



नईदिल्ली
NEW DELHI

याचिका संख्या. / Petition No.: 05/SM/2020

कोरम/Coram:

श्री पी. के. पुजारी, अध्यक्ष/ Shri P. K. Pujari, Chairperson
श्री आई. एस. झा, सदस्य/ Shri. I.S. Jha, Member
श्री अरुण गोयल, सदस्य/ Shri. Arun Goyal, Member

आदेश दिनांक/ Date of Order: 17th June, 2020

IN THE MATTER OF:

Determination of Forbearance and Floor Price for the REC framework

ORDER

A. BACKGROUND

1. In exercise of the powers conferred under sections 66 and 178 of the Electricity Act, 2003 (hereinafter referred to as the "Act"), the Commission has notified the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 (hereinafter referred to as the "REC Regulations").

2. As per the first proviso to clause (1) of Regulation 9 of the REC Regulations, the Commission may, in consultation with the Central Agency (Power System Operation Corporation Limited) and Forum of Regulators from time to time provide for floor price



and forbearance price separately for Solar and Non-solar Renewable Energy Certificates (RECs).

3. Further, Clause (2) of Regulation 9 of the REC Regulations provides for the guiding principles for determining the forbearance price and floor price for RECs. The relevant provision of the REC Regulations is extracted as under:

"9. Pricing of Certificate:

(1) The price of Certificate shall be as discovered in the Power Exchange:

Provided that the Commission may, in consultation with the Central Agency and Forum of Regulators from time to time provide for the floor price and forbearance price separately for solar and non-solar Certificates.

(2) The Commission while determining the floor price and forbearance price shall be guided inter- alia by the following principles:

(a) Variation in cost of generation of different renewable energy technologies falling under solar and non-solar category, across States in the country;

(b) Variation in the Pooled Cost of Purchase across States in the country;

(c) Expected electricity generation from renewable energy sources including:-

(i) expected renewable energy capacity under preferential tariff

(ii) expected renewable energy capacity under mechanism of certificates;

(d) Renewable Purchase obligation targets set by State Commissions"

4. In pursuance of the powers vested under proviso to the clause (1) of Regulation 9 of the REC Regulations, the Commission issued an Order dated 1st June, 2010 for '*Determination of Forbearance and Floor Price for the REC framework*' (Suo Motu Petition No. 99/2010) and prescribed forbearance price and floor price for RECs as under:



	Non-Solar REC (Rs./ MWh)	Solar REC (Rs./ MWh)
Forbearance Price	3,900	17,000
Floor Price	1,500	12,000

5. Above determined forbearance price and floor price were valid for the period up to 31.03.2012.

6. Thereafter, the Commission vide Order dated 23.08.2011 in suo-motu Petition No. 142/2011 determined the following forbearance price and floor price for the period from 01.04.2012 to 31.03.2017:

	Non-Solar REC (Rs./ MWh)	Solar REC (Rs./ MWh)
Forbearance Price	3,300	13,400
Floor Price	1,500	9,300

7. Subsequently, based on review of solar PV tariff, the Commission vide Order dated 30.12.2014 in suo-motu Petition No. SM/016/2014 re-determined the following forbearance price and floor price for Solar REC for the period from date of order and up to 31.03.2017. The forbearance price and floor price for Non-solar REC were left unchanged in that Order.

	Solar REC (Rs./ MWh)
Forbearance Price	5,800
Floor Price	3,500

8. After end of the control period 2012-17 of the Central Electricity Regulatory Commission (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012, the Commission vide Order in suo-motu Petition No.

02/SM/2017 dated 30.03.2017 (hereinafter referred as the 2017 REC Price Order) determined the following forbearance price and floor price for Solar and Non-solar RECs applicable from 01.04.2017 onwards:

	Solar REC (Rs./ MWh)	Non-Solar REC (Rs./MWh)
Forbearance Price	2,400	3,000
Floor Price	1,000	1,000

B. LEGAL PROCEEDINGS IN THE 2017 REC PRICE ORDER

9. Indian Wind Power Association-NRC (IWPA-NRC) and Green Energy Association (GEA) filed Appeal No. 105 of 2017 and Appeal No. 95 of 2017 respectively before the Appellate Tribunal for Electricity (APTEL) challenging the 2017 REC Price Order. However, vide Order dated 25th April 2017, APTEL declined to stay the said 2017 REC Price Order. Relevant extracts of the Order of APTEL are quoted as under:

“ ...

*Having heard learned counsel for the parties, prima facie, we are of the opinion that the prayers for the stay of the impugned order or suspension of sale of all RECs till the disposal of the present appeal, cannot be granted. Prima facie, we appreciate the contention of Mr. Nayyar that the Appellants have no vested rights de-hors the statutory regulations. The **Central Commission's order prima facie appears to be in line with the statutory regulations. Any order of stay or suspension of sale of all RECs would not be proper because it will not be in the general interest of the industry.** Applications are disposed of. Needless to say that this order will abide by the final order that will be passed in these appeals.” (emphasis added)*

10. IWPA-NRC and GEA filed Civil Appeal No. 6083 of 2017 and Civil Appeal No. 6334 of 2017 respectively before the Hon'ble Supreme Court challenging the aforesaid order of APTEL. By an Order dated 8th May 2017, the Hon'ble Supreme Court stayed the 2017 REC Price Order. Relevant extracts of the Order are quoted as under:

“Heard the learned Senior counsel appearing for the appellants in both the Civil Appeals and the learned counsel appearing for the Commission.



*Let notice be issued in the matters, returnable after eight weeks.
In the meantime, there shall be stay of the order of the Central Electricity Regulatory Commission."*

In compliance with the order of the Hon'ble Supreme Court, the Commission vide letter dated 24th May, 2017, issued directions to Central Agency and Power Exchanges to suspend trading of Solar and Non-solar RECs until the stay was vacated by the Hon'ble Supreme Court.

11. Later, an I.A. No. 42496/2017 was filed by M/s Global Energy Pvt. Ltd. in Civil Appeal No. 6083 of 2017 (which was filed by IWPA-NRC before the Hon'ble Supreme Court). The Hon'ble Supreme Court disposed off the I.A. No. 42496/2017 and Civil Appeal No. 6083 of 2017 by Order dated 14th July 2017. Relevant extracts of the Order are quoted as under:

"5) That being the case, we now substitute our order dated 08.05.2017 by granting prayer (c) instead of staying the Appellate Tribunal's order."

Wherein prayer (c) made by the appellants was:

"(c) In the alternative, direct the Respondents to ensure that any obligated entity purchasing RECs at the floor price determined vide the order dated 30.03.2017 shall deposit the difference between the earlier floor price and the present Floor Price with the Respondent No.1, Central Commission during the pendency of the Appeal No. 105 of 2017 before the Appellate Tribunal;"

12. In compliance with the aforesaid directions of the Hon'ble Supreme Court, the Commission vide letter dated 20th July 2017 directed the Central Agency and Power Exchanges as under:

"Obligated Entities/Power Exchanges any obligated entity purchasing RECs at the floor price determined vide the said the Commission's Order dated 30.3.2017 shall deposit the difference between floor price prevalent earlier (i.e. Rs 1500/Mwh) and floor price determined vide Order dated 30.03.2017 (i.e. Rs 1000/Mwh) with the Commission.

...



Deposit of the differential amount shall be subject to the outcome of the Appeal No. 105 of 2017 by the Appellate Tribunal for Electricity and further orders of the Commission in this regard.

Trading in Solar RECs shall remain suspended until further orders, since stay order dated 08.05.2017 in Civil Appeal No. 6334 of 2017 filed by Green Energy Association in case of Solar REC is still in operation."

13. Further, an I.A. No. 82970/2017 was filed by the Commission in Civil Appeal 6334 of 2017. The Hon'ble Supreme Court disposed off the I.A. and Civil Appeal No. 6334 of 2017 by Order dated 20th September 2017. Relevant extracts of the Order are quoted as under:

"The limited prayer sought in the present I.A. No. 82970 of 2017 is that our Order dated 08.05.2017 be clarified only to a limited extent, namely that the respondent be allowed to extend RECs until 31.03.2018. Accordingly, we modify our order to this limited extent.

The civil appeal also stands disposed of. This order to continue until the Appellate Tribunal finally decides the appeal."

14. Later, by Order dated 12th April 2018, APTEL dismissed the Appeal No. 95 of 2017, Appeal No. 105 of 2017 and Appeal No. 173 of 2017 *inter alia* observing that the 2017 REC Price Order does not suffer any legal infirmity and ambiguity. The relevant extract of the Order is quoted as under:

"...

Keeping all the facts associated with the case in view, we are of the firm opinion that the impugned order passed by the Central Commission does not suffer from any legal infirmity or ambiguity.

In view of the above, we are of the considered opinion that issues raised in the present Appeals bearing Nos. 95 of 2017, 105 of 2017 & 173 of 2017 are devoid of merit. Hence, these appeals are dismissed."

15. Consequent upon dismissal of the Appeals by APTEL, the Commission issued directions vide letter dated 23rd April 2018 to the Central Agency and the Power Exchanges as under:



"In view of the Hon'ble APTEL 's Order dated 12.04.2018 in above mentioned Appeal is read with the Hon'ble Supreme Court Orders dated 20.9.2017 in I.A. No. 82970 of 2017 in Civil Appeal No. 6334 of 2017 and Order dated 14.7.2017 in Civil Appeal No. 6083 of 2017 with I.A. Nos. 42490 and 42496 of 2017, the Commission has decided as under:-

- (a) Trading of RECs (Solar and Non-Solar) shall be carried out henceforth in accordance with the Commission's Order dated 30.03.2017 in Petition No. 2/SM/2017.*
- (b) Deposit of the differential amount of Rs .500/- per REC with the Commission shall be discontinued."*

16. Again, IWPA-NRC filed Civil Appeal No. 4801 of 2018 before the Hon'ble Supreme Court. By Order dated 14th May 2018, the Hon'ble Supreme Court admitted the Civil Appeal and directed as under:

"Appeal admitted.

Interim orders dated 08.05.2017 and 14.07.2017 to continue

However, we clarify that this interim order will not apply to RECs issued on or after 01.04.2017."

17. Pursuant to the above Order of the Hon'ble Supreme Court, the Commission, vide letter dated 28th May 2018 issued the following directions:

" ...

- Trading in Non-Solar REC issued prior to 1.4.2017 shall be carried out at the floor price of Rs.1500/MWh. The obligated entities/ Power Exchanges shall deposit Rs.500/-i.e. the difference between the floor price prevailing earlier, i.e. Rs.1500/MWh and the floor price as determined vide order dated 30.3.2017 in Petition No. 2/SM/2017 (i.e. Rs.1000/MWh) with the Commission in the Account number notified vide letter dated 23rd August, 2017. The issue related to GST on Rs.500/- deposited with CERC shall continue to be governed in line with letter No. L-1/230/2017/CERC dated 26.2.2018 of CERC.*
- Arrangement as mentioned in (b) above shall be subject to the outcome of the Civil Appeal No. 4801/2018 in the Supreme Court.*
- Non-Solar RECs issued on or after 1.4.2017 shall continue to be traded in accordance with the floor price (i.e. Rs.1000/MWh) determined in the order dated 30.3.2017 in 2/SM/2017."*

18. RECs are being traded accordingly since May 2018.



C. FORBEARANCE PRICE AND FLOOR PRICE OF SOLAR AND NON-SOLAR RECs

19. During the period between April 2017 and March 2020, the renewable energy landscape in the country has undergone a massive change. The tariff of solar and wind renewable energy projects has declined substantially during this period. Further, demand and supply of renewable energy has also undergone changes. In addition to solar projects, wind energy projects are also being awarded on the basis of competitive bidding conducted at National and State level. In view of the prevalent market conditions, floor price and forbearance price necessitated a review in order to balance the interests of eligible REC entities who are issued RECs and obligated entities who are required to purchase RECs for meeting RPOs.

20. Accordingly, in pursuance to the guiding principles for determining the forbearance price and floor price for Solar and Non-solar RECs enshrined in Clause (2) of Regulation 9 of the REC Regulations, forbearance price and floor price of RECs have been reviewed.

21. The Commission proposed the following forbearance price and floor price for RECs vide Order dated 31.03.2020 in this Petition:

	Solar REC (Rs./ MWh)	Non-Solar REC (Rs./ MWh)
Forbearance Price	1,000	1,000
Floor Price	0	0

22. On the above proposal, comments/ suggestions of the stakeholders were invited by 20.04.2020.

23. Stakeholders such as **Trbex Impex Pvt Ltd, Gujarat Ambuja Export, Vippy Industries, Seattle Powers Solution Pvt Ltd, LEE VEDLA- Tuhina Enterprises, Harsh Renewable Energy, Adhya Renewable Energy, Hindustan Platinum Pvt Ltd, Bonaterra Greenhouse LLP, Flow Devices System, Kreate Energy, Fortum India Pvt. Ltd., Tuhina Enterprises, Ujaas Energy Limited, Vikram Urethane Pvt. Ltd., IPF Vikram India Limited, Gupta sons, Star Delta Transformers Ltd, Sapphire Pro Ventures Pvt Ltd, SRS Engineers, Sharma Industries, MB Power Ltd, DharampalPremchand Ltd, Systematics Enterprises Pvt Ltd** sought extension for submission of their comments due to nationwide lockdown due to Covid-19 pandemic.

