
4	Adani Renewable Energy Holding Fifteen Ltd	450	2.70
5	Azure Power India Pvt Ltd	120	2.70

Source: SECI

2.2.12 SECI Tranche XII-Dated 22nd October, 2021

SECI initiated another RFS for auction of 1200 MW. The lowest Tariff discovered in this auction was Rs.2.89/kWh.

Table 12: SECI Tranche XII Result of 1200 MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	NTPC Renewable Energy Ltd.	200	2.89
2	Halvad Renewables Private Limited	300	2.93
3	JSW Neo Energy Limited	300	2.94
4	Torrent Power Limited	300	2.94

Source: SECI

2.2.13 SECI Tranche XIII-Dated 12th January, 2022

SECI initiated another RFS for auction of 1200 MW. SECI received about 3010 MW of technical BIDs and shortlisted 2710 MW of BIDs for Reverse Auction. Out of the total Bid capacity of 1200 MW, the Bid was awarded to three bidders for the total capacity of 600 MW. The lowest Tariff discovered in this auction was Rs.2.90/kWh.

The selected bidder after reverse action are as under:

Table 13: SECI Tranche XIII Result of 1200 MW ISTS-connected Wind Power Projects

Sl. No.	Name of WPD	Quantity (MW)	Tariff (Rs. /kWh)
1	SJVN Ltd	100	2.90
2	Scatec India II B.V.	300	2.95
3	Teq Green Power XI Private Limited	200	2.95

Source: SECI

Table 14: Summary of tariff discovered through competitive bidding conducted by SECI

Particulars	Allocated Capacity (MW)	Year	Discovered Tariff (Rs/kWh)
Trench I	1000	Feb 2017	3.46
II	1000	May 2017	2.64-2.65
III	2000	Jan2018	2.44-2.45
IV	2000	Feb 2018	2.52-2.52
V	1200	Sept 2018	2.76-2.77
VI	1200	Feb 2019	2.82-2.83
VII	480	Feb 2019	2.79-2.83
VIII	440	June 2019	2.83-2.84
IX	970	March 2020	2.99-3.00
X	1200	Dec 2020	2.77-2.78
XI	1200	May 2021	2.69-2.70
XII	1200	Oct 2021	2.89-2,94
XIII	600	Jan 2023	2.90–2.95

Summary of the competitive bidding results conducted by SECI is shown in above table.

It can be seen from the above table that the wind tariff discovered through bidding conducted by SECI during 2017 to 2021 is in the range of Rs 2.44/kWh to Rs 3.00/kWh with an exception of Rs 3.46/kWh during early stage when bidding was start by SECI.

2.3 Reasons for Low Tariff

- **Increase in Efficiency:** Improved technology has increased the efficiency of the Wind Turbines due to which higher generation is available as compared to the old turbines.

- **Accessibility of cheaper funds:** Since the off-taker was SECI and the PPA would be with centrally-owned PSU rather than with the State, the developers were able to avail cheaper funding from different sources present in the market.

- **Advantage of choosing any site:** The Wind Power Project Developers were free to choose any site under the SECI auctions and it would be near a transmission system. This led to reduction in transmission constraint to some extent.

- **Economies of scale:** SECI auctioned project capacity was also much higher, due to which it increased the interest of the investors.

2.3 Competitive bidding conducted at State level.

Some States, which have good potential of wind energy generation, also conducted wind auctions to get the benefit of low Tariff whose benefit can be passed on to the consumers. These States includes the State of Gujarat (GUVNL), Maharashtra (MSEDCL), and Tamil Nadu (TANGEDCO).

2.4.1. Gujarat (GUVNL) Auction-Dated 21st December, 2017

In Gujarat, GUVNL conducted a tariff-based auction for procurement of wind power. The capacity auctioned was 500 MW and the discovered Tariff of Rs. 2.43/kWh was a historic low. In this auction, the capacity allocation was with the Green Shoe Option, in which, an additional capacity of 500 MW was also available to be offered to the

participating State Sector Bidders who are willing to execute the PPA with GUVNL at the L1 tariff.

Table 15: GUVNL Wind Auction Result of capacity 500 MW

Sr No.	Name of bidder	Capacity (in MW)	Rate (Rs. /kWh)
1	Sprng Energy Private Limited	197.50	2.43
2	K.P Energy Limited	30.00	2.43
3	Verdant Renewable Private Limited	100.00	2.44
4	Betam Wind Energy Pvt. Ltd	29.90	2.44
5	Powerica Limited	50.00	2.44

Source: GUVNL Website

2.4.2. GUVNL – Gujarat Wind Auction-Dated 13th May, 2019

The auction conducted by Gujarat Urja Vikas Nigam Ltd (GUVNL) in this tender saw Enerfra win 40 MW of capacity at tariff of Rs 2.80 per unit, and Powerica and Vena win 50 MW and 100 MW capacities, respectively, at tariff of Rs 2.81 per unit. The Sarjan Realties, Virdi Clean Alternatives, Renew Power, Adani and Inox Wind were the other winners whose tariffs were in the range of Rs 2.87-2.95 per unit.

The details of the auction results are given in the below table:

Table 16: GUVNL Wind Auction result of capacity 745 MW

Sr No.	Name of bidder	Capacity (in MW)	Rate (Rs. /kWh)
1	Anisha Power Projects	40	2.80
2	Powerica	50.6	2.81
3	Vena Energy	100	2.81
4	Sarjan Realities	100.8	2.87
5	Virdi Clean Alternatives	100	2.95
6	Inox Wind	40	2.95
7	Renew Power	200	2.95
8	Adani Renewable Energy	113.6	2.95

Source: GERC Order in Petition No. 1849 of 2019 dated 7 January 2020

Out of the above, PPAs were signed for 202.6 MW with the first 3 Bidders at tariff of Rs. 2.80 per kWh and for 12 MW with M/s SJVN at the earlier discovered competitive rate of Rs. 2.43/kWh, and the same have been approved by the Commission, while adopting the competitively discovered tariff, vide Order dated 7 January 2020 in the Petition No. 1849 of 2019.