24. At the request of the stakeholders, Commission extended the date of submission of comments initially till 30.04.2020 vide Public Notice dated 14.04.2020. Later, at the request of stakeholders to extend time due to continuing lockdown situation, the Commission again extended the timeline for submission of comments till 08.05.2020 vide Public notice dated 30.04.2020. 235 stakeholders submitted their comments/ suggestions. The list of these stakeholders is attached as Annexure-A.:

D. CONSIDERATION OF VIEWS OF THE STAKEHOLDERS AND ANALYSIS AND FINDINGS OF THE COMMISSION ON IMPORTANT ISSUES

25. **Comments received supporting reduction in the floor price and forbearance price:**



Stakeholders Comments:

- Stakeholders such as **Maharashtra Electricity Regulatory Commission, Tamil Nadu Electricity Regulatory Commission, Ministry of New & Renewable Energy (Government of India), ASSOCHAM, DNH Power Distribution, BSES Rajdhani Power Ltd, Confederation of Captive Power Plants Odisha, Dalmia Cement (Bharat) Ltd., Nava Bharat Ventures Ltd, Ambuja Cements, ACC Cement, Grasim Industries Limited, ONGC Hazira Plant, Southern Gujarat Chamber of Commerce & Industry, Alkali Manufacturers Association of India** have supported the revision in forbearance price and floor price of RECs.
- **Cement Manufacturers Association, Welspun Group, RSPL Ltd, Chemplast Sanmar Ltd, GHCL Ltd., Tata Chemicals Ltd., Atul Ltd., Ultratech Cement, Grasim Industries-Birla Cellulosic, Tamilnadu Petro products Limited, AIA Engineering Ltd, Shell Energy India, Gujarat Chamber of Commerce & Industry and Alkali Manufacturers Association of India, DCM Shriram Limited, Arcelor Mittal Nippon Steel India Ltd, Finolex Industries Ltd, Meghmani Finechem Ltd, Hazira Area Industries Association, Vedanta Ltd., Shree Cement Ltd., Saurashtra Chamber of Commerce & Industry and Sanghi Industries Ltd.** have requested to further reduce the REC forbearance price to Rs 500 for both solar and non-solar categories.

26. **Comments received requesting reconsideration of reduction in floor price and forbearance price:**

Stakeholders Comments:

- Stakeholders such as **OIL India Ltd, NHPC, APP, FICCI, Basant Wind farms Pvt. Ltd., KarurSree Rama Trading Private Limited, Amirthaa Green Infra Private Limited, InWEA, Dhariwal Industries Pvt Ltd, Shri Tradco India Pvt Ltd, Bonafide Himachalies Hydro Power Developer Association, Sai Engineering Foundation, IWTMA, Prodigy Hydro Power Private Limited, BC Umpathy, Bharat Power Inc., Statkraft, Enel Green Power India Pvt. Ltd., Fasttrack Packers Pvt Ltd, ITC Limited, JVS Export, Sargam Retails Pvt Ltd, IPPAI, Manikaran Power Ltd.,**



Agrawal Minerals (Goa) Pvt Ltd, Gangadhar Narsingdas Aggarwal Gurudnyanankit Energy Pvt. Ltd, Parekh Medisales Pvt. Ltd, Enrich Energy Ltd, Manikanchan Solar Park, Vikram Tea Processors Pvt Ltd, H & L Energy Solutions, Triveni Sangam Holdings & Trading Co, Saidpur Jute Co. Ltd, Daksh Infrastructure Pvt Ltd, Chaphalkar Brothers, ICC Realty (India) Pvt Ltd, Navlakha Translines, TS Wind Developers, S70 (Satara_Windmill) - Advik Renewable Energy Pvt. Ltd., CK10 (Nandurbar_Windmill) - Advik Renewable Energy Pvt. Ltd., J112 (Dhule_Windmill) - Advik Renewable Energy Pvt. Ltd., PVSP16 (Solapur_Solar) – Advik HI-Tech Pvt. Ltd., JM Industries, Siporex India Pvt Ltd, Medilink Services, Olam Sugar, Hemant Group, Ferromar Shipping Pvt. Ltd, Bora Agro Foods, Enrich Energy Pvt Ltd, Pooja Renewable Energy Ltd., Govindram Shobharam & Co., Saraswati Industries, H & L Energy Solutions, Navalakha Translines, TS Wind Power Developers, Persistent System Ltd, Shri Tradco India Pvt Ltd, BC Umpathy, Malpani Tea Corporation, Jathar Textiles Pvt.Ltd., Bajaj Finserv Ltd., Balkrishna Sizing Industries, M/S Bhanudas G. Raibage, Sri Amareshwara Industries, Sri Laxmi Industries, S.K Shivaraj Engineers & Infra Ventures, SK Veerabhadrappe & Co and Shivashri Techno Homes Pvt Ltd, Pragati Agencies, GMR Generation Assets, MESCOM, Power Company of Karnataka Ltd, Inox Wind, Gujarat Fluorochemicals Ltd, Hero Future Energies, Ashok Iron Works (P) Ltd, Bora Agro Foods, Rana Sugars, SISMA TN, Shri Someswara Prasad KM have requested to retain the existing forbearance price and floor price of RECs. Few of these stakeholders such as **Winsol Engineers and JJ PV Solar Pvt Ltd** have also sought that forbearance price and floor price as was applicable even before the 2017 REC Price Order, should be adopted.

- **NTPC** has requested to retain the prevailing forbearance price of Rs.2400/MWh and Rs.3000/MWh for Solar and Non-Solar RECs stating that the same is comparable to solar/ non-solar (wind) tariff respectively. The RE (solar/ wind) tariff is presently being discovered in the range of Rs.2.65/ kWh – Rs.3.00/kWh. With the availability of cheaper REC at forbearance price of Rs.1/kWh, non-RE rich States/ other open

access obligated entities would prefer to go for buying RECs instead of entering into PPAs with SPDs for supply of renewable power to fulfil their RPO obligations. This would hamper the RE capacity addition in the country which may not be the intent of the order for forbearance price/ floor price revision.

- **NHPC** has requested to retain the prices of RECs at the existing level [i.e. floor price of Rs 1000/MWh and forbearance price of Rs 3000 per MWh (Non-Solar)/ Rs 2400 per MWh (Solar)] in case of RE Projects set up under REC Mechanism prior to 31.03.2020 to avoid financial losses and to secure the interest of RE Generators.
- **Statkraft India Pvt Ltd** has requested to retain the present floor price and forbearance prices for the Solar and Non-Solar RECs.

27. **Comments received requesting removal/ reduction of forbearance price:**

Stakeholders Comments

- **POSOCO** has submitted that removal of floor price (making it zero) is a welcome move though reducing the forbearance price for both Solar & Non-solar RECs to Rs. 1000/- per MWh may result in lesser participation of RE Generators in the REC Mechanism.
- **IEX** has submitted that the proposal for further reduction in forbearance price to Rs. 1000/MWh for Solar and Non-Solar RECs would restrict the interplay of market forces and may result in distorted market signals and dead weight loss. IEX has also requested to remove the forbearance price. The determination of prices for RECs should be left to the pure play of market forces instead of specifying the forbearance price and floor price. They have also suggested to constitute a single REC market for Solar and Non-Solar RECs for compliance of RPOs.
- **Power Exchange India Ltd.** has suggested to completely remove the forbearance price and floor price from the REC mechanism and the obligated entities and suggested that RE generators should be allowed to submit their bids/offers based on the demand supply dynamics prevalent in the market. They have further sought clarification on the following issues:

- i) Whether the Power Exchange has to run separate sessions applicable for transacting in each price band for Solar RECs.
- ii) Whether REC Registry would provide confirmation of quantity available with each eligible entity that submitted its offer during respective session.
- **Centre for Energy Regulation, IIT Kanpur** has suggested that as the proposed floor price for solar/non-solar RECs is zero, reference to floor price as a part of REC framework under the principal REC Regulations can also be deleted. As the floor price and forbearance price for both solar and non-solar technologies are proposed to be uniform, it is an appropriate time to merge solar and non-solar REC markets to develop a single REC market.
 - **Cement Manufacturers Association** has submitted that fungibility for RPO compliances between solar and non-solar RECs should be provided in view of open market.
 - **Ultratech Cement Ltd., Amines & Plasticizers Ltd, Apar Industries and Pradeep Metals Ltd.** have submitted that CERC should allow 100% fungibility between solar and non-solar RPOs.
 - **Kanchanjunga Power Co Ltd. and Renew Power** have submitted that REC price should be determined by market forces.
 - **Green Energy Association** proposed that if the Commission wants to completely remove the security of the floor price, then forbearance price should also be removed. The Commission in that case can let the RECs trade at market price.
 - **Adani Green Energy Ltd.** has suggested that CERC should do away with notifying the forbearance price and let market forces decide the REC prices. Removal of forbearance or tariff cap will promote higher participation as has been seen in the recent RE bids in which removal of tariff cap in the bids have increased the participation. Similar practice is also followed in the international Carbon Credit markets like CER, VERs, IREC etc wherein no floor or forbearance prices are notified.
 - **NTPC, NVVN and PTC India** have suggested to remove the concept of forbearance price for RECs in view of growth of power market and RE Power, so that market can

take care of demand-supply aberrations and facilitate participation of ISTS-connected RE Generators in REC Market.

- **Statkraft India Pvt. Ltd.** has suggested that RECs should be allowed to be resold as long as the same has not been used for meeting RPO of an obligated entity. RECs should also be allowed to be traded bilaterally as well as on the power exchanges. However, clearing of bilateral trades should be through the exchange (in addition to the trades on the exchange) in order to ensure proper traceability and recording of all trades and not disturb the existing process.
- **UPPCL and ONGC Hazira** have requested to reduce Solar REC forbearance price to Rs. 460/MWh and with no rounding off.
- **Southern Gujarat Chamber of Commerce & Industry and Tata Steel BSI** have submitted that forbearance price of Solar needs to be Rs. 460/ MWh on the basis of the highest difference between the APPC rates of all States & UTs in India during 2018-19 and bid-discovered tariff for 2019-2020 or alternately Rs. 650/MWh on the basis of average forbearance price for last 3 years. They further submitted that forbearance price of Non-Solar RECs is to be Rs. 500/MWh on the basis of the highest difference between the APPC rates of all States & UTs in India during 2019-20 and bid-discovered tariff of wind energy for 2019-2020.
- **Cement Manufacturers Association, Welspun Group, RSPL Ltd, Chemplast Sanmar Ltd, GHCL Ltd., Tata Chemicals Ltd., Atul Ltd., Ultratech Cement, Grasim Industries-Birla Cellulosic, Tamilnadu Petro products Limited, AIA Engineering Ltd, Shell Energy India, Gujarat Chamber of Commerce & Industry and Alkali Manufacturers Association of India, DCM Shriram Limited, Arcelor Mittal Nippon Steel India Ltd, Finolex Industries Ltd, Meghmani Finechem Ltd, Hazira Area Industries Association, Vedanta Ltd., Shree Cement Ltd., Saurashtra Chamber of Commerce & Industry and Sanghi Industries Ltd.** have requested to further reduce the REC forbearance price to Rs 500 for both solar and non-solar categories. They have submitted that if the latest APPC prices are considered, the forbearance price for Non-Solar RECS should further reduce. For Solar RECs, the highest of the three scenarios at Rs 900 per MWh has been

considered. All the scenarios have basis of competitive bidding. Thus, forbearance price of Rs. 460 per MWh based on year 2019 would be reasonable and appropriate to be considered as it reflects prevailing prices. Alternatively, average of forbearance prices of three scenarios should be considered, which would be Rs.650 per MWh.

- **IPPAI and RPG Power Trading** have requested for the removal of forbearance price.
- **Indo Rama synthetics, Apar Industries, Amines & Plasticizers Ltd, JSW Steel Coated Products Ltd, ONGC Uran and Pradeep Metals Ltd., Association of Power Producers (APP), FICCI, Chamber of Commerce and Industry – Kutch** have suggested that there is room for further reduction of forbearance price. For Solar REC Prices, the scenario with RE price of 2017 has been considered. Instead, it was suggested that , average of last three year's solar prices should be considered to arrive at the Solar REC prices.
- **Nirma Ltd** has requested to reduce forbearance price to Rs 250/- per REC.

Analysis and Decision:

28. The Commission has noted the views expressed by the stakeholders and observes that the stakeholders have submitted range of comments that – a) support the proposed floor price and forbearance price; b) request for further reduction of the forbearance price; c) suggest retention of the existing floor price and forbearance price; and d) suggest complete removal of forbearance price. The Commission is of the view that the proposed floor price and forbearance price have been arrived at based on the principles specified in the REC Regulations. Consideration of any suggestion which involves change in the provisions of the REC Regulations is beyond the scope of the present order. Many of these comments relate to the principles of determination of floor price and forbearance price. These have been dealt in detail in subsequent sections.