GUVNL – Gujarat Wind Auction-Dated 15th July, 2022

GUVNL had recently conducted 500 MW + 500MW Wind Power bidding under Green Shoe Option. The results of the reverse bidding concluded in July 2022 are as follows:

Table 17: GUVNL Wind Auction result of capacity 500MW + 500MW under Green Shoe option

Sr No.	Name of bidder	Capacity (in MW)	Rate (Rs. /kWh)
1	Gujarat State Electricity Corporation Ltd.	70	2.84
2	Rajpur Renewables Pvt. Ltd. (EDF)	30	2.98
3	Juniper Green Energy Pvt. Ltd.	40	3.04
4	Solarcraft Power India 3 Pvt. Ltd. (Blupine)	100	3.05
5	TEQ Green Power XII Pvt. Ltd. (O2 Power)	70	3.17
6	ACME Pokhran Solar Pvt. Ltd.	50	3.26
7	Project Twelve Renewable Power Pvt. Ltd.	140	3.27

(Ref: GUVNL reverse auction 15 July 2022)

In the above Bid, the tariff discovered were in the range of Rs 2.84/kWh to Rs 3.27/kWh

2.4.3. GUVNL – Wind Bid Tender (Phase IV) dated 18 Oct 2022.

GUVNL called tender for purchase of power through competitive bidding process followed by reverse e-auction from 300 MW grid connected wind power projects (Phase IV) with 'Green Shoe Option' of additional up to 300 MW on 18th October 2022. The bidders were allowed to install wind power projects anywhere in India and all the Inter-

State Open Access Charges up to the Delivery Point were proposed to be in the account of Bidder.

Table 18: GUVNL Wind Auction result of capacity 300MW + 300MW under green shoe option

Sr No.	Name of bidder	Capacity (in MW)	Rate (Rs. /kWh)
1	Juniper Green energy	50	2.91
2	EDF renewables	100	3.00
3	ACME Pokharan Solar	100	3.01
4	Solar Craft India	50	3.01

(Ref: GUVNL reverse auction 31st Jan 2023)

In the above Bid, the tariff discovered were in the range of Rs 2.91/kWh to Rs 3.01/kWh.

2.4.4. Maharashtra (MSEDCL) Auction-Dated 3rd March, 2018

The Maharashtra State Electricity Distribution Company Limited (MSEDCL) had auctioned 500 MW of grid-connected wind projects to meet its non-solar RPO. The lowest quoted Tariff in the auction was Rs. 2.85/kWh. The L1 Tariff quoted in this auction was 41 paise (17%) higher than the Tariff quoted in SECI auction, i.e., Rs. 2.44/kWh. In this bid, the upper ceiling Tariff was fixed at Rs. 3.00 /kWh.

Some Brief Facts about above Auction:

- The minimum CUF required was 22%. The bidder has to maintain generation in such a manner to achieve CUF in the range of ±10% of their declared value during PPA duration.
- The project shall be designed for the interconnection with CTU/STU Substation from the pooling Substation.
- If the generation is over and above 10% of declared annual CUF, then the bidder can sell to any other entity, with MSEDCL having the first right of refusal. In case of purchase above the excess generation, the same would be done at 75% of the PPA Tariff.

2.4.1..1. Result of the Auction

The rates discovered in the auction are given in the Table below:

Table 19: MSEDCL wind auction Results for capacity of 500 MW

Sr No.	Name of Supplier	Quantum (MW)	Rate (Rs. /kWh)
1	Adani Green Energy (MP) Limited	75.00	2.85
2	KCT Renewable Energy Private Limited	75.00	2.85
3	Inox Wind Limited	50.00	2.86
4	Mytrah Energy India Private Limited	100.00	2.86
5	Hero Wind Energy Private Limited	75.60	2.86
6	Torrent Power Limited	124.50	2.87

Source: MERC's Order, Case No. 129 of 2018, dated 14th June, 2018

2.4.5. MSEDCL 300 MW wind BID dated 20.08.2021

MSEDCL had invited the RFP for procurement of 300MW Wind Power on Long Term basis through competitive bidding process followed by reverse e-auction from grid connected new Inter-state Wind Power Projects. The Wind Power Projects having an individual Project Capacity of 5 MW and above at one site with minimum bid capacity of 25MW was eligible to participate in the Bid. The ceiling tariff was not provided for this Bid. The PPA period proposed was of 25 years. This Bid was extended up to 03.01.2022. The tariffs discovered were as follows:

Table 20: MSEDCL wind auction Results for capacity of 300 MW

Sr No.	Name of Supplier	Quantum (MW)	Rate (Rs. /kWh)
1	Azure Power	180	3.43
2	Adani Green Energy Fifteen	120	3.44

2.4.6. Tamil Nadu (TANGEDCO) Auction-Dated 19th June, 2017

The Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO) conducted an auction for 500 MW capacity, to meet its RPO. The Tariff discovered in this auction was Rs. 3.42/kWh.

Some Brief Facts about the Auction:

- The CUF should be in between 20% - 27.15%.
- In case the availability is more than the maximum specified CUF of 27.15%, TANGEDCO was required to purchase the excess power at 75% of the PPA Tariff.
- The Wind Power Project would be designed for interconnection with a TANGEDCO Substation through a dedicated transmission line at voltage levels of 110 kV or higher. The entire cost of transmission from the project up to the TANGEDCO Substation including cost of construction of the line and losses would be borne by the developer.
- The timeframe for the project completion was 15 months.

2.4.6.1 Result of the Auction

The details of the auction results along with the Tariff discovered is given below:

Table 21: TANGEDCO Wind Auction result of capacity 500 MW

Sr No.	Name of bidder	Capacity (in MW)	Rate (Rs. / kWh)
1	Regen Powertech Pvt. Ltd	200	3.42
2	Leap Green Energy Pvt. Ltd.	250	3.42

Source: TNERC Order, PPA No. 6 of 2017, dated 13 November, 2017

2.4.7. NTPC Wind Auction-Dated 21 August, 2018

The National Thermal Power Corporation (NTPC) also auctioned 1200 MW Inter-State transmission system connected projects to be developed across India. The Tariff climbed in this Wind Auction, as the Tariff had gone down to Rs 2.44/kWh before this auction. The main reasons for such sudden increase in the Tariff was due to increase in finance cost and limited availability of transmission facilities.

Results of the Auction

The details of the auction results are given in the below table:

Table 22: NTPC Wind Auction result of capacity 1200 MW

Sr No.	Name of bidder	Capacity (in MW)	Rate (Rs. /kWh)
1	Sprng Vayu Vidyut (Actis)	200	2.77
2	Mytrah Energy	300	2.79
3	Srijan Energy Systems (Continuum Wind Energy)	50	2.79
4	Renew Wind Energy (TN)	300	2.81
5	Hero Wind Energy	300	2.82
6	Fasten Power (SITAC RE)	50	2.83

Source: Mercom Research Website

2.4.8. Railway Energy Management Company Ltd (REMCL) Auction, April 2022

REMCL had conducted tariff based competitive bidding for meeting the energy requirement for Railway Traction in Maharashtra. The Sembcorb (Green Infra Wind Energy) has won the entire bid of 50 MW.