29. **Comments regarding matter being sub-judice in Hon'ble Supreme Court:**

Stakeholders Comments

- **IWPA (NRC), InWEA, Dhariwal Industries Pvt Ltd, Shri Tradco India Pvt Ltd and BC Umpathy** have submitted that the methodology of reducing the floor and forbearance price of the already issued RECs is pending before the Hon'ble Supreme Court and hence, the same approach should be applied again and it should be clarified by the Commission that the present suo-motu order will only be applicable on the RECs issued on or after the issuance of the order.
- **Agarwal Packaging Pvt Ltd, Chiranjilal Spinners Pvt Ltd, LNJ Bhilwara, Fab Colors, Shivajothi Spinning Mills, Pristine Developers (P) Ltd, Poysha Power Generation Pvt Ltd, DJ Malpani, Giriraj Enterprises, SRG Apparels Pvt Ltd, Etica Developers Pvt Ltd, PSGD Engineering LLP, Ponni Sugars (Erode) Ltd and Gomathy International, Gamma Green Power, Orient Green Power Company, Kanoria Chemical Industries Ltd, IPPAI, Indian Wind Power Association, Green Energy Association** have submitted that the Commission should not consider any revision during the pendency of Civil Appeal Diary No. 22737 of 2018 tagged with Civil Appeal No. 4801 of 2018 before the Hon'ble Supreme Court.
- **Green Energy Association** submitted that currently multiple appeals are pending before the Hon'ble Supreme Court against this Commission's Order dated 30.03.2017 on methodology adopted by this Commission in determination of REC prices and discontinuation of vintage multiplier. The same methodology has also been used in the instant order by the Commission for price determination of RECs.
- **U. P. Sugar Mills Cogen Association (UPSMCA)** has submitted that the Hon'ble Supreme Court vide its order dated 14.05.2018 passed in C.A. No. 4801/2018 has stayed the operation of order dated 30.03.2017 passed by this Commission. These appeals are currently pending before the Hon'ble Supreme Court. UPSMCA also sought to ascertain whether the present proposal is in the nature of a review of the previous order, and can be maintained, since the earlier order has been confirmed in appeal. The matter before the Hon'ble Supreme Court is pending and is inextricably



linked to the issues involved in the present proposal. Therefore, the decision of this Commission would have a bearing upon the matters pending before the Hon'ble Supreme Court. Such a course is legally impermissible and that the Commission should await the decision of Hon'ble Supreme Court in pending civil appeals, or at the very least, seek prior permission from the Hon'ble Supreme Court before proceeding with deciding on the present proposal.

- **U.P. Sugar Mills Cogen Association (UPSMCA)** has also submitted that the proposal fails to adhere to and uphold the mandate of the Act to promote RE sources. It is lopsided in favour of distribution companies and ignores the viability concerns of RE generators. The Commission cannot, under the garb of market regulation under Section 66, arrogate to itself, the power of tariff determination with respect to any component of electricity, which it does not have under Section 62 of the Act. Hence, to this extent also, the determination of floor price and forbearance price of RECs by the Commission is in derogation of the provisions of the Act.

Analysis and Decision:

30. The Commission has in the Order dated 31.03.2020 dealt with the various legal proceedings with regard to floor price and forbearance price of solar and non-solar RECs determined by the Commission vide order dated 30.03.2017 in Petition No.2/SM/2017. The Hon'ble Supreme Court in its order dated 14.05.2018 in Civil Appeal No.4801 of 2018 had issued the following interim directions in case of non-Solar RECs:

"Appeal admitted.

Interim orders dated 08.05.2017 and 14.07.2017 to continue

However, we clarify that this interim order will not apply to RECs issued on or after 01.04.2017."

31. As per the above directions, the interim orders dated 08.05.2017 and 14.05.2018 are applicable in cases of non-Solar RECs issued prior to 01.04.2017. In case of non-Solar RECs issued on or after 01.04.2017, the interim directions of the Hon'ble



Supreme Court are not applicable. Therefore, the interim directions of the Hon'ble Supreme Court dated 08.05.2017 and 14.05.2018 in the pending appeals are not applicable to the floor and forbearance prices of non-solar RECs which are sought to be determined through the present proceedings. In case of Solar RECs, no interim direction has been issued by the Supreme Court. Thus, the pending appeals and interim directions issued by the Hon'ble Supreme Court do not create any legal embargo for the Commission to specify the floor and forbearance price in respect of the RECs issued on or after 01.04.2017.

32. As per Regulation 9(1) of REC Regulations, the Commission may fix the floor and forbearance price for Solar and Non-solar RECs from time to time. The Commission has done so on several occasions earlier and the same has been elaborated in earlier part of this Order. While fixing floor price and forbearance price, the Commission is of the view that such prices must reflect the current market situation. The Commission in the order dated 31.3.2020 had highlighted the declining trends in the tariff of wind and solar projects. This has necessitated review of floor and forbearance prices for RECs.

33. The Commission has decided that the revised floor price and forbearance price would be applicable to non-solar RECs issued on or after 01.04.2017, in compliance to the Order dated 14.05.2018 passed by the Hon'ble Supreme Court. There is, however, no interim direction with regard to the floor and forbearance price of solar RECs. Accordingly, the Commission does not find any legal infirmity in determining floor price and forbearance price of RECs.

34. Comments on the methodology for computation of floor price and forbearance price:

Stakeholders Comments

- **Delhi Electricity Regulatory Commission (DERC)** has stated that the Commission while computing forbearance price and floor price has not considered parameters like actual availability of renewable energy, actual availability of RECs and delay in SCOD of RE Plants whose PPAs have been signed. DERC has requested to consider these parameters for determination of floor price and forbearance price of RECs as these factors play a critical role in meeting RPO for States like Delhi which do not have much RE potential. Without consideration of these parameters for determination of forbearance price and floor price, the current exercise may prove futile.
- **Karnataka Electricity Regulatory Commission (KERC)** has submitted that while computing the average bid price, CERC has first computed the average of maximum and minimum bid price under each bid and then, the average of this average of all bids is considered, which is not correct. KERC suggested that for each year, the weighted average of all bids put together should be considered. KERC has also stated that since in computations of floor price and forbearance price, APPC of FY19 is considered, the bid price should also be considered for FY19 only so that the comparison is for the same year.
- **Punjab Energy Development Agency** has highlighted that solar and wind projects have almost the same PLF, almost same tariff, neither have variable cost and both generate infirm power. The weighted average tariff for wind energy for the year 2019-20 has been worked out as Rs. 2.85/unit and that for solar projects, it is Rs. 2.74/unit in the Order of the Commission dated 31.03.2020 which is also almost same for wind and solar projects. Therefore, solar and wind should be covered in one category. PEDDA has also submitted that SECI and NTPC tenders for solar and wind power give wide range of benefits to the developers and these are factored in the ceiling price given in the tender. Fixing floor price and forbearance price on the basis of such tariff

of wind energy projects and making the same applicable to Small Hydro Plants (SHPs) and biomass projects located in far flung/ rural areas having no proper access and risky power evacuation system is not justified. PEDA further highlighted that capacity of SHP, biomass and cogeneration projects, registered under REC Mechanism has decreased between last Order (30.03.2017) on floor price and forbearance price and that proposed in Order dated 31.03.2020. With further reduction in floor price and forbearance price, non-Solar non-wind renewable projects who have already registered for REC mechanism will no longer be viable with stable or decreasing APPC. With the proposed floor price and forbearance price, REC projects will have no incentive to remain in REC mechanism and will also discourage new entrants.

- **IEX** has submitted that there is significant difference between the scale of projects installed under REC mechanism and those under competitive bidding route. The Commission may appreciate the fact that the sizing of the project play an important role in its pricing due to principle of economy of scale. Apart from the costs, the risks also vary across the market. In this backdrop, it may not be apt to determine floor price and forbearance price based on projects whose tariff has been discovered through competitive bidding prices.
- **PXIL** has suggested that Commission should also assess the inclusion of other parameters in the methodology such as replacement cost of generation from coal vis-à-vis renewable energy sources, clean energy cess levied on electricity generated from coal based power plants, cost incurred by existing coal based plants in retrofitting by installation of FGD, scrubbers etc. for meeting the environmental norms, life cycle cost of coal mining and implied carbon prices etc. PXIL further added that inclusion of above parameters in the methodology for determining the forbearance price and floor price would help in ascribing the true cost of 'Green attributes' to the energy injected by renewable energy plants into the grid and encourage future investments in market based REC mechanism. PXIL submitted that since REC is a market-based mechanism, the discovered price should be dependent on market determined principles of demand and supply similar to the physical

segment for Day Ahead Market. PXIL has requested to have a relook at the need of forbearance price and floor prices for RECs and to evaluate the possibility of completely doing away with it.

- **All India Renewable Energy Protection Association and PHD Chamber of Commerce & Industry** have submitted that the gap in the cost of generation for different RE technologies has widened with time. Therefore, it is essential that a uniform parameter is adopted for assigning price band of RECs. Under scenario 1, as provided in detail in Annexure 1-A in Order dated 31.03.2020, the difference between wind energy and SHP is given as follows:

Non-Solar Technology	Forbearance Price (Rs/Unit)	Floor Price (Rs/Unit)
SHP	3.07	1.30
Wind	1.95	0.51

Since the method under 'Scenario 1' takes into account the factors of APPC and SERC tariffs, and applies them uniformly, the weighted average forbearance price of Rs 2.45 per unit and weighted average floor price of Rs 0.83 per unit. However, in Scenario 2, the prices have become very low due to adoption of competitive bid prices for wind. The cost of generation of SHPs is increasing whereas the cost of generation of wind energy is reducing over time. Wind power tariffs through reverse bidding process have been discovered in only three States, viz. Gujarat, Maharashtra and Tamil Nadu which are RE-rich States on account of abundance of wind power. The remaining four States, viz. Andhra Pradesh, Karnataka, Madhya Pradesh and Rajasthan, have not seen reverse bidding in 2018-19 and 2019-20 and the SERC tariffs are prevalent in these States for wind energy. They have submitted that a few bids (mentioned in tabulation for wind bids) have been cancelled/scrapped. They have also submitted reference computations for Non-Solar REC Price on PLF basis.

- **U.P. Sugar Mills Cogen Association (UPSMCA)** has submitted that there has to be good, verifiable and justiciable grounds to invoke powers to fix floor price and

forbearance price to intervene under Regulations 9(1) of the REC Regulations. The existence of a jurisdictional fact and fulfilment of jurisdictional precondition is *sine qua non* for the exercise of this power. It has further submitted that proviso to Regulation 9(1) does not postulate the circumstances in which floor price and forbearance price may be fixed. Thus, the proviso purports to allow uncanalised and unguided power to the Commission. In order to exercise regulatory powers to intervene in the free and unfettered working of the power exchange, the Commission will be required to meet the jurisdictional preconditions provided under Reg. 53 read with Reg. 54 of the Power Market Regulations. REC market has suffered due to the unwarranted interference by the Commission, by not allowing the normal market forces of demand and supply to act in an unrestricted manner. The REC market has been operating smoothly for the last few years since 2017-18, wherein majority of the RECs that have been generated, have been traded during the course of the year at market discovered prices. The minimum clearing price of RECs at present, are clearly above the prevailing floor price, which suggests that the demand and supply forces in the market support a floor price well above Rs.1000/ MWh.

- **BSES Rajdhani Power Ltd and Uttam Value Steels Ltd** have suggested to use average tariff of RE for last 3 years in determination of floor price and forbearance price. They have suggested that such prices should be revised every six months.
- **Bharat Power Inc.** has submitted that no market study, empirical data or details are provided in the Order dated 31.03.2020 to demonstrate (i) the market reality referred to by CERC; (ii) why the present REC market is not operating in a healthy manner; (iii) whether there has been any market failure; (iv) consequences of the order on the REC market and the stakeholders etc. The order is intuitive at best, based on incorrect assumptions.
- **Bonafide Himachalies Hydro Power Developer Association and Sai Engineering Foundation** have submitted that wind energy needs to be excluded from the Non-Solar REC category and clubbed with Solar REC category so that SHP, biomass and cogen power plants under renewable project category remain viable under REC

mechanism. There should be uniform procedure to work out APPC for all the States so that the RE projects can plan the disposal of renewable power judiciously.

- **DNH Power Distribution** has requested to consider recent discovered bid tariff for determination of forbearance price. It has submitted that presently there is demand - supply gap in the Solar REC (i.e. demand is more than the supply). Hence, solar REC is always trading at ceiling price. Accordingly, forbearance price fixation for Solar REC should include element of recently discovered bid tariff.
- **MESCOM and Power Company of Karnataka Ltd** have submitted that the Commission has not considered the quantum of energy procured by MESCOM in excess of the RPO and the rates at which said RE power is being purchased. They have requested not to reduce floor price and forbearance price in one go but make a reduction in phased manner. They further submitted that weighted average procurement rates of RE for MESCOM/ Discoms are higher than the rate considered in Order and the strategy adopted in the suo-motu order for fixing the floor price and forbearance price of RECs keeping the present bidding rates as a benchmark are lower and is detrimental to MESCOM. They also submitted that the Commission has considered solar and wind bidding rates for bids invited between January 2017 and March 2020. The generic tariff is much more than the competitive bidding rates. The average power purchase cost is more than the bid discovered tariff considered by the Commission for calculating floor and forbearance price. Accordingly, it has suggested that average power purchase cost of RE projects may be considered instead of bid discovered tariff.
- **UPPCL** requested to separately determine forbearance price for each non-solar technology except wind. If forbearance price is same for Non-Solar Technologies, the Commission should propose a multiplier. Further, there may be four types of RECs – Solar, Non- Solar, Hydro, Other Power.
- **Gamma Green Power, Indian Wind Power Association, IWPA (NRC) and Orient Green Power Company** have submitted that the cost of generation as a concept clearly accommodates only a cost based method for a generator whereas, the competitive bid tariff adopted is not in any manner a 'cost of generation' as

envisaged in Regulation 9(2) by the 'cost of procurement' which are very different and incomparable. The total capacity commissioned under competitive bidding is less than 5% of the total installed capacity of wind installation in the country. It would not be proper to consider that as the basis for the determination of REC price band for Non-Solar RECs. ISTS charges form a major component of tariff, particularly for RE power with low PLF. These charges alone will work out to Rs 1.26 per unit and including transmission losses (@4% works out to Rs.0.11), total charges and losses are Rs 1.37 per unit. Land cost is assumed at Rs 0.10 per unit. The actual cost for the States that buy RE power through SECI would be the bid tariff + Rs 1.37 + Rs 0.10. The considered viability tariff @70% does not fulfil the basic financial obligation of wind projects. Considering capped APPC and inconsistent REC trade scenario attributable to deliberate non-compliance of RPO targets by various obligated entities, the viability tariff should be @85% of the cost of generation. This is also necessary to cover the increasing O & M cost of REC based projects due to aging of the projects.

- **Green Energy Association** argued that while considering the tariff discovered by various States, the Commission has also considered States like Sikkim which is neither a renewable energy rich State nor does it have any REC based solar power project. There are many States like Madhya Pradesh, Maharashtra, Rajasthan, Odisha, Andhra Pradesh, Chhattisgarh, Delhi, Haryana and Kerala where Discoms have not signed any agreement with REC based projects at APPC rates. The tariff structure of utility scale solar projects differs drastically from the tariff structure of REC based projects. The Commission should determine the REC floor price and forbearance price based on market transaction data and may also consider average market prices such as short term bilateral and day ahead market rates discovered on the power exchanges. In FY 2019-20, the Solar RECs were traded in the range of INR 2,400 and INR 2,000. For the month of March, 2020, the Solar RECs were traded at INR 2,400 i.e. 140% above the floor price. The Commission has also incorrectly assumed that minimum requirement for project viability is at fixed rate of 70%. This contradicts the stance of the Commission taken in Tariff Order dated

19.03.2019 passed in Petition No.1/SM/2019. In the said order the Commission expressly noted that the tariff for “Solar PV, Solar Thermal, Wind (onshore and offshore), MSW/RDF and other emerging renewable energy technologies, the tariff will be project specific, and not generic.” Thus, use of weighted average in determining floor price and forbearance price for Solar RECs is incorrect. If the Commission wants to completely remove the security of the floor price, the forbearance price should also be removed.

- **InWEA, Dhariwal Industries Pvt Ltd, Shri Tradco India Pvt Ltd, BC Umpathy and IWTMA** have submitted that the bid price considered is of large quantum projects which should not form the basis of deciding feasibility of small size projects under REC scheme (mainly 2 MW and 5 MW projects). Further, these projects are tied up for long term while projects under REC are tied up to a maximum of 10 years and that too only in some cases. No new projects for even APPC are coming in now. As per data given in the Table 1 B of the Suo-Motu Order dated 31.03.2020, the weighted average tariff comes out to Rs. 2.76 per unit instead of Rs 2.74 per unit. They further submitted that tariff as discovered in the bids from April 2017 onwards should be included in Table B for Solar and Non-Solar instead of 2019 onwards for analysis. This is necessitated since some of the REC projects were registered in the year FY 17-18 and FY 18-19 which incurred cost in accordance with that financial year. Also, their viability was calculated in that year, while fixing floor price and forbearance price in March 2017. Suddenly reducing the floor price, while their project viability price remaining the same, would certainly push these projects as Non-Performing Assets. They also submitted to consider the method used in earlier orders for determining the floor price for non-Solar RECs.
- **ASSOCHAM** has requested to consider the discovered solar bid tariff from January 2019 to March 2020 to come out with Solar REC prices. This would ensure price determination on the basis of recent RE market data.
- **Cement Manufacturers Association, Welspun Group, RSPL Ltd, Chemplast Sanmar Ltd, JSW Steel Coated Product, GHCL Ltd., Tata Chemicals Ltd., Atul Ltd., Ultratech Cement, Grasim Industries-Birla Cellulosic, Nirma Ltd., Tamil**



Nadu Petro products Limited, AIA Engineering Ltd, Shell Energy India, Gujarat Chamber of Commerce & Industry, Alkali Manufacturers Association of India, DCM Shriram Limited, Arcelor Mittal Nippon Steel India Ltd, Finolex Industries Ltd, Meghmani Finechem Ltd, Hazira Area Industries Association, Vedanta Ltd., Shree Cement Ltd., Saurashtra Chamber of Commerce & Industry and Sanghi Industries Ltd. have requested to further reduce the REC forbearance price. They have submitted that while computing the forbearance price for solar RECs, three scenarios were considered based on the tariff discovered through competitive bidding in the years 2017, 2018 and 2019. Accordingly, three forbearance prices of Rs. 900, Rs. 610 and Rs. 460 were arrived per REC. However, the Commission has considered highest of the above three values and rounded off to Rs.1000. They have submitted that instead of taking highest values, most prevalent market price for year 2019 with forbearance price of Rs 460 per REC for Solar should have been considered. Alternatively, average of forbearance price of three scenarios should be considered which gives Rs. 650 per REC for Solar. Further, calculations have considered APPC value of year 2018-19 and therefore, it is appropriate to consider RE solar tariff of the same year 2018-19, which gives forbearance price of Rs.610 per REC. Further in case of Non-Solar REC, it was suggested that since wind is a very large segment of non-solar REC and the forbearance price is working out negative for the same, forbearance price for non-solar should be reduced below Rs 950 per REC.

- **Gujarat Biomass Energy Developers Association** has submitted that weighted average approach to calculate the REC prices disproportionately skews the data for biomass based projects. The technology specific forbearance price and floor price of biomass projects as per the proposed amendments is Rs. 4.38 and Rs. 1.86 respectively and for wind, it is Rs. -0.15 and Rs. -0.95 respectively. A floor price of Rs. 0 is unsustainable for biomass project and they should be provided with multiplier. They further submitted that the tariff of waste to energy projects is not taken into consideration and also most of the States impose various open access charges such as cross subsidy surcharge, additional surcharge, electricity duty,

wheeling charges on RE projects registered under REC Mechanism. These charges over the years have been constantly increasing resulting in increase in open access cost of supply. They requested not to compare REC projects with reverse-bidding based projects and also requested that bid discovered tariff should not be taken into consideration for calculating the average tariffs for REC price determination.

- **RPG Power Trading** has requested to examine whether it would be more appropriate to consider the REC framework based on the share of actual generation (PLF/CUF/No. of RECs issued) from each RE technology for the period for which the determination of forbearance price and floor price are being done.
- **National Solar Energy Federation of India (NSEFI)** requested that the mechanism of determining the floor price and forbearance price should be linked to normative principles and FiT tariffs considering the size and technology of the projects registered under REC Mechanism should be taken into consideration instead of discovered bid tariffs.
- **Ambuja Cement and ACC Cement** have submitted that Non-Solar REC Price should be determined on the basis of wind only.
- **Shree Cement** has submitted that factor (such as 70% of tariff determined by SERCs) should be applied on SERC determined prices in order to determine the forbearance price of Non-Solar RECs. The bid price of 2019-20 should be considered as base for determination of forbearance price for solar certificates to be procured from 2020-2021.
- **Bajaj Finserv, Jathar Textiles, Balkrishna Sizing Industries, BG Raibage, Shivashri Techno Homes Pvt Ltd, Pragati Agencies, SK Veerabhadrapa & Co, Sri Laxmi Industries, Sri Amareshwara Industries** have submitted that open access charges in Maharashtra have increased from Rs 2.26/unit in FY 2014-15 to Rs 4.75/unit on 1st January 2020. These charges are further going to increase to Rs 5.58/unit on 1st April 2020. 80% of the registered projects from Maharashtra are old. Under such circumstance with increasing O&M cost and other taxes, Open Access in Maharashtra is not viable. Hence, Commission may not consider competitive bidding prices of solar and wind projects of present situation to fix new floor price and

forbearance price. They requested that while determining the REC prices, the Commission should also consider various charges and fees paid by the generators (trading expenses, exchange transaction fees, accreditation and registration fees, one time and recurring expenses of nodal agencies, pro-forma certification etc.) which comes to about Rs. 0.16 per unit.

- **Enel Green Power India Pvt. Ltd** has submitted that it is inappropriate to reduce the floor price of RECs to 'zero' on the basis of tariffs discovered through bid or reverse auction. For purpose of calculation of floor price and forbearance price, the Commission may determine a normative tariff (FiT) which is not only correct reflection of various market parameters but also a sustainable one in the long run. They requested to consider only the tariffs of commissioned projects including the tariff adjustments which may be approved by the Appropriate Commission from time to time for the purpose of determination of floor price and forbearance price of RECs.
- **Basant Windfarms Pvt. Ltd., Karur Sree Rama Trading Private Limited, Amirthaa Green Infra Private Limited, Association of Power Producers (APP) and FICCI** have submitted that very few States allow REC registered projects to tie up at rate equivalent to State's APPC and this is due to the fact the current low RE tariff discovered through competitive bid is lower than State's APPC as well as India average of APPC. Most of REC registered RE generators are tied up in third party open access with C&I consumers at a rate which is very close to market prices. It may not be appropriate to link the APPC for determining the floor price and forbearance price for Non-Solar and Solar RECs. Apart from using APPC, they have suggested to also take suitable weights of the average power market prices i.e. based on short term bilateral and Day Ahead Market on power exchanges. DISCOMs as sellers may be considered while determining the floor and forbearance price. In Feb 2020, due to issuance of 54 lakhs Non-Solar RECs in favour of AP DISCOM, it has flooded the supply side inventory which not only crashed the price but also led to gaming by such DISCOM in clearing of both price and volume. In such a scenario, small RE Generators would suffer as their issued RECs would not be cleared. They also submitted that competitive bid tariff in recent years should not be taken into

account while determining floor and forbearance price because this consideration may not be fair in respect of project viability of small-scale REC projects. Accordingly, they have requested to review the methodology.

- **Reliance Industries Ltd** has submitted that for States where wind installations have been commissioned under the REC mechanism, only data of those States are used for determining the prices, whereas the same principle is not adopted for solar. They are requesting the Commission to adopt a similar principle. They requested to consider the average solar tariff discovered during January 2017 to March 2020 while determining the Solar REC prices. This will correctly reflect the current market realities and hence correct REC prices.
- **Gurudnyanankit Energy Pvt. Ltd., Agrawal Minerals (Goa) Pvt Ltd, Parekh Medisales Pvt. Ltd, Enrich Energy Ltd, Manikanchan Solar Park, Vikram Tea Processors Pvt Ltd, H & L Energy Solutions, Fasttrack Packers Pvt Ltd, Ferromar Shipping Pvt. Ltd, Triveni Sangam Holdings & Trading Co, Saidpur Jute Co. Ltd, Daksh Infrastructure Pvt Ltd, Ashok Iron Works (P) Ltd, Chaphalkar Brothers, ICC Realty (India) Pvt Ltd, Navlakha Tranlines, TS Wind Developers, S70 (Satara_Windmill)- Advik Renewable Energy Pvt. Ltd., CK10 (Nandurbar Windmill) - Advik Renewable Energy Pvt. Ltd., J112 (Dhule Windmill) - Advik Renewable Energy Pvt. Ltd., PVSP16 (Solapur Solar) – Advik HI-TechPvt. Ltd., JM Industries, Siporex India Pvt Ltd, Medilink Services, Hemant Group, Sargam Retails Pvt Ltd, Malpani Tea Corporation, Govindram Shobharam & Co., Saraswati Industries, Olam Sugar, Gangadhar Narsingdas Aggarwal and Bora Agro Foods, H & L Energy Solutions, Navalakha Translines, TS Wind Power Developers, Pooja Renewable Energy Pvt. Ltd, Persistent System Ltd, Winsol Engineers and JJ PV Solar Pvt Ltd** have requested to consider various charges/ fees while arriving at REC Price which are paid towards monthly certifying of RECs from Distribution Licensee, SLDC, NLDC, Trading, Accreditation & Registration. They further requested to consider an increase in charges/ fees for Open Access (OA) Sale of Power. There has been steep rise in OA

charges in State of Maharashtra. They also requested not to consider only present situation to propose new REC rates due to following reasons: -

- i. Project cost of investment by initial Generators was very high in the years 2011-2014
 - ii. There are additional REC related expenses which are not considered in calculations. (Rs 0.11-0.30 per unit)
 - iii. There are Open Access charges which are not considered in calculations (this has increased 3.63 times from Rs 1.52 to Rs 4.63)
 - iv. REC Rates have been reduced 2 times, Vintage Multiplier was also removed and now further reduction shall make small projects unviable.
- **Inox Wind and Gujarat Fluorochemicals Ltd** has submitted that methodology used for determining the floor and forbearance price of RECs is to be reviewed and the methodology based on market transaction data may be considered as now significant market price/transactions data are available for several years. They further submitted that reverse auction based projects are not comparable with REC based projects whether in terms of size or the risk-rewards of these projects which are fundamentally different.
 - **Sembcorp Green Infra Ltd** has requested to revisit the overall approach and methodology of determination of floor price and forbearance price. Rather than comparing the tariff with inter-State competitive bidding projects, it should be compared with existing preferential tariffs determined by SERCs.
 - **CLP India Pvt Ltd** has submitted that competitive bidding has not established itself as a viable approach for ensuring growth of all segments of RE Industry. Further, many projects awarded under the competitive bidding scheme are facing viability concerns due to various difficulties in project execution. They also submitted that bid data is not even relevant to new wind projects. For instance, the bid data for 2018-19 mentions MSEDCL bid data for tender from September 2018 which was carried out for renewal of PPAs of old FIT projects in the State, after the expiry of their 13- year PPA with MSEDCL. They also submitted that the Commission has only considered tariff data from the projects being established in two wind resource rich States of

Tamil Nadu and Gujarat. The Commission needs to re-consider the average wind tariff determination only on the basis of price discovery under various bids coming from only two States, as the same is not reflective of the tariff across country.