2.4.9. Results of the Auction

The details of the auction results are given in the below table:

Table 23: REML Wind Auction result of capacity 50 MW

Sr No.	Name of bidder	Capacity (in MW)	Rate (Rs. /kWh)
1	Sembcorp (Green Infra Wind Energy)	50	3.11

Source: Mercom Research Website

End of Chapter 2:

3. TARIFF FRAMEWORK,GENERAL PRINCIPLES AND OTHER CONSIDERATIONS

3.1. Tariff Framework

The Commission in the Order No. 02 of 2020 mandated the distribution licensees for Procurement of Power from the Wind Turbine Generators at tariff discovered through competitive bidding. The results of the tariff discovered by SECI as well as GUVNL as discussed in the previous chapter are quite encouraging wherein most of the cases the discovered tariff is in the range of Rs. 2.5/kWh to Rs 3.00 /kWh.

The Commission has observed that as per the provisions of the National Tariff Policy, procurement from renewable energy projects by distribution licensees is recommended through competitive bidding to keep the tariff low. Accordingly, the Govt. of India and various State Governments have initiated competitive bidding process for procurement of power from Wind and Solar Energy Projects, in which the discovered tariff for Solar and Wind Energy Projects has shown a substantial reduction. Same has been noticed in the case of the state specific bidding conducted by the GUVNL and national level bidding conducted by SECI including state specific bidding results of few other states like Maharashtra, Tamil Nadu etc.

In view of above, the Commission decides to continue with the competitive bidding regime for procurement of power by distribution licensees from Wind Turbine Generators during the control period of this tariff order. Accordingly, the Commission directs that the distribution licensees may procure electricity from the prospective Wind Power Projects through competitive bidding under Section 63 of the Act or by following competitive bidding process followed by SECI/MNRE etc. Further, the distribution licensees shall approach the Commission for adoption of the tariff discovered through such competitive bidding process."

The Ministry of Power, Government of India had notified Green Energy Open Access

Rules, 2022 effective from date of its notification i.e. effective from 06th June, 2022. The said Rules, 2022 applicable to green energy project consists of various provisions on Transmission Charges, Wheeling Charges, Cross Subsidy Surcharge, Additional Surcharge, banking etc. As the Rules framed under Section 176 of the Electricity Act, 2003, it is necessary to give effect to them. Further, the Gujarat Renewable Energy Policy 2023 provides that Energy Accounting Mechanism, Energy Banking facility & charges and applicability of Open Access charges for wheeling of energy from RE projects shall be Governed by the provisions of MoP, Green Energy Open Access Rules, 2022 and Regulations framed by GERC from time to time. It also needs to be considered that the control period of previous Wind Tariff Order No. 02 of 2020 was expired on 31.03.2022 and no extension in the control period of said Order is granted. Therefore, it is considered appropriate that the provisions of the said Order shall be continued till the date of Notification of MoP's Rules i.e. up to 05.06.2022, whereas provisions of this Order shall be effective from 06.06.2022. Hence, it is proposed that since provisions of MoP's Rules became effective from 06.06.2022, the order passed on this discussion paper shall be effective from 06.06.2022.

In view of same, the Commission proposes to fix the Control Period of this Order effective from 06.06.2022 upto 31.03.2027. i.e. effective from date of Notification of MoP' Green Energy Open Access Rules, 2022. Further, the Commission decides to extend the control period of previous Wind Tariff Order (No. 02 of 2020) from 31.03.2022 up to 05.06.2022. The Wind Power Projects commissioned post 05.06.2022 shall be governed by the regulatory framework proposed in this discussion paper.

Further, there could be cases of Wind Power Projects below the threshold limit of eligibility (25 MW) for participating in Competitive bidding. The Commission propose two options for determination of tariff for the wind power projects falling below the threshold limit of eligibility for participating in the competitive bidding process as given below:

a) *Tariff for wind power projects falling below the threshold limit of eligibility shall be* considered as lowest of the weighted average tariff for Wind Power Project, available as on 1st April, as discovered in the competitive bidding undertaken by

GUVNL/Distribution Licensees and SECI during previous six months (October to March) or available as on 1st October, as discovered in the competitive bidding undertaken by GUVNL/Distribution Licensees and SECI during previous six months (April to September), depending on commissioning date of Wind project capacity subject to adoption of discovered tariff by the Commission and such tariff shall remain fixed for the 25 year.

(b) Tariff for wind power projects falling below the threshold limit of eligibility shall be determined by the Commission under Section (62) of the Act as proposed in Chapter 4 of this discussion paper.

The Commission would firm up its decision regarding suitable option for Tariff determination for wind power projects falling below the threshold limit of eligibility after examining the comments/ suggestions received from the stakeholders.

3.2. General Principles

a. Control Period

As discussed above, the Commission proposes that the new control period of the tariff framework under this discussion paper shall be effective from 06.06.2022 upto 31.03.2027.

b. Useful life of Plant

The Commission proposes to continue to consider useful life of 25 years for the Wind Power Projects to be commissioned during the new control period.

c. Tariff period

The tariff period proposed by the Commission for procurement of energy generated from Wind Power Projects by the distribution licenses in the State will be 25 years.

d. Eligibility Criteria

The Wind Power Projects using new Wind Turbine Generators installed and commissioned during the new control period as proposed in this discussion paper will be eligible to sell power to distribution licensees of Gujarat at the tariff proposed by the Commission and shall be eligible for wheeling of energy for Captive Use/ Third party sale

under Open Access.

e. Forecasting and Scheduling of Wind Power

The Wind Projects connected with State Grid shall require to follow the provisions as prescribed under the GERC (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 notified on 19th January 2019 and its amendments issued from time to time.

In case of ISTS connected Wind Projects (including Inter-State RE projects located in Gujarat & directly connected to ISTS network and supplying power to consumer in Gujarat / outside of Gujarat) energy accounting for deviation shall be as per the CERC Regulations.

Provided further that if Wind Generating Project is situated in the State of Gujarat and connected with Inter-State grid through State grid and selling power outside/ inside the State, the energy accounting for deviation settlement shall be carried out wherein the deviation charges shall be either (A) Reference Rate or (B) Normal Rate of Charges for deviation, whichever is higher, as per the provision of GERC Green Energy Open Access Regulations, 2024.

Explanation: Reference Charge Rate and Normal Rate of Charges shall have the meaning as defined in CERC DSM Regulations from time to time.

Provided also that in case of Wind Power Projects set up for Captive Use/ Third Party Sale, the minimum number of time blocks, which shall not be more than 12 time-blocks, for which the consumer shall not change the quantum of power consumed through Green Energy Open Access so as to avoid variations in demand to be met by the distribution licensee.

f. Applicability of Merit Order Dispatch Principle

The Commission proposes to continue the practice of considering the wind power plants irrespective of plant capacity as 'MUST RUN' power plants and shall not be subjected to 'Merit Order Despatch' principles.