- **Kanchanjunga Power Co Ltd** has submitted that in order to maintain investor confidence, impact on Floor Prices based on minimum Return of Equity/sustainable operations should be assessed. Small hydro projects require a minimum floor price of Rs 1000/MWh in order to remain viable and wind should not be considered while determining forbearance and floor price.
- **Hero Future Energies** has requested to consider Scenario 1 of the Appendix–1 for determining the floor price and forbearance price of Non-Solar REC and consider Floor Price as Rs 1 /kWh (Rounded off Rs 0.83 /kWh) and forbearance price as Rs 2.50 /kWh (Rounded off Rs 2.45 /kWh) for Non-Solar Certificates as was continuing earlier.
- **Greenko Group** has submitted that relative share of technologies should be calculated based on the RECs issued in last 3 years instead of technology wise projects registered for RECs. They suggested that the Commission should not consider the tariff discovered in the recent bids and should consider the risks and additional cost borne by the REC project developer to calculate the actual cost of generation from such projects while deciding the REC price. According to their estimate, the cost of generation from such REC project would not be less than Rs. 3.5/kwh in best case scenario. Considering RE generation cost of REC project being greater than Rs 3.5/kwh and average ex-bus price realisation at 33 kV level in all States which may be around ~ Rs. 1.25/kwh, floor price for RECs should be Rs. 2.25/kwh.
- **Renew Power** has submitted that projects allocated/ constructed under Tariff based competitive bidding (TBCB) are not comparable with projects registered under REC Mechanism. They further submitted that TBCB tariff needs to be adjusted with transmission cost for purpose of calculation of forbearance price and floor price for REC scheme. Transmission cost adjusted TBCB Tariff= (Avg. TBCB tariff + impact

on transmission charge waiver granted to such projects). TBCB tariff requires to be adjusted with tariff impact due to change in law or force majeure events.

- **Rana Sugars** has submitted that the decision by CERC through 'Scenario 1' which has resulted in drastic reduction in the determination of floor price and forbearance price of non-solar RECs, is manifestly arbitrary especially without providing any cogent rationale for the same. The reliance on tariff adopted through competitive bidding cannot be a correct method for calculating the general cost of generation of RE power for all the RE generators, especially when majority of the RE projects are small scale MW projects with higher cost variations. They further submitted that restrictive reliance on the tariff adopted by various SERCs through competitive bidding while determining the floor price and forbearance price of the RECs (especially when CERC has opted not to rely on other methodologies/principles prescribed under Reg 9(2) of the REC Regulations) is not only arbitrary but is also contrary and outside the scope of REC Regulations. They have also submitted that while determining REC prices, various aspects have been left out such as: (a) variation in Pooled Cost of Purchase across States; (b) expected electricity generation from RE sources under preferential tariff and REC mechanism; and (c) RPO targets set by SERCs.
- **Indian Sugar Mills Association** has submitted that no reason has been cited by CERC for revising/ determining the forbearance price and floor price of RECs and is not in conformity with the Power Market Regulations of the Commission. The price of RECs issued prior to 01.04.2017 would be different from those issued after 01.04.2017 if the proposal is finalised.
- **India Glycols Ltd** has submitted that in absence of impact analysis, it would be more scientific to index the installed capacity with the normative CUF declared by SERC in order to arrive at percentage share. This would prove to be more scientific as RECs are generation linked instruments and also for the reason that floor price and forbearance price is being determined on the basis of tariff. They submitted that percentage share capacity of projects be calculated based on the RECs issued to each technology category of projects from last amendments i.e. April 2017 onwards.

This approach would be specific, free from any assumption, would include effect of projects which are registered only for short time period and would also take care of generation based approach of REC scheme. Further, they submitted that with one or two exceptions, all projects registered under REC are connected to the State grids. Thus, while taking average MCP as the basis points, due regard should be paid to the transaction cost involved in the transaction from STU to respective region of the generator. Thus, the base price instead of APPC should be used (Avg MCP of the FY- Avg POC Charges of the region- Effect of Avg PoC losses of the region).

- **Shri Someswara Prasad KM** has submitted that the tariff discovered in competitive bids being used for determining floor price and forbearance price is not relevant as these projects (wind/ solar) get some benefits like exemption in inter-State transmission losses and charges. The projects have assured power off-take and also have payment security/ statement guarantee on payments. He has further submitted that few States have set RPO targets lower than RPO trajectory set by the Ministry of Power. Lower RPO target discourages the purchase of power from renewable energy resources by DISCOMs. The only avenue left for most of renewable energy generators is to supply through power exchanges, but the price discovered in energy exchanges is less than the APPC of the States and if floor price is reduced zero, no new renewable energy investors will come forward for Investments.
- **Adani Green Energy Ltd.** has suggested that Commission should not consider the tariff discovered in the recent bids and should consider the risk and additional cost borne by the REC project developer to calculate the actual cost of generation from such projects while deciding the REC price. They have stated that the REC projects bear the risks of PPA, project financing, offtaker ratings, payment security mechanism, economies of scale, dependence on STOA, relief for change in law. According to their estimate, if above mentioned risks and costs are considered, the cost of generation from such REC project would be more than Rs. 3.5-4.0/kwh in best case scenario.
- **Sri Sivajothi Spinning Mills (P) Ltd, Fab Colours, Snowdew Hydroelectric Power Project, SRG Apparels Pvt Ltd, Raghu Rama Renewable Energy Ltd, Cheenu**

Enterprises, R3K Power LLP, Giriraj Enterprises, Poysha Power Generation Pvt Ltd, Apex Coco and Solar Energy Ltd, Salora International Ltd, C J Shah & Co., Chiranjilal Spinners Pvt Ltd, Cogeneration Association of India, Ascent Hydro Projects Ltd, Manikanchan Solar Park, B. G Chitale Dairy, H & L Energy Solutions, Shah Promoters & Developers, Medak Solar Projects Pvt Ltd-Nereus Capital, Dubbak Solar Projects Pvt Ltd- Nereus Capital, Ajeet Seeds Pvt Ltd, Alten Power Pvt Ltd, Anu Cashews, Arhyama Solar Power Pvt Ltd, Sri Kumaraswamy Mineral Exports Pvt Ltd (Wind Genarator), Ponni Sugars (Erode) Ltd, Baidyanath Group, Mytrah Energy India Pvt Ltd, Sahkarmaharshi Bhausahab Thorat SSK Ltd, PGSD Engineering LLP, Pristine Developers (P) Ltd, Visaka Industries Ltd, Gokak Power & Energy Limited, Finolex Cables Ltd, Dindayal Commodities, D J Malpani, Liberty Oil Mills Ltd, Kanoria Chemical Industries Ltd, Arkay Energy Ltd, K G Denim Ltd, Chartered Gold Financial Services Pvt Ltd, Ramesh Steels, Eastman International, Friends Salt Works & Allied Industries, Oswal Salt & Chemical Industries, Kandla Agro& Chemicals Pvt. Ltd and Gautam Freight Pvt Ltd have submitted that Reverse auction based projects are not comparable with REC based projects in terms of size, and the risk-rewards of these projects are fundamentally different. The average project size for wind and solar projects in the REC mechanism is 5.42 MW and 2.25 MW respectively. Compared to this, an average solar project in the bidding regime is 940 MW, and for wind is 963 MW. CERC needs to consider changing methodology of REC floor and forbearance price determination based on market transaction data, rather than the current approach as reverse bidding based projects are not comparable with REC projects. They submitted that non-solar RECs prices in the period April 2019 - March 2020 have ranged from Rs 1000 to Rs 2200. Out of this, Rs 1000 price was discovered only in March 2020 in the backdrop of significantly high supply volume due to lakhs of RECs being issued to Discoms. Market trading data suggests that there is robust demand as well above Rs 1,000 and even close to the current forbearance price. Thus, based on market trading data there is no justification of reducing the floor price. They submitted that if the viability approach is

to be adopted, the highest floor and forbearance price amongst all technologies should be adopted. Only this approach will ensure that all other technologies under the wide bucket of “Non-solar” remain viable. The highest floor and forbearance price is that of biomass - Rs 1.86 and Rs 4.38 respectively. They further added that after excluding the marginal States, and excluding the assumption that project viability is fixed 70% of the tariff, this assumption is unjustified given that per unit interest cost is often >70% at very low tariff levels.

- **Winsol Engineers and JJ PV Solar Pvt Ltd** has submitted that till date, Solar RECs were traded between Rs 2000 to Rs 2400, with trading most of the year at Rs 2400. In such a scenario when market has paid a price of Rs 2400, there is no justification for artificially reducing the prices further. They argued that while determining forbearance price (FBP) and floor price (FP) calculation of Sikkim is considered, Sikkim is neither a large State for solar plant installations nor does it have even one solar REC project. Hence, Commission needs to consider project viability and it is recommended to keep FP at Rs 2600 and FBP at Rs 4500.
- **Jathar Textiles Pvt. Ltd, Balkrishna Sizing Industries, M/S Bhanudas G. Raibage, Sri Amareshwara Industries, Sri Laxmi Industries, S.K Shivaraj Engineers & Infra Ventures, SK Veerabhadrappe & Co** have submitted that Solar & Wind projects in competitive bidding are of large capacity and their cost is lower when compared to small capacity of RE projects of upto 5 MW. They have requested not to consider reverse bidding tariff rate of solar and non solar projects for consideration of floor and forbearance price of RECs but instead it may be appropriate to consider preferential tariff of different RE sources by different SERCs. They also highlighted that for determination of floor price and forbearance price, CERC considered APPC, Reverse bidding rate for respective RE generation from all States and projects commissioned during this period. However, projects commissioned before 2017 are eligible under REC framework and totally depend on REC price. Besides, annual CUF of old projects are not up to the mark as against considered CUF by Commission to determine tariff.

- **Statkraft India Pvt Ltd** has submitted that for computing forbearance price for RECs, the tariffs discovered under Central and State bids are considered. These are large projects and are based on secured cash flows for project life, which results in substantial reduction in project cost compared to the projects under REC mechanism. This methodology to compute forbearance price of REC is inaccurate. It also submitted that absence of Floor Price would mean that there is a recognition that there may be no additional price or premium for the “Green Component” and RE power may in situations, be equated to Conventional Power.
- **BG Wind Power Ltd and ITC Limited** have submitted that there is a substantial change in the cost of generation and capital cost of the earlier projects (prior to April 2017) and the recent projects (after 2017). There are number of projects sanctioned in the recent past which have not yet been commissioned but tariff quoted by them have been considered for the purpose of determining floor and forbearance price. It has submitted that the Commission should analyze the State-wise capital cost of projects prior to April 2017 and post April 2017 and their tariff in respect of only those projects which have been formally commissioned and started injecting energy in the Grid. They also submitted that tariff realisation in REC Mechanism is lower than that of preferential tariff in Rajasthan.
- **Delhi Electricity Regulatory Commission** has suggested to develop a long term plan to ensure that there is adequate availability of Solar and Non-Solar RECs at power exchanges to meet RPO with zero Floor Price.
- **POSOCO** has submitted that in previous six months i.e. from October 2019 to March 2020, Solar RECs are being traded at forbearance price which is Rs 2400/-. In such a scenario, reducing the forbearance price may reduce the interest of RE Generating companies to participate in REC Mechanism, which may create shortfall of RECs in the inventory.
- **Inox wind and Gujarat Fluorochemicals Ltd** have suggested that the Commission needs to consider the market data to determine floor and forbearance prices wherein it can be noted that Non-solar RECs prices have ranged from Rs 1000 to Rs 2200

during the period from April 2019 to March 2020 where Rs 1000 was discovered in March 2020.