3.3. Transmission and Wheeling Charges

Wheeling of Power for Third Party Sale

a. In case of injection of the electricity at 66 KV level or above and drawl of electricity up to 66 KV level, the transmission of energy from the injection point to drawl place shall be allowed by paying transmission charges and losses determined by the Commission from time to time, as applicable to Green Energy Open Access Transaction as per GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 and amendments in it from time to time and Tariff Regulations of the Commission.

b. In case of injection of energy at 66 KV level and drawl of energy below 66 KV voltage level in such case, wheeling of Power for Third Party Sale from Wind Power Projects shall be allowed on payment of transmission charges & transmission losses on the energy fed into grid as measured at receiving Sub-Station of GETCO, wheeling charges and losses on energy feed basis, determined by the Commission from time to time as applicable to green energy open access transaction as per GERC Green Energy Open Access Regulations, 2024 and amendments in it from time to time read with Tariff Regulations of the Commission.

c. The Commission decides to promote the Third-party Sale /consumption of Wind Energy by allowing 25% concession in the Cross Subsidy Surcharge and Additional Surcharge wherein the RE generator and consumer does not claim RE attribute and allow distribution licensee to avail the same for RPO compliance.

   The aforesaid concession granted by the Commission with a view to promote RE generation by granting 25% concession on the Cross Subsidy Surcharge and Additional Surcharge payable, if any, to the consumers. Such consumers shall be benefited by way of lower surcharges while the distribution licensee are benefited by way of non-purchase of REC or Renewable Energy for RPO Compliance.

d. No concession in the Cross Subsidy Surcharge shall be allowed to the Wind Generator who are selling power under third party sale and utilizing RE attribute for RPO compliance of the consumer. They shall be liable to pay 100% Cross Subsidy Surcharge and Additional Surcharge, applicable if any, as determined by the Commission read

with the provision of GERC Green Energy OA Regulations.

The provisions related to Cross Subsidy Surcharge and Additional Surcharge shall be governed as per the MOP Rules and GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 as amended from time to time.

Wheeling of power for Captive Use

a. In case of injection of energy is at or above 66 KV voltage level and drawl of such energy up to 66 KV voltage level in such case, the transmission of energy from the injection point to drawl place shall be allowed by paying transmission charges and transmission losses determined by the Commission from time to time, as applicable to green energy open access transaction as per GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 and amendments in it from time to time .

b. In case of injection at 66 KV and drawl below 66 KV voltage level, wheeling of electricity generated from the Wind power Project to desired location(s) within the State shall be allowed on payment of transmission charges and transmission losses on the energy fed to the grid at the receiving end Sub-Station of GETCO, wheeling charges and losses on energy fed, determined by the Commission from time to time, as applicable to green energy open access transaction as per GERC (Terms and Conditions for Green Energy Open Access Regulations, 2024 and amendments in it from time to time.

Provided further that the person consuming energy generated from Wind project for captive consumption shall require to provide the details of ownership in the captive generating plant and generation as well as consumption of energy from captive generating plant to the distribution licensee in whose area of supply, the captive consumer is situated, on annual basis, in accordance with the provisions of GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 to ensure that the necessary conditions stipulated in Electricity Act, 2003 read with Electricity Rules, 2005 and amendment made in it, and provisions of GERC (Terms and Conditions for Green

Energy Open Access) Regulations, 2024 is fulfilled by such captive generating plant and consumption by captive users. Failure to fulfil the aforesaid conditions, such captive consumption shall loose the status of captive consumption and it shall be qualified as supply by third party by generator and the benefits granted to captive consumption shall be withdrawn for that Financial Year and it shall attract the applicability of the Cross-Subsidy Surcharge and Additional Surcharge, if any, as applicable to third party green energy open access transaction as per GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 and amendments in it from time to time along with delayed payment surcharge thereon.

On receiving of documents/evidence from the captive consumer by the distribution licensee, the distribution licensee shall verify the same in compliance of provisions of Act, Rules and Regulations for captive status of the generator and consumption of energy from such plant and refer the matter to the Commission in case non-compliance of captive status by the generator/captive consumer and also claim the recovery of charges payable by such consumer on account of not fulfilling of captive generating plant status by the generator or captive consumer.

The Commission shall verify the fact and take the final decision regarding continuation of the captive status of the plant and consumption of energy from such plant as captive consumption for the respective financial year**.**

The various provisions related to Captive Generating Plant (CGP) and consumption of energy from such plant as stipulated in the GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024 shall be applicable for Wind Power Project.

Wheeling of power to more than one locations

Wind Project Developers, who desire to wheel electricity to more than one location for captive use/third-party sale, shall be allowed on payment of 5 Paise per unit on energy fed into the grid as measured at receiving end Sub-Station of GETCO to the concerned DISCOM in whose area power is consumed, in addition to above mentioned transmission charges & losses and Wheeling charges & losses, as applicable, as per the provisions of GERC (Terms and Conditions for Green Energy Open Access) Regulations, 2024.

3.4. Metering Point & Interconnection Point

The Commission proposes following with regard to Metering arrangement:

- The Metering Point and Interconnection Point for the Wind Power Project shall be the point of connection at the GETCO substation where feasibility and connectivity is granted by GETCO. The Wind Project Developers shall provide energy metering and communication facility in accordance with the (a) CEA (Installation and Operation of meters) (Amendment) Regulations 2014 and its subsequent amendments, (b) Gujarat Electricity Grid Code 2013 and its subsequent amendments, (c) GERC (Terms and Conditions of Intra-State Open Access) Regulations, 2011 and its subsequent amendments and (d) GERC Distribution Code 2004 and its subsequent amendments and (e) GERC (Terms and Conditions for Green Open Access) Regulations, 2024 and its subsequent amendments.
- The Wind Power Projects shall have to provide four quadrant ABT compliant meters at the interface point which shall conform to the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2014, as amended from time to time. GETCO/DISCOM to stipulate necessary specifications in this regard. The ABT meter shall be AMR compatible.
- For the purpose of commercial settlement and energy accounting, the metering point shall be at the receiving end sub-stations of GETCO. The electricity generated from the Wind Power Project shall be metered and readings taken jointly by Wind Project developer with the representative of DISCOM and GETCO at the metering point, on monthly basis.
- The Wind Project Developers shall also install Remote Terminal Unit (RTU) at the Pooling station/ Individual WTG at their own cost for transferring the real time data to SLDC for its monitoring purpose, and in accordance with the GERC orders from time to time.
- State Load Dispatch Centre shall certify actual injected energy and energy drawn (if any) from local DISCOM on monthly basis.

- Energy metering and communication facility shall be provided by the developer of Wind Power Projects in accordance with the following Regulations/Codes/Orders and their subsequent amendments:

    i. Central Electricity Authority (Installation and Operation of meters) Regulations 2014 and its subsequent amendments.
    ii. Gujarat Electricity Grid Code 2013 and its subsequent amendments.
    iii. GERC (Terms and Conditions of Intra-State Open Access) Regulations, 2011 and its subsequent amendments.
    iv. GERC Distribution Code 2004 and its subsequent amendments.
    v. GERC (Terms and Conditions for Green Energy Open Access), Regulations 2024.