- **Jathar Textiles Pvt. Ltd, Balkrishna Sizing Industries, M/s Bhanudas G. Raibage, Sri Amareshwara Industries, Sri Laxmi Industries, S.K Shivaraj Engineers & Infra Ventures, SK Veerabhadrapa & Co** have submitted that for the past 3 years, discovered rate on both IEX and PXIL platform was never close to the forbearance price except in December 2019 and January 2020. This is because SERCs and CERC never laid emphasis on RPO compliance. At the same time, CERC by taking reference of REC Regulations is determining rate based on drop in RE rates promptly where such projects are not eligible for REC framework.
- **B C Umapathy, Shri Tradco India Pvt Ltd, Sargam Retails Pvt Ltd and Malpani Tea Corporation** have submitted that the demand of REC is not as per the anticipation at the time when the REC was premeditated. This is due to lack of enforcement of the obligations. Further, lack of participation from Distribution companies and large captive power plants is the main reason behind the price crash and accumulation of the RECs. The accumulation of the non-traded RECs is increasing month on month and after the trading in the month of March 31, 2020, the total number of RECs which remains un-traded reached at the highest level to 57 lakhs (i.e.57329959). They further submitted that over the past 36 trading sessions, average price of RECs was at Rs. 1249 during January - 2018 to December-2018 and was Rs. 1595 during January - 2019 to December-2019. In this context, an independent evaluation of the floor price may be done to see how it would impact the REC market going forward.
- **Sri Sivajothi Spinning Mills (P) Ltd, Fab Colours, Snowdew Hydroelectric Power Project, SRG Apparels Pvt Ltd, Raghu Rama Renewable Energy Ltd, Cheenu Enterprises, R3K Power LLP, Giriraj Enterprises, Poysha Power Generation Pvt Ltd, Apex Coco and Solar Energy Ltd, Salora International Ltd, C J Shah & Co., Chiranjilal Spinners Pvt Ltd, Ascent Hydro Projects Ltd, Manikanchan Solar Park, B. G Chitale Dairy, H & L Energy Solutions, Shah Promoters & Developers, Medak Solar Projects Pvt Ltd -Nereus Capital, Dubbak Solar**



Projects Pvt Ltd- Nereus Capital, Ajeet Seeds Pvt Ltd, Alten Power Pvt Ltd, Anu Cashews, Arhyama Solar Power Pvt Ltd, Cogeneration Association of India, Sri Kumaraswamy Mineral Exports Pvt Ltd (Wind Generator), Ponni Sugars (Erode) Ltd, Baidyanath Group, Mytrah Energy India Pvt Ltd, Sahkarmaharshi Bhausahab Thorat SSK Ltd, PGSD Engineering LLP, Pristine Developers (P) Ltd, Visaka Industries Ltd, Kanoria Chemical Industries Ltd, Gokak Power & Energy Limited, Finolex Cables Ltd, Dindayal Commodities, D J Malpani, Liberty Oil Mills Ltd, Arkay Energy Ltd, K G Denim Ltd, Chartered Gold Financial Services Pvt Ltd, Ramesh Steels, Eastman International, Friends Salt Works & Allied Industries, Oswal Salt & Chemical Industries, Kandla Agro & Chemicals Pvt. Ltd and Gautam Freight Pvt Ltd have submitted that Non-solar REC prices in the period April 2019 - March 2020 have ranged from Rs 1000 to Rs 2200. Further, they added that market trading data suggests that there is a robust demand at well above Rs 1,000, and even close to the current forbearance price. Thus, based on market trading data, there is no justification of reducing the floor price (else most of the year RECs would have traded close to or at floor price). They also submitted that since the purpose served by the forbearance price is to act as a penalty price and prevent an irrational and unaffordable increase in compliance cost, having a forbearance price which is well below the recently traded prices is counterproductive.

- **Karnataka Electricity Regulatory Commission (KERC)** has stated that Karnataka considered Rs 3.50/kWh in the APPC for FY 2019. As per truing up, the APPC for FY 2019 comes out to Rs 3.85/kWh which may be considered. KERC has also submitted that the average bid tariff for wind is Rs.2.68/unit and for Solar (Annexure-2c) it is 2.74/unit. The national average APPC as per details furnished at Annexure-2c by CERC is Rs.3.85/unit. Thus, wind and solar projects opting for REC mechanism would get considerable profit, even at proposed floor price of zero. Thus, the APPC needs to be capped. In this regard, KERC through Regulations has specified as follows:

‘3. The Sub-Clause(c) under Clause-7 of the existing Regulations shall be modified as under:



“(c) A Generating Company opting for REC Scheme shall sell the electricity generated by it to ESCOMs of the State at the pooled cost of power purchase of the State for the relevant year, as notified by the Commission from time to time or at 75% of the Generic Tariff as determined by the Commission for the respective RE source for the relevant year, whichever is lower.”

The above aspect also needs be considered while finalizing the Floor price and Forbearance price.

- **IEX** has submitted that as the prices discovered through competitive bidding has gone down significantly and in most of the States, lower than the APPC rates, the Discoms are not willing to purchase power from REC projects. In such a scenario, specifying the Forbearance price is not going to remove this anomaly. Rather it may discourage newer investments in merchant RE power or through the route of REC mechanism resulting into dilution of the REC market itself. Given the importance of REC mechanism, there is a need to revisit the overall market structure including the ‘determination of APPC’ across the States for strengthening the market.
- **Tamil Nadu Electricity Regulatory Commission (TNERC)** has stated that the APPC determined by them for the year 2019-20 is Rs 4.11. In the case of wind and solar, the RE generators under the REC scheme when paid at APPC will be able to realize prices between Rs.4 and Rs.5 per unit. It has suggested that payment of electricity component to the generators under REC scheme be linked with tariffs determined under section 62 or discovered under section 63 of the Electricity Act, 2003. It has also suggested that an amendment to the REC Regulations may be brought in such that RE generators under REC scheme get paid for the electricity component at a percentage of tariff determined under section 62 or bid tariff discovered in the previous year.
- **UPSMCA** submitted that allocation of costs etc. in the computations based on the capacity share of each technology is clearly erroneous, arbitrary, and discriminatory and has no correlation with the objectives of the REC Regulations or its provisions. They also argued that weightage is given on the basis of installed capacity instead of actual share in generation by RE Sources based on different technologies.

- **Gamma Green Power, Indian Wind Power Association, IWPA (NRC) Orient Green Power Company and CLP India Pvt. Ltd.** have submitted that many States like Tamil Nadu, Karnataka, Gujarat, Maharashtra and Rajasthan have capped the APPC price and the actual realization in such States to REC based RE generator is far less than the APPC figures considered by CERC in its draft Order. The Commission may examine the appropriateness of the APPC approach, in the absence any new investment in the APPC segment.
- **Greenko Group and Adani Green Energy Ltd.** have suggested that instead of APPC, Commission should consider the average ex-bus price realisation of electricity sold in Power Exchange by STU connected renewable power project i.e. ex-bus price = Exchange price minus POC charges and losses minus STU charges and losses minus Other open access charges (as applicable in various States) minus DSM charges payable on Day ahead forecast basis. They have also requested to collect data from all the SERCs about the quantum procured from REC registered projects before deciding whether APPC is still relevant in determining the price bandwidth.
- **Renew Power** has submitted that as per the policy stance taken by DISCOMs across the States, none of the generators have an option to sell electricity at APPC and that route has simply been made unavailable. Therefore, they have suggested that it would not be realistic to take APPC as the reference rate at which the electricity component of RE generators would be sold. It further submitted that average MCP of the Power Exchanges for last 2 to 3 years with proper adjustment should be taken in account, instead of APPC. The base price should be (Avg. MCP of the FY minus Avg. POC Charges of the region minus Effect of Avg. PoC losses of the region).
- **India Glycols Ltd** has submitted that taking APPC as the reference rate at which the electricity component of RE generators would be sold is not a realistic approach. The average MCP of the Power Exchanges for last 2-3 years with proper adjustment should be taken into account instead of APPC.
- **BG Wind** has submitted that Commission on one side has considered the bid price of the projects during January 2017 to March 2020, most of which are far away from commissioning. On the other side, it has considered the APPC for the year 2018-19

only. If the bid price has decreased, it is also pertinent to mention that the APPC tariff has increased from Rs. 3.47 per kwh in 2018-19 to Rs. 3.74 per kwh in 2019-2020. Despite this, Non-Solar REC (Wind Projects) are not being given APPC based tariff. At the same time, in the State of Rajasthan, no tariff bid has been conducted to discover the price and capital cost.

- **Association of Power Producers (APP) and FICCI** have submitted that instead of the APPC, it is suggested that a "Minimum Guaranteed Tariff" be used. The Minimum Guaranteed tariff" is based on the tariff realized at present by any developer (who has opted for REC mechanism) for sale of the electricity component from his project. Such tariff realized could be through sale of Discoms or on Open Access or on Captive route. This Minimum Guaranteed Tariff should replace the APPC in the computations of Forbearance and Floor price. The Commission may consider the prices in the last 3 years to arrive at the REC prices as the forbearance price and floor price shall be applicable to RECs issued after 01.04.2017.

Analysis and Decision:

35. Several stakeholders have suggested that the regulator determined tariff should be considered instead of the tariff discovered through competitive bidding. Some stakeholders have argued that competitive bidding projects are generally large in size and as such should not be considered as reference for determination of floor price and forbearance price for REC projects which are small in size. A few stakeholders have also highlighted the concessions that the RE projects commissioned through competitive bidding mechanism get, e.g. waiver of transmission charges and losses, land allocation etc. Some stakeholders have suggested that the 'Minimum Guaranteed Tariff' approach should be adopted, instead of APPC approach. Other suggestions include consideration of additional parameters such as availability of RECs, Day Ahead Market price, project viability at 80% instead of 70% etc. Several stakeholders have

objected to fixing the floor price at zero and expressed concerns that REC traded at floor price of zero would not allow the generators to recover even the charges and fees for participation in REC mechanism. On the APPC figures for States, some stakeholders suggested to use APPC rates for FY 2019-20 instead of FY 2018-19. Some raised concerns around viability of REC projects which are often forced to sell electricity component below APPC rates.

36. The Commission observes that competitive bidding for RE especially for wind and solar technologies has resulted in significant reduction in the cost of RE power. Many State Electricity Regulatory Commissions (SERCs) have done away with the practice of issuing generic tariff for solar and wind including this Commission. Many SERCs have adopted tariff discovered through competitive bidding for RE instead of determining generic tariff especially for wind and solar technologies. Further, the Commission also agrees with the argument that if the RECs are unreasonably priced, the obligated entities would get further disinterested from REC markets. Hence, it is necessary that the floor price and forbearance price of RECs reflect the market realities and must move with the market price of renewable power. Accordingly, the Commission has decided to align the REC floor price and forbearance price with the prevailing market conditions in terms of tariffs, APPC, etc. The Commission believes that proposed floor price and forbearance price balances and safeguards the interest of consumers and investors.

37. Stakeholders have suggested inclusion of other parameters like actual availability of renewable energy, actual availability of RECs, delay in SCOD of RE Plants whose

PPAs have been signed, payment of electricity component to the generators under REC scheme be linked with tariffs determined under section 62 or discovered under section 63 of the Act, replacement cost of generation from coal vis-à-vis renewable energy sources, clean energy cess levied on electricity generated from coal based power plants, cost incurred by existing coal based plants in retrofitting by installation of FGD, scrubbers etc. for meeting the environmental norms, life cycle cost of coal mining and implied carbon prices etc.

38. The Commission has noted the suggestions and would like to reiterate that the principles outlined in Regulation 9(2) of the REC Regulations have been followed while determining the forbearance price and floor price. Adoption of any other parameter(s) would be a deviation from the REC Regulations. The parameters as suggested by the stakeholders tantamount to an amendment in REC Regulations which is beyond the scope of this exercise.

39. Stakeholders have suggested that for each year, weighted average of all bids put together should be considered. They have also submitted that in computations of floor price and forbearance price, APPC of FY19 is considered and, therefore, the bid price should also be considered for FY19 so that the comparison is for the same year.

40. The Commission would like to reiterate that the methodology of computation of prices of bids have been explained in a footnote to the relevant tables in Annexures 1 & 2 of the order dated 31.03.2020 in this suo-motu Petition. In the aforesaid Annexures, the range of successful bids for the relevant year have been provided and weighted

average winning price of each bid in a particular year has been computed. Thereafter, the weighted averages of all the bids in that year have been taken and a simple average of these bids have been taken as a reference for the particular year. The same principle was used in the 2017 REC Price Order while computing the bid prices of solar bids.

41. As regards reference period of the bid price, the Commission would like to reiterate that the variation in bid prices for the respective years between 2017-20 has been taken and scenarios have been developed, which exhibit the variation. Also, the floor price and forbearance price have not been revised since 2017 and it was felt necessary to take into account the bids for 2017-20 period in order to safeguard the interests of both generators and consumers.

42. Stakeholders have suggested for merger of wind energy-based REC with Solar REC citing reasons like having similar PLF, similar competitive bid tariff, no variable cost in either case and infirm nature of power for both technologies. They have submitted that non-solar technologies other than wind like SHP, biomass and cogeneration plants can become viable when included as part of Non-Solar REC.

43. The Commission is of the view that it will not be possible to consider the suggestion of merging of solar and wind technologies since it shall entail an amendment in the REC Regulations which is beyond the scope of this exercise.

44. Stakeholders have submitted that the REC market has been operating smoothly for the last few years since 2017-18, with majority of the RECs generated, being traded

during the year at market discovered prices and that there is no need for regulatory intervention in the matter of price fixation of RECs at present.

45. The Commission has taken cognizance of the market situation and has acted in accordance with the REC regulations to determine the floor and forbearance prices for RECs. The Commission has noted the variation in costs of generation of RE and has explained the same in detail in the proposal.

46. Stakeholders have suggested to use average tariff of RE for last 3 years in determination of price and suggested for periodic revision of floor price and forbearance price since market is very dynamic. Some of them have suggested that these prices should be revised periodically every six months. Few stakeholders have also submitted to consider recent discovered bid tariff for determination of forbearance price.

47. The Commission has taken note of the variation in bid prices for the respective years between 2017-20 and has formed scenarios which exhibit the variation. Thereafter, a balanced approach has been considered in order to safeguard the interests of both generators and consumers.

48. Some stakeholders have claimed that no market study, empirical data or details have been provided in the Order dated 31.03.2020 to demonstrate (i) the market reality referred to by CERC; (ii) why the present REC market is not operating healthily; (iii) whether there has been any market failure; (iv) consequences of the order on the REC market and the stakeholders etc. In their view, the order is intuitive at best, based on incorrect assumptions.