For the purpose of energy accounting, all WTGs shall have to provide ABT compliant (four quadrant) meters and if the power is to be wheeled to consumers' premises, then ABT cum Tariff compatible meter is to be installed at the consumers' premises also. While in case of consumer seeking open access below 1 MW, installation of Special Energy Meter capable of energy recording on 15 Minutes Time Block basis at consumption end shall be allowed. GEDA, GETCO and DISCOMs shall ensure the energy accounting of Active and Reactive energy of the Wind Power Project for each consumer/customer. Energy Accounting shall be done by SLDC.

Provided that in case of Wind Project connected with Inter-State Transmission System (ISTS) network through State Network, the provisions related to metering point and interconnection point shall be governed by the provisions of Intra-State Generator provided in this Order. While in case of the Wind projects directly connected to ISTS Network shall be governed by the provisions of CERC Regulations.

3.5. Pricing of Reactive Power

Reactive Power is required by the Wind Energy generators during initial start-up and station transformers also continuously require reactive power from the grid. Hence, in order to maintain grid stability, it is necessary to limit such reactive power consumption from the grid or injection into the grid by installation of suitable

compensation devices.

In order to restrain the wind power projects from consuming more reactive power from the grid and to encourage them to install suitable compensation devices to limit such reactive power consumption, the Commission in the previous Order had levied reactive power charges. The reactive energy charges are applicable and leviable as per the provisions of GERC Grid Code read with Tariff Orders passed by the Commission. When Wind Turbine Generators supports to the grid as per provisions of Grid Code, in that condition, no reactive energy charges are applicable.

The pricing of reactive power for all prospective wind power projects shall be same as decided by the Commission in the GETCO' Tariff Order read with the provisions of the GERC Grid Code from time to time.

3.6. Operation and Maintenance of dedicated lines

The Operation and Maintenance of dedicated evacuation line including the bays shall be carried out at the cost of Developer of Wind Projects as per applicable technical standards and best practices.

3.7. Banking Facility and Energy Accounting

The provisions related to Banking facility and charges, methodology for settlement of banked energy and treatment for un-utilised banked energy at the end of banking period etc., shall be governed by the MoP Green Energy Open Access Rules, 2022 and GERC Green Energy Open Access Regulations, 2024 and its subsequent amendments from time to time.

The banking facility shall be an optional facility provided to the consumers availing open access from Wind Power Project as provided under GERC Green Energy Open Access Regulations, 2024. In case consumer choose not to avail banking facility, the same shall be permitted on furnishing an undertaking as specified in the GERC Green Energy Open Access Regulations, 2024 in this regard.

Provided that in respect of Wind Power Project directly connected with ISTS network and supplying power to the consumer in the State either connected with ISTS network or Intra-State network of State, the provisions related to energy banking facility shall be governed as per the applicable CERC Regulations read with MoP Rules.

Provided further that the applicable charges i.e. Transmission Charges and Losses, Wheeling Charges and Losses, Cross Subsidy Surcharge, Additional Surcharge, if any, etc. shall be applicable to the consumer which are availing Open Access by utilization of State Grid as per the provisions of this order i.e. Transmission and /or Distribution network of the State with or without utilization of ISTS Network.

Provided also that Cross Subsidy Surcharge, Additional Surcharge, if any, etc. shall be applicable to the consumer which are availing Open Access from Wind Power Project utilizing ISTS Network only.

3.7.1. Energy Accounting

Energy Accounting related provision as provided below shall be applicable for captive use as well as third party open access transaction for Wind Projects:

Case 1: **The Wind Projects which are availing banking facility**:

The consumption of banked energy shall be permitted on billing cycle basis in a manner stipulated in the GERC Green Energy Open Access Regulations, 2024. The banking of energy shall be evaluated for energy accounting on 15/5 minute time block basis. The difference between the injected energy from Wind project worked out at the receiving end sub-station of GETCO and available at consumption point and consumer's consumption in same 15 /5-minute time block basis shall be considered as banked energy.

(i). The permitted quantum of banked energy for the consumer availing open access from Wind project shall be atleast 30% of total consumption of electricity from the distribution licensee by the consumer during the billing period as provided in the MoP Green Energy Open Access Rules, 2022 readwith GERC Green Energy Open Access Regulations, 2024.

(ii). For net import of power, DISCOM shall charge applicable tariff of respective category to the Consumer including fixed/ demand charge, energy charges, peak charge, other charges/ penalty etc. as applicable to other Consumers.

(iii). The unutilized surplus banked energy shall be considered as lapsed at the end of billing cycle and entitled to get REC as per the provisions of MoP Green Energy Open Access Rules, 2022.

(iv). No carry forward of surplus banked energy, if any, available at the end of billing cycle shall be permitted.

(v). The consumer/project developer shall require to pay banking charges as specified in the Green Energy Open Access Rules notified by the Ministry of Power, Government of India read with provisions of GERC (Green Energy Open Access) Regulations in force and as amended from time to time.

(vi). The consumer/project developers not desire to utilize the Green Energy attributes (RE) for fulfilment of its RPO, the distribution licensee shall have considered such energy as fulfilment of different types of RPO of distribution licensee, based on such energy consumed by consumer.

(vii). The consumer who utilizes RE (Green Energy) component for fulfilment of its RPO, in such case, consumption of RE (Green Energy) shall be qualified as fulfilment of consumer's RPO.

Case 2: For Wind Projects not availing banking facility:

The Energy accounting shall be based on a 15-minute time block-basis and no banking charge shall be applicable.

i. For net import of power, the DISCOM shall charge applicable tariff of respective category to the Consumer including fixed/ demand charge, energy charges, peak charge, time of use charges, other charges/ penalty, etc. as applicable to other Consumers as per tariff orders of the Commission.

ii. Surplus wind energy, after giving set-off on 15 Minute time block basis, shall be considered as lapsed energy and not entitled for REC.

iii. Once the option for not availing the banking facility is exercised, the same shall not be allowed to change before completion of three years from the date of exercise of such option.

Case 3: Project registered under REC Mechanism:

i. Wind Projects availing open access for captive use/third-party sale under REC mechanism shall be governed as per CERC REC Regulations.

ii. Such projects shall be allowed to transmit / wheel the energy on payment of applicable transmission charges & losses, wheeling charges & losses and other charges as applicable to Green Energy Open Access transaction as per GERC Green Energy Open Access Regulations, 2024.

iii. The provisions related to banking facility and charges, energy accounting mechanism, treatment for surplus energy etc. shall be governed as per the GERC Green Energy Open Access Regulations as amended from time to time.