49. The Commission reiterates that the Principles as enunciated in Regulation 9(2) of the REC Regulations have been taken into consideration while determining the forbearance price and floor price. The required analysis has been explained in detail in the proposal which includes assessment of the current market situation and cost of generation.

50. Some stakeholders have also submitted that the Commission should analyze the State-wise capital cost of projects prior to April 2017 and post-April 2017 and their tariff in respect of only those projects which have been formally commissioned and started injecting energy in the Grid.

51. The Commission reiterates that the principles outlined in Regulation 9(2) of the REC Regulations have been taken into consideration while determining forbearance price and floor price. Any other methodology would violate provisions of the REC Regulations which is beyond the purview of this exercise. Rationale for the whole exercise has been explained in detail in the proposal which includes assessment of the current market situation and cost of generation. The Commission has taken cognizance of the market situation and has acted in accordance with the REC regulations to determine the REC Prices.

52. Several stakeholders have submitted that there is requirement of revision in consideration of APPC and have suggested using a minimum guaranteed tariff, using trued up APPC or using average MCP of the Power Exchanges for last 2-3 years with proper adjustment of POC Charges. Suggestions have also been given to replace



APPC with average ex-bus price realisation of electricity sold in Power Exchange by STU connected renewable power project. i.e. ex-bus price = power exchange price minus POC charges and losses minus STU charges and losses minus Other open access charges (as applicable in various state) minus DSM charges payable on Day ahead forecast basis.

53. Some stakeholders have also submitted that many States have manipulated and distorted APPC determination or have arbitrarily applied caps on its further escalation on year on year basis.

54. It is noted that that as per the principles of fixation of Forbearance and Floor Price as enunciated in the REC Regulations, pooled cost of purchase is used as one of the determinants while proposing the floor and forbearance price, the pooled cost of purchase as per the definition in the REC Regulations has been used. The suggestion of using Minimum Guaranteed Tariff or any other principle (market data, ex-bus price etc.) would amount to an amendment in the REC Regulations which is beyond the scope of this exercise.

55. Some stakeholders have submitted that bid prices for projects which are yet to be commissioned have been considered. They have submitted that there have been instances where the bids considered in the tabulation have been scrapped or cancelled by agencies. Some stakeholders have requested to consider Scenario 1 for determining the floor price and forbearance price of Non-Solar RECs while others have suggested to compare the same with existing preferential tariffs determined by SERCs. In general,

these stakeholders have submitted that methodology used for determining the floor price and forbearance price of RECs is to be reviewed and the methodology based on market transaction data may be considered as significant market price/ transactions data are available for several years now.

56. The review of methodology entails an amendment in the REC Regulations which is beyond the scope of this exercise. The Commission has considered a balanced approach to safeguard the interests of the eligible RE generators and obligated entities.

57. Several stakeholders have supported revision of forbearance price and floor price as according to them it reflects prevailing market conditions which has changed significantly from earlier order of the Commission on forbearance price and floor price in 2017. However, they have requested that the forbearance prices of solar RECs should be further reduced to Rs. 650 per REC by considering the competitive tariff for year 2019 instead of highest of three years. Some others have suggested to further reduce forbearance price for Solar RECs to Rs. 460 per REC by considering the competitive bidding tariff of latest year i.e. 2019 to reflect current market conditions. It was also suggested to consider tariff discovered in competitive bidding only for FY 2018-19 to arrive at forbearance price for Solar RECs to Rs. 610 per REC citing the reason that APPC of 2018-19 was considered. For forbearance price of non-solar RECs some stakeholders have requested to reduce the same below Rs 950 per REC to reflect negative forbearance price for wind technology which constitute larger pie in the non-solar technology. Some stakeholders have suggested to reduce forbearance price for solar and non-solar RECs to Rs. 500 per REC. Some stakeholders requested to

frequently revise forbearance price and floor price in view of the increase in APPC rate and further decline in the RE tariff in future.

58. The Commission has taken note of the variation in bid prices for the respective years between 2017-20 and has formed scenarios which exhibit the variations. As regards considering the highest number for computation in forbearance price for Solar RECs, the Commission, as explained in the proposal, has considered highest number given that forbearance price represents ceiling price and is to ensure viability of the project. Further, as regards forbearance price for Non-Solar RECs, weighted average of projects capacity registered under non-solar categories were considered to normalize the technology specific forbearance price for non-solar REC. The Commission believes that this balanced approach is necessary to safeguard the interests of both generators and consumers.

59. **Comments on applicability of the Proposed REC Price**

Stakeholders Comments

- **South Indian Sugar Manufactures Association** has submitted that the proposed Solar and Non-Solar REC prices should be deferred for the next 2 or 3 years and till then the existing 2017 REC price order may be continued.
- **Gujarat Biomass Energy Developers Association** has requested to defer the proposed revisions for at least a year or till such time when the market and economic situation has normalized.
- **Statkraft India Pvt. Ltd.** has submitted that retrospective applicability of the order is in-principle, wrong and impacts businesses negatively. Rather, a considered view on a prospective applicability should be undertaken.
- **Indian Sugar Mills Association** has submitted that changes proposed under the Draft Electricity (Amendment) Act, 2020 is bound to have direct impact on the RE



sector as well as REC market of the country. Therefore, any revision in Floor Price and Forbearance Price should be withheld till such time the Electricity Act, 2003 is amended.

- **Indian Sugar Mills Association, S Gurudnyanankit Energy Pvt. Ltd., Agrawal Minerals (Goa) Pvt Ltd, Parekh Medisales Pvt. Ltd, Enrich Energy Ltd, Manikanchan Solar Park, Vikram Tea Processors Pvt Ltd, H & L Energy Solutions, Triveni Sangam Holdings & Trading Co, Saidpur Jute Co. Ltd, Daksh Infrastructure Pvt Ltd, Chaphalkar Brothers, ICC Realty (India) Pvt Ltd, TS Wind Developers, Govindram Shobharam & Co., JM Industries, Siporex India Pvt Ltd, H & L Energy Solutions, Medilink Services, Hemant Group, Gangadhar Narsingdas Aggarwal, Persistent System Ltd, Ashok Iron Works (P) Ltd, Olam Sugar, Bora Agro Foods,, Ferromar Shipping Pvt. Ltd, PVSP16 (Solapur Solar) – Advik HI-Tech Pvt. Ltd, S70 (Satara Windmill) - Advik Renewable Energy Pvt. Ltd., CK10 (Nandurbar_Windmill) - Advik Renewable Energy Pvt. Ltd., J112 (Dhule_Windmill) - Advik Renewable Energy Pvt. Ltd., Enrich Energy Pvt Ltd, Greenko Group, Navalakha Translines, TS Wind Power Developers, Pooja Renewable Energy Pvt. Ltd and Saraswati Industries** have suggested to propose new rates for the projects that will be commissioned after 01.04.2020.

Analysis and Decision:

60. Several stakeholders suggested that the new REC price should be applicable for the REC projects commissioned after 01.04.2020. The argument is that the new floor price and forbearance price should not be applied on the older projects. This suggestion is akin to the concept of vintage multiplier wherein instead of differential prices for different sets of projects, higher number of RECs are given to the older projects to align them to the new price regime. The Commission has already held in earlier orders that the vintage multiplier cannot be granted unless there are specific provisions in the REC Regulations.



61. Thus, the Commission cannot provide for separate floor price and forbearance price for REC projects commissioned after 01.04.2020. Same treatment has to be accorded to all RECs issued after 01.04.2017 and the revised forbearance price and floor price would be applicable to all RECs issued after 01.04.2017.

62. It is not out of place to mention here that the Commission has already commissioned a study on regulatory impact assessment of the existing REC Mechanism. The Commission directs the staff of the Commission to examine, inter alia, the suggestions on vintage multiplier and propose a way forward for REC design in future.

63. Comments on Introducing Technology Multiplier and Vintage Multiplier:

Stakeholders Comments

- **Kanchanjunga Power Co Ltd** has requested to introduce a multiplier for small hydro projects in order to retain their viability if the proposed order on floor and forbearance price is adopted by the Commission.
- **Greenko Group and Hindalco** have suggested to provide a technology-based multiplier as there is a wide variation in viability tariff requirement of different technologies. They have requested not to reduce REC Floor price for small hydro projects for ensuring future investment in small hydro sector and alternately higher RECs may be issued considering technology-based multiplier concept (higher capex cost and higher generation PLF).
- **Adani Green Energy Ltd.** has submitted that there is a reduction in capital cost for solar and wind projects. However, the capital cost of Small Hydro Power (SHP) projects is increasing and the present capital cost is more than Rs 10 -12 crores/MW. It means higher nos. of RECs should be issued in comparison with wind and solar

generation, commensurate with increase in capital cost and tariff. They have also suggested that relative share of technologies should be calculated based on the RECs issued in last 3 years considering technology multiplier, instead of technology-wise projects registered for RECs.

- According to **UPSMCA**, it would balance the equities and best serve the cause of justice if proposed Floor Price and Forbearance Price are made applicable to projects registered on or after 01.04.2020. In case the proposed prices are to be applied to existing registered projects, then they should be given vintage multiplier so as to protect their interests and for maintaining level playing field.
- **National Solar Energy Federation of India (NSEFI)** submitted that it would be appropriate to segregate the wind energy based REC from the non-Solar REC mix while determining the floor and forbearance price under REC mechanism else a technology based multiplier concept needs to be introduced. It would also be appropriate that the REC certificates for solar and non-solar projects of different vintage may be assigned different floor price and forbearance price to protect the interest of such investments made in preliminary years, else a vintage based multiplier concept needs to be re-introduced.
- **Sri Sivajothi Spinning Mills (P) Ltd, Fab Colours, Snowdew Hydroelectric Power Project, SRG Apparels Pvt Ltd, Raghu Rama Renewable Energy Ltd, Cheenu Enterprises, R3K Power LLP, Giriraj Enterprises, Poysha Power Generation Pvt Ltd, Apex Coco and Solar Energy Ltd, Salora International Ltd, C J Shah & Co., Chiranjilal Spinners Pvt Ltd, Ascent Hydro Projects Ltd, Manikanchan Solar Park, B. G Chitale Dairy, H & L Energy Solutions, Shah Promoters & Developers, Medak Solar Projects Pvt Ltd -Nereus Capital, Dubbak Solar Projects Pvt Ltd- Nereus Capital, Ajeet Seeds Pvt Ltd, Anu Cashews, Arhyama Solar Power Pvt Ltd, Cogeneration Association of India, Sri Kumaraswamy Mineral Exports Pvt Ltd (Wind Genarator), Ponni Sugars (Erode) Ltd, Baidyanath Group, Mytrah Energy India Pvt Ltd, Sahkarmaharshi Bhausahab Thorat SSK Ltd, PGSD Engineering LLP, Pristine Developers (P) Ltd, Visaka Industries Ltd, Gokak Power & Energy Limited, Finolex Cables Ltd, Dindayal**



Commodities, D J Malpani, Liberty Oil Mills Ltd, Arkay Energy Ltd, K G Denim Ltd, Chartered Gold Financial Services Pvt Ltd, Kanoria Chemical Industries Ltd, Ramesh Steels, Eastman International and Alten Power Pvt. Ltd., Friends Salt Works & Allied Industries, Oswal Salt & Chemical Industries, Kandla Agro& Chemicals Pvt. Ltd and Gautam Freight Pvt Ltd have submitted that the Commission should consider the viability of all technologies and not just wind or solar. Therefore, an alternative approach to achieve the same would be to provide technology specific multipliers. Based on project viability, forbearance and floor price of non-solar REC may be Rs 4400 and Rs 1900 respectively.

- **Maharashtra Electricity Regulatory Commission (MERC)** has suggested that CERC may remove the distinction of Solar and Non-Solar RECs and allow both these baskets to be traded as single product as now the Forbearance and Floor price of Solar and Non-Solar RECs are proposed to be same. It has also suggested to issue RECs to Discoms procuring power from Small Hydro, Biomass, Bagasse and Municipal Solid Waste based RE sources. Said energy procured from these resources will be used for meeting RPO of Distribution Licensee and it should also earn RECs for Distribution Licensee. The same is not in accordance with existing REC framework and will require amendment.
- **NHPC** has submitted that the Commission may prescribe REC multiplier mechanism based on year of commissioning of the plant as stipulated in the Tariff Policy (say, two nos. of RECs for 1 MWh of generation with floor price of Rs 500/MWh) or vintage multiplier mechanism (in line with the mechanism already provided to solar power projects registered under REC Mechanism prior to 1st January, 2015 under third amendment to REC Regulations) for the projects already registered under REC Mechanism prior to 31.03.2020 atleast for a period of 13 years from the COD of such projects so as to comply with the loan repayment obligations. CERC RE Tariff Regulations, 2017 stipulates repayment of loan in 13 years.
- **Greenko Group and Hindalco** have suggested to re-introduce the concept of Vintage Multiplier for the RECs remaining unsold and to be issued to the entities already registered.

- **Renew Power** has submitted that RECs may be issued to the States surpassing the national level renewable purchase obligation trajectory.
- **Adani Green Energy Ltd.** has requested the Commission to consider providing Vintage Multiplier to the projects developed during the control period for sustenance of forecasted REC revenue for at least 10 years post COD so as to enable RE developer service its obligation to repay its term loans. Vintage Multiplier may be considered to reflect change in Floor price at the time of project COD and post COD.
- **Enel Green Energy** has submitted that the investments made in wind projects (developed under REC Mechanism) were quite high and only in last few years the equipment and installation costs of wind technology have witnessed substantial drop. Therefore, it would be appropriate that the REC for wind projects of different vintage may be assigned a different floor price and forbearance price to protect the interest of such investments made in preliminary years.
- **Oil India Ltd** has submitted that in this revision of Floor price and Forbearance price, no relaxation to the RE generators has been provided in the form of vintage multiplier though it was provided earlier.
- **Gurudnyanankit Energy Pvt. Ltd., Agrawal Minerals (Goa) Pvt Ltd, Parekh Medisales Pvt. Ltd, Enrich Energy Ltd, Manikanchan Solar Park, Vikram Tea Processors Pvt Ltd, H & L Energy Solutions, Triveni Sangam Holdings & Trading Co, Saidpur Jute Co. Ltd, Daksh Infrastructure Pvt Ltd, Ashok Iron Works (P) Ltd, Chaphalkar Brothers, Enrich Energy Pvt Ltd, ICC Realty (India) Pvt Ltd, Navlakha Tranlines, TS Wind Developers, S70 (Satara Windmill) -Advik Renewable Energy Pvt. Ltd., CK10 (Nandurbar Windmill) - Advik Renewable Energy Pvt. Ltd., J112 (Dhule Windmill) - Advik Renewable Energy Pvt. Ltd., PVSP16 (Solapur Solar) – Advik HI-Tech Pvt. Ltd., JM Industries, Siporex India Pvt Ltd, Persistent System Ltd, Medilink Services, Olam Sugars, Ferromar Shipping Pvt. Ltd, Bora Agro Foods, Gangadhar Narsingdas Aggarwal, Govindram Shobharam & Co., H & L Energy Solutions, Navalakha Translines, TS Wind Power Developers, Pooja Renewable Energy Pvt. Ltd, Saraswati Industries and Hemant Group** have submitted that Commission has reduced REC

rates two times and Vintage Multiplier was also removed and now further reduction of REC prices shall make small projects unviable.

Analysis and Decision:

64. Several stakeholders have suggested to introduce technology multiplier and vintage multiplier. The Commission has reviewed the suggestions in this regard and is of the view that introduction of any multiplier shall require an amendment in the REC Regulations. As the present exercise is limited to determination of REC Forbearance and Floor Price, the same cannot be considered now. As stated earlier, the Commission has already initiated a study for regulatory impact assessment of REC mechanism and directed the staff to review the submissions and propose a way forward.

65. Comments on Validity of RECs

Stakeholders Comments

- **Rana Sugars** has submitted that the absence of any control period for the validity of the proposed REC price will lead to regulatory uncertainty and will make REC market speculative.
- **DNH Power Distribution** has requested to reduce validity of REC to 180 days as market has matured.
- **Enel Green Power** has submitted that validity of REC certificates may be extended till perpetuity.
- **PTC India** has submitted that there should be no further extension of validity of RECs as it would lead to hoarding of RECs and a hindrance in operations of transparent REC market without any price barriers.

Analysis and Decision:

66. Validity of RECs is one thousand and ninety five days from the date of their issuance in accordance with the REC Regulations. The Commission does not find merit



in the arguments of the stakeholders to either extend or reduce the validity of RECs. Even otherwise, this issue is out of purview of this Petition.

67. Comments on Penal Provisions for non-compliance of RPO in extant SERC

Regulations:

Stakeholders Comments

- **Delhi Electricity Regulatory Commission** has submitted that if there is no floor price of RECs, then the provisions of penalty indicated by DERC in its Regulations, which plays a deterrent role, will fall flat since in absence of any Floor Price, it is difficult to consider the Power Purchase Cost projections towards RPO compliance while determining the ARR of the DISCOMs.
- **POSOCO** has submitted that the RPO Regulations notified by the respective SERCs have provision of linking the default in meeting of RPO with the forbearance price. Hence, reducing the forbearance price may be detrimental to the overall REC Mechanism.
- **Adani Green Energy Ltd.** has submitted that penalties on the obligated entities for not meeting the RPO should be based on the Average Market Clearing price discovered in Power exchange instead of being linked with Floor and Forbearance price currently.
- **InWEA, B C Umapathy, Shri Tradco India Pvt Ltd, Sargam Retails Pvt Ltd and Dhariwal Industries Pvt Ltd** have submitted that the penalty amount for the defaulting obligated entity is linked to the forbearance price. Thus, in order to operationalise this provision of the RPO-REC Regulations, there is a need that forbearance price exists. Further, this would be more relevant in the context of stringent RPO enforcement expected from SERCs through operationalizing such provisions of the respective State RPO-REC Regulations. Accordingly, they requested that CERC should continue specifying the forbearance price and also the same should be set at such value such that it acts as a deterrent to default in RPO compliance.

Analysis and Decision:

68. Several stakeholders have pointed out the linkage of forbearance price (and floor price) with penal provisions for non-compliance of RPO in Regulations notified by various State Electricity Regulatory Commissions while ensuring that the same will act as a deterrent against default in RPO compliance. The Commission is of the view that at present RE power can be procured by the obligated entities at significantly low price to fulfil RPO, and as such the floor and forbearance prices for REC would have to be aligned to the market realities. Deciding RPOs and providing for deterrence for non-compliance of RPOs is the domain of SERCs and they may, if deemed fit, review the basis of deterrent against default in RPO compliance.

69. **Miscellaneous Comments:**

Stakeholders Comments

- **ACC Cement, Ambuja Cement and PTC India** have submitted that if the concept of bilateral sale is allowed through OTC and Market Makers, it would bring reduced market risk, provide certainty of cash flows for RE generators, enable projects to get cheaper finance from banks and would bring in higher liquidity and hence better price discovery.
- **Amines & Plasticizers Ltd. and Apar Industries** have requested to provide REC on Captive Consumption of RE power over and above its RPO obligation in line with provision of REC to Distribution Licensee.
- **PXIL** has submitted that currently the RECs are issued to such Renewable generating plants that are connected to STU network and receive RECs from REC Registry based on the energy injection report issued by SLDCs. The market participants have informed that a similar framework needs to be developed for renewable energy plants that are connected to CTU network. This would help in

promotion of merchant sales through Day Ahead Market and Term Ahead Market of Power Exchanges.

- **BSES Rajdhani Power Ltd and JSW Steel Coated Products** have requested that any renewable generation in the area of Distribution licensee should be considered for fulfilment of RPO of the respective Discoms as per Electricity Act, 2003. Obligated entities should be allowed to meet their RPO through procurement of either solar or Non-Solar RECs. They also requested to permit bilateral sale /purchase of REC and suggested to direct Power Exchanges not to levy GST on RECs.
- **Bonafide Himachalies Hydro Power Developer Association and Sai Engineering Foundation** have submitted that separate window to trade power generated from SHP at the power exchange be allowed expeditiously with exemption of all open access charges and losses for such transactions.
- **DNH Power Distribution and GMR Energy Trading** requested to reduce power exchange fees from the existing Rs 20+tax for RECs traded.
- **Ultratech Cement, Uttam Value Steels Ltd. and ONGC Uran** have requested that RPO compliances should be at national level and obligated entities should be allowed to comply at company level. RECs should be allowed to the captive RE project where the consuming units are not obligated or RE generators and they may opt to choose to operate under the REC mechanism.
- **PTC India** has commented that Commission may look at introducing future and forward financial contracts in the Renewable Energy market. These energy futures will be standardized contracts based on the underlying RE products. The participants should be allowed to trade energy futures and also hedge against future price uncertainties.
- **UPPCL and GMR Energy Trading** requested to allow increase of frequency of REC trading and also to reduce transaction fee of power exchanges.
- **Statkraft India Pvt Ltd** has requested to introduce Hydro RECs as a separate category instead of placing these within the Non-Solar REC category.
- **Cement Manufacturers Association and Reliance Industries Ltd.** have requested that carrying forward of RPO to subsequent years should be considered in view of

COVID-19 impact on the Industry and Business. There should be a single regulation for RPO compliances at national level and all obligated entities should be required to comply at the company level i.e. combined for all its obligated manufacturing units. They also requested to allow RE projects which are availing the benefit in the form of concessional/ promotional transmission or wheeling charges or banking facility benefit and all Captive Projects for RECs.

- **Adani Green Energy Ltd.** has submitted that Open access consumers should not be granted NOC by SLDC/RLDC in case they fail to provide the RPO fulfilment certificate from competent authority and reasonable penalties linked with Forbearance Price should be imposed on the obligated entities failing to fulfil RPO requirement.
- **NSEFI** commented that existing inventory is the result of lack of demand of RECs, which has been caused due to lack of RPO enforcement by the SERCs. This represents a significant failure on the part of SERCs, the burden of which will have to be borne by RE projects for no fault of theirs.
- **SISMA** has requested that Commission should continue to fix, monitor and enforce the RPO targets on the obligated entities.
- **Serum Institute of India** has requested to extend the period after generation from present six months to one year for sending documents to NLDC for REC issuance.
- **Winsol Engineers and JJ PV Solar Pvt Ltd** have requested to issue necessary directions or to take action towards adoption of progressive targets of Renewable Purchase Obligations in accordance with the mandate of Electricity Act, 2003 and National Electricity Policy, 2005.
- **Green Energy Association** submitted that the SERCs have allowed carry-forward and waiver of RPOs despite RECs being abundantly available in the market and provision being made in tariff orders for purchase of renewable energy. In fact, even in rare instances where penalty was imposed on non-compliant obligated entities, the fund so created was used for purposes other than for purchase of RECs.
- **Sharada Erectors Pvt Ltd and NTS Power** have stated that due to complete lockdown in Maharashtra, local Circle officials are not being able to approve the REC

EIR from their end and provide it to SLDC and without the REC EIR from the local circle, SLDC will not process the SLDC verification report.

- **JVS Export** has stated that TANGEDCO has not paid for solar energy for the last two years and total amount payable is Rs. 3.70 Crores. Even though the Madras High Court has ordered them to pay the dues, TANGEDCO has not paid.
- **BG Wind Power Ltd.** has submitted that there are pending disputes on APPC, certification of energy generated in the State of Rajasthan and wind power projects are facing acute liquidity and viability issues in view of several directions passed by the SERC. Before fixing the floor price and forbearance price of RECs, the bottleneck of the State of Rajasthan may be first taken up in the Forum of Regulators to resolve the issue of REC Tariff at APPC of Discom and PPA.
- **Association of Power Producers (APP), FICCI, Tata Power, Basant Wind Farms Pvt. Ltd., Karur Sree Rama Trading Private Limited and Amirthaa Green Infra Private Limited** have requested to introduce REC trading on bilateral platform with different modes; one of which may be through the concept of Virtual Power Plant. It has suggested that CERC may review to shift/allow REC trading through trading licensee under OTC trade.
- **Ajeet Seeds Pvt Ltd, Ascent Hydro Projects Ltd, Anu Cashews, Apex Coco and Solar Energy, Arhyama Solar Power Pvt Ltd, Arkay Energy Ltd, Baidyanath Group, B.G. Chitale Dairy, CJ Shah & Co., Chartered Gold Financial Services, Cheenu Enterprises, Chiranjilal Spinners Pvt Ltd, Cogeneration Association of India, Dindayal Commodities, DJ Malpani, Medak Solar Projects Pvt Ltd - Nereus Capital, Dubbak Solar Projects Pvt Ltd- Nereus Capital, Fab Colors, Finolex Cables Limited, Friends Salt Works & Allied Industries, Oswal Salt & Chemical Industries, Kandla Agro& Chemicals Pvt. Ltd, Kanoria Chemical Industries Ltd, Gautam Freight Pvt Ltd, Giriraj Enterprises, H & L Energy Solutions, KG Denim, Liberty Oil Mills Ltd, Manikanchan Solar Park, Visaka Industries Ltd, Winsol Engineers and JJ PV Solar Pvt Ltd,** have submitted that the clarifications issued by MoP instead of progressively increasing RPO, seeks to fix the percentage of RE obligations for captive power consumers corresponding to

their year of commissioning. Therefore, by capping the RPO, it causes hindrance in creation of demand for RE based power resulting in disregarding the objective of the Electricity Act, 2003 and National Electricity Policy, 2005. They have submitted that:

- To clarify and advise the Ministry of Power and SERCs that the impact of its action is regressive and has resulted in suppressing growth of environment friendly sources of renewable energy generation within India.
- Issue necessary directions or to take necessary action towards adoption of progressive targets of Renewable Purchase Obligations in accordance with the mandate of Electricity Act, 2003 and National Electricity Policy, 2005.
- Define the role of Ministry of Power in setting long term growth trajectory of RPO and State Electricity Regulatory Commission in specifying RPO targets in accordance with Section 86(1)(e) of the Electricity Act, 2003 and Clause 6.4 of National Tariff Policy, 2016 so that order passed by Ministry of Power may not encroach upon the legislative domain of SERCs.

Analysis and Decision:

70. The Commission has taken note of the aforesaid submissions by the stakeholders. It is to reiterate that the present exercise is for the determination of forbearance price and floor price only. Considering above comments is beyond the scope of this Order. However, the Commission would like to reiterate that the staff has been directed to carry out review of the REC mechanism and suggest way forward.

71. Summary of Decisions

71.1. Floor and Forbearance price for Non-Solar RECs shall be as follows:

	Non-Solar REC (Rs./ MWh)
Forbearance Price	1,000
Floor Price	0

71.2. Floor and Forbearance price for Solar RECs shall be as follows:

	Solar REC (Rs./ MWh