Cross Subsidy Surcharge and Additional Surcharge, if any, and open access charges shall be applicable as applicable to green energy open access transaction as per GERC Green Energy Open Access Regulations as amended from time to time.

3.8. Security Deposit

The objective of specifying tariff framework for procurement of wind power is to promote development of renewable energy in the state. A procedure of giving permission for the proposed wind projects, based on the load flow studies has been followed by the GETCO. Thus, the proposed evacuation system from the pooling station of wind projects forms part of the overall GETCO System. While timely completion of power evacuation system for such wind projects is essential, timely execution of WEG project is also equally important. Non-completion of WEG projects leads to idling of transmission resources. The security deposit is furnished by the project developer in order to assure GETCO about the seriousness of the project. It is proposed that for the new control period.

The Wind Power Developer setting up project shall be required to provide Bank Guarantee @ 10 lakhs per MW to GETCO based on allotment of transmission capacity and in case the Developer fails to commission, the wind capacity within the time-period mentioned hereunder, GETCO shall encash the Bank Guarantee.

Table 24: Capacity and Commissioning Period for the Wind Projects

Sr. No.	Wind Capacity in MW	Period for commissioning the entire evacuation line along with bays and metering system
1.	1MW to 100 MW	12 months from the date of allotment of transmission capacity
2.	>100 MW to 200 MW	15 months from the date of allotment of transmission capacity
3.	>200 MW to 400 MW	18 months from the date of allotment of transmission capacity
4.	>400 MW to 1000 MW	24months from the date of allotment of transmission capacity

The Wind Project Developer shall ensure and prove that the Evacuation System consist of Transmission and /or Distribution System shall be ready prior to SCOD or aforesaid timeframe, whichever is earlier. Failure to it, the project developer is not eligible to get any waiver in Liquidated Damages payable by it, in terms of Agreement/ PPA.

The Wind Power Project Developer shall commission the project for at least 10% of the allotted capacity within one month of charging the evacuation line or as per timeframe stipulated table above, whichever is earlier, failing which, the Developer shall be liable to pay long-term transmission charges for 10% of the allotted capacity until such 10% of the allotted capacity is commissioned.

The balance 90% capacity shall require to be commissioned within one year of charging of evacuation line or as per timeframe stipulated above, whichever is earlier, failing which STU shall cancel the connectivity and Open Access granted, to the extent of capacity not commissioned and the RE developer shall have no claim on such capacity and pay relinquishment charges as determined by the Commission. Further, STU shall include

such cancelled capacity in the list of spare available capacity for RE integration to be published on their website for prospective consumers.

If the Wind Project Developer (as Generator / Consumer/ Licensee) fails to Commission the entire allocated evacuation system along with bays and metering System within stipulated time-period due to unforeseen reasons, they may approach to the Commission seeking for extension of time period.

In case of Wind Project set up under competitive bidding route, in that case the aforesaid provision shall be governed by the provisions of approved bid documents /PPA.

3.9. Exemptions from demand cut

The Commission proposed that:

Exemption from demand cut to the extent of 50% of installed capacity of wind power project in case of captive consumption and third-party sale within the State.

The above exemptions provided by the State Government shall be applicable for the prospective period.

3.10. Sharing of Clean Development Mechanism (CDM) Benefits

It is proposed that the sharing of CDM benefits or any other benefit such as carbon credit or any other benefits under Clean Development Mechanism or any other mechanism under any provision from any source providing such benefits to the Wind power project for which it shall qualify to receive such benefit on the energy generation from the wind based power generation project shall apply to the concerned authority to avail / receive the benefit for the project. The benefits which shall be receivable or received shall be shared with the procurer of power and / or licensee as under:

1) 100% of the gross proceeds on account of such CDM benefit or any other benefit under Clean Energy Mechanism from any source to be retained by the project Developer in the first year after the date of commercial operation of the generating station.

2) In the second year, the share of the Beneficiaries like power procurer/licensee shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, where after the proceeds shall be shared in equal proportion, by the Generating Company and the Beneficiaries like power procurer/licensee."

3) In case of PPA signed under competitive bidding process, the sharing of benefits received by the Wind Power Project shall be as per terms and conditions of bid documents read with the PPA.

4) In case of Wind Power Project set up under Open Access regime, the sharing of above benefits shall be in accordance with the Agreement between power producer and consumer.

3.11. Repowering of Wind Power Projects

The provisions related to repowering of Wind Power Project shall governed by the notification of MNRE, Govt of India and Gujarat RE Policy, 2023, as applicable from time to time.

3.12. Procedure for Integration of Wind Power project with the grid

The Commission proposes that prior to Commissioning and Integration of Wind Projects to the grid the Wind Generators / Developers should adhere to following procedures and amendments made in it from time to time in this regard.

The Wind Generator/Developer shall submit a certificate signed by the authorised signatory not below the rank of CMD or CEO or MD or Full Time Director, to the SLDC, GEDA and concerned Distribution Licensees before declaration of SCOD, that the said Generating Station including main plant equipment's such as Wind Turbines, Auxiliary Systems, as case may, has complied with all relevant provisions of CEA Technical Standards for Connectivity, CEA Technical Standards for Communications, CEA (Measures relating to Safety and Electricity Supply) Regulations, 2010 and Gujarat Grid Code and also mention RLMM Certificate No. issued by the Competent Authority. In absence of such Certificate, no commissioning certificate shall be granted.

i. Document Submission to SLDCs

The following documents shall be submitted to SLDC before the proposed date of commencement of first time charging activities:

- Covering letter.
- Name of Pooling Station, Installed Capacity of the Project, connected GETCO/Transmission Utility Substation.
- Proposed date of synchronization of Pooling Station with Intra-State grid.
- Details of Contact Person, Name, Designation, Mobile No, Email for day to day as well as commercial communication purpose.
- Details of first time grid connection charge paid to SLDC.
- DISCOM name for allocation of power / type of contact in detail.
- Copy of application for GEDA registration for Installation of Renewable Generator / Pooling Station along with specific details under which Policy/ Order of the Commission, Project is installed.
- Approval obtained from various statutory agencies i.e. STU/GEDA/DISCOM for installation and feasibility of renewable generator pooling station, as applicable.
- Parallel connectivity approval from STU/DISCOM, as applicable.
- Approved metering scheme, ABT meter details, Commissioning report/MOM, as applicable.
- GETCO connectivity agreement/DISCOM connectivity agreement or BPTA, as applicable.
- PPA/Wheeling Agreement/Agreement for Third Party Sale /, if any.
- Registration Certificate of the Generating Unit or Station in the registry maintained by CEA on e-portal https://egen.cea.gov.in as per CEA standard applicability.
- Copy of Letter conveying Seven Digit ABT Meter Sr. No. for evacuation facility along with Duly notarized undertaking, as applicable.

- RTU commissioning report/MOM- for communication of real time data up to sub SLDC/SLDC & RTU payment receipt/REMC MOM, as applicable.
- Registration of renewable generators with SLDC through self/lead generator/QCA, as per approved procedure of Notification No. 1 of 2019 Dated. 19.01.2019
- Application for registration with details of registration charges/Consent from renewable generators (in case of QCA) /Undertaking from QCA (in case of QCA)/ Authorization to lead generator (in case of group generator)
- Details of Payment Security Mechanism as applicable
- Static Data of renewable generator
- Other supporting documents, as per requirement
- Consent/Concurrence letter for "Generator Name" being lead generator by all Generators, if applicable in case.
- QCA appointment letter, as applicable.
- On commission by GEDA, Details of plant with commissioning date, installed capacity (AC/DC both), DISCOM name for allocation of power in tabular format with covering letter to be submitted.
- C.O.D. letter of GEDA.

a) Connectivity Details: Connection Agreement and connectivity grant letter by STU,

b) Copy of Coordination Agreement with the Qualified coordinating Agency(QCA)/Lead/Principal Generator, if any

a) Copy of agreement(s) between WPPD and WPD, if any

i. Technical Details- Below mentioned technical details to be submitted

ii. Static Details: Static parameters for Wind Generating station has to be provided as per the details provided below:

Table 25 : Static Data for Wind Generating Station

Sr. No	Particulars
1	Type
2	Manufacturer
3	Make
4	Model
5	Capacity
6	Commissioning date
7	Hub Height
8	Total Height
9	RPM Range
10	Rated Wind Speed
11	Performance Parameter
12	Rated Electrical power at rated wind speed
13	Cut in wind speed
14	Cut out wind speed
15	Survival speed (Max wind speed)
16	Ambient temp for out of operation
17	Ambient temp for in operation
18	Low Voltage ride through (LVRT)
19	High Voltage ride through (LVRT)
20	Lightning strength (KA & Coulombs)
21	Noise Power level (db)
22	Rotor
23	Hub type
24	Rotor Diameter
25	Number of blades
26	Area swept by blades
27	Rated Rotational speed
28	Rotational Direction
29	Coning Angle

30	Tilting Angle
31	Design Tip speed ratio
32	Blade
33	Length
34	Diameter
35	Material
36	Twist Angle
37	Generator
38	Generator type
39	Generator number of poles
40	Generator speed
41	Winding type
42	Rated Generation Voltage
43	Rated Gen frequency
44	Gen Current
45	Rated temp of generator
46	Generator cooling
47	Generator Power Factor
48	KW/MW @rated wind speed
49	KW/MW @ peak continuous
50	Frequency controller
51	Transformer
52	Transformer capacity
53	Transformer cooling type
54	Voltage
55	Winding configuration
56	Weight
57	Rotor Weight
58	Tower Weight
59	Nacelle Weight

60	Over speed protection
61	Design life
62	Design standard
63	Latitude
64	Longitude
65	CoD details
66	Distance above mean sea level

3.13. Commissioning the Wind Power Project:

After following the procedure of integration of Wind Power Project with grid, the commissioning of Wind Project be followed. Commissioning with respect to the Wind Project shall be certified by the GEDA in presence of GETCO and / or Distribution Licensee representative. The GEDA should ensure that all equipment as per MNRE approved list of WTG manufacturers of rated capacity, ALMM Certificate issued for WTG by concerned Authority, if applicable, and as per Indian Standards on Renewable Energy notified by BIS has been installed and energy has flown into the grid and recorded in the energy meters installed at project site and witnessing of such generation of electricity by representative authorised by DISCOM and /or GETCO. The GEDA shall co-ordinate with DISCOMs and/or GETCO for fixing date of commissioning of plant. The representatives of GEDA, GETCO and / or Distribution Licensees shall sign on the commissioning of project by recording necessary details. Non-signing of documents of commissioning of Wind Projects by any of the representative of above entity, shall not qualify as valid 'commissioning' of the project. The commissioning certificate consists of the details of the Wind Turbine, ALMM Certificate, if applicable etc. Further, it shall also ensure that generation data from the Wind Project is also transferred in the real time basis through RTU to SLDC.

4. TARIFF FOR WIND POWER PROJECTS BELOW THE THRESHOLD LIMIT OF ELIGIBILITY

4.1 Benchmarking of Capital Cost and Other Performance Parameters

4.2.1 Benchmark capital cost for wind power projects in Gujarat (projects <25 MW):

As per the prevalent market conditions, the benchmark capital cost of the Wind Power Projects (<25 MW) is proposed as Rs. 640 Lakh /MW for determination of tariff for the for Wind Power Projects below the threshold limit of eligibility in the new control period. The above cost is including evacuation cost up to the GETCO sub-station.

4.2.2 Operations and maintenance cost:

Operations and Maintenance (O&M) cost consists of the statutory charges, spares, employee cost, administrative and general expense, consumables, repairs and maintenance, and insurance expenses, etc.

It is proposed to consider the O&M expenses associated with wind power projects as Rs. 7.50 Lakh/MW for first year of operation with an annual escalation of 3.84% per annum for tariff determination purpose.

4.2.3 Capacity Utilization factor (CUF):

Based on the experience of the operational wind power projects in Gujarat and in order to promote new technology and efficient Wind Turbine Generator, it is proposed to be consider the normative Capacity Utilization Factor (CUF) of 35% for wind power projects to be commissioned in next control period in the state of Gujarat for tariff determination purpose.

4.2 Financial Parameters

4.2.1. ***Debt-equity ratio:*** Tariff Policy formulated by the Ministry of Power, Govt. of India, stipulates debt-equity ratio of 70:30 for power projects. GERC Multi Year Tariff

(MYT) Regulations, 2016 notified by the Commission also provide that the debt-equity ratio should be kept as 70:30. Hence, it is proposed to consider the debt-equity ratio as 70:30 for the new control period.

4.2.2. ***Interest on term loan and Loan tenure*:**

The Commission has noted that the project financing interest rates are typically indicated by SBI MCLR. A reasonably sound project could avail funding at 200 basis points above the MCLR announced by State Bank of India (SBI). It is proposed to consider the interest rate on term loan as SBI MCLR rate (8.15%) plus 200 basis points which works out to 10.15 % for computation of interest on term loan and loan repayment period as 15 years for tariff determination purpose.

4.2.3. ***Depreciation:*** GERC Multi Year Tariff (MYT) Regulations, 2016 notified by the Commission provide that depreciation rate should be calculated based on Straight Line Method. The MYT Regulations further provide that asset is to be depreciated up to 90% of its initial value (considering residual value as 10% of its initial value) over the entire asset life. To facilitate the principal loan repayment, the Commission decides to consider the depreciation rate as 4.67% per annum during the loan repayment period i.e. first 15 years; and beyond the loan tenure, the depreciation is allowed as per 'Straight Line Method' over the remaining useful life of the plant i.e. depreciation at rate of 2% per annum from 16th to 25th year. In view of this it is proposed to consider depreciation at the rate of 4.67% per annum for the first 15 years, and 2% from 16th year to 25th year for tariff determination purpose during the control period.

4.2.4. ***Working capital and Interest on working capital:*** The Commission in its tariff orders for renewable energy projects (without fuel cost component) had considered the components of working capital as follows:

- O&M expenses for one month.
- Receivables of one month charges for sale of electricity.
- Maintenance spares at 1% of the capital cost escalated at 5% per annum.

It is proposed to continue the same approach for determination of the working capital requirement for wind power projects during the control period.

Interest on working capital**:** GERC MYT Regulations 2016, states that the interest on working capital is to be calculated at 250 basis points above the base rate / MCLR. In view of the above, it is proposed to consider the interest on working capital equal to the SBI MCLR plus 250 basis points, which works out as 10.65 %.

4.2.5. ***Return on Equity:*** In line with GERC Multi Year Tariff Regulations, 2016, the Commission follows the principle of allowing 14% RoE plus the applicable tax payment for conventional and renewable power projects. It is propose to consider the RoE of 14% and the tax payment of MAT @ 17.47 % per annum for first 10 years and corporate tax @ 34.94% (IT Rate 30% + 12% Surcharge + 4% Cess) per annum for the next 15 years as a cost for the purpose of computing the tariff for the new control period starting from date of this order.

4.2.6. ***Discount rate:*** The discount rate has been considered by CERC and other SERCs as weighted average cost of capital (WACC). The formula for computation of WACC is given below.

WACC = Cost of Debt + Cost of Equity

Cost of Debt =0.70 x (Market Rate of Interest) x (1- Corporate tax)

Cost of Equity = 0.30 x Return on Equity (i.e., normative 14%)

Interest Rate considered for the loan component (i.e., 70% of the capital cost) is 10.15 %. For the equity component (i.e., 30% of the capital cost), the rate of Return on Equity (ROE) is considered at a post-tax rate of 14%, as a normative factor. Further, Corporate Tax rate of 34.94% has been considered.

In view of above, the Commission proposes to consider the discount factor as 9.32% for levelized tariff calculation in this order.

4.2.7. *Accelerated depreciation*: Following principles have been considered for ascertaining the Income Tax benefit on account of accelerated or additional depreciation for the purpose of tariff determination:

i. The assessment of benefit shall be based on normative Capital Cost, accelerated/ additional depreciation rate as per the relevant provisions of the Income Tax Act and the Corporate Income Tax rate;

ii. Capitalisation of wind power projects for the full financial year;

iii. Per-unit benefit shall be derived on levelized basis at a discounting factor equivalent to the post-tax weighted average cost of capital.

Presently, RE project owners can avail accelerated depreciation at the rate of 40% in the first year on a written-down value (WDV) basis. In addition to this 40% depreciation, the amendment in the Finance Act has allowed an additional depreciation of 20% to the power projects during first year of project commissioning. With this, wind power projects can avail 60% depreciation in the first year of commissioning. The Commission has considered above depreciation rate while calculating per unit AD benefit.

4.3 Computation of Tariff for Wind Power Projects below threshold limit

The benchmark parameters proposed for tariff determination during the control period starting from the date of order are tabulated below.

Table 26: Proposed benchmark parameters for Wind power projects below threshold limit (< 25 MW) to be commissioned in next control period

Parameters	Value	Unit
Financial Parameters		
Capital Cost of Wind Power Project	640.00	Rs. Lacs
Non - Depreciable Amount / Salvage value	10.00%	% of Capital Cost
Depreciable Amount (Cap Cost Less non-depreciable Cost)	576.00	Rs. Lacs
Debt Fraction	70.00%	%
Debt	448.00	Rs. Lacs

Parameters	Value	Unit
Equity	192.00	Rs. Lacs
TOTAL (Debt+Equity)	640.00	Rs. Lacs
Interest Rate on Term Loan	10.15%	%
Repayment Period	15	years
Moratorium Period	0	years
Term loan period for principal payment	15	years
Depreciation for First 15 years (Straight Line Method)	4.67%	% p.a.
Depreciation for 16-25 years (Straight Line Method)	2.00%	% p.a.
Discount Rate	9.32%	%
O&M cost	07.50	Rs Lacs / MW
O&M Cost Escalation	3.84%	% p.a.
Return on Equity (1-10 years)	14.00%	%
Return on Equity (11-25 years)	14.00%	%
Minimum Alternative Tax (First 10 years)	17.47%	%
Corporate Tax (Last 15 years)	34.94%	%
Interest on working capital	10.65%	%
Technical Parameters		
Capacity of the Wind Project	1	MW
Capacity Utilization Factor	35.00%	%
Annual Generation	30.66	Lakh kWhs
Life of Plant and Machinery / Project Life	25	years

Tariff	Value	Unit
Levelised tariff	**3.07**	**Rs/kWh**
AD benefit	**0.31**	**Rs/kWh**
Net tariff	**2.76**	**Rs/kWh**

Considering the above, the levelised tariff worked out to Rs. 3.07 per unit. The AD benefit works out to Rs. 0.31 per unit and net tariff works out to Rs. 2.76 per unit.

The Wind Power Project developers may be eligible for getting Financial Assistance / Financial Incentive / Subsidy/ other benefits from the Central Government, if any. Such benefits as may be availed by the project developers needs to be factored in the above tariff determined by the Commission. In case project developer avails Financial Assistance / Financial Incentive / Subsidy/ other benefits from the Central Government / State Government, if any, the Commission shall re-determine the tariff for respective project developers by factoring the benefits availed by project developers.

The wind project below 25 MW commissioned during the control period of this Order are eligible to receive the tariff as proposed in this discussion paper.

The GERC present this discussion paper to initiate the regulatory process for fixing the Wind Power Procurement tariff for new control period starting from 06.06.2022, on this discussion paper after considering comments received from stockholders. GERC invites comments from the potential stakeholders for fixation of wind power tariff for the new control period.

Stakeholders may offer their comments on or before **04.04.2024**. The Public hearing in this regard will be held on **05.04.2024** at **11:30 AM** at GERC's Office at 6th Floor, GIFT CITY Gandhinagar. Stakeholder either in person or through their authorized representative may remain present.

Sd/-
[Ranjeeth Kumar J., IAS]
Secretary
Gujarat Electricity Regulatory Commission
Gandhinagar, Gujarat

Place: Gandhinagar
Date: 02/03/2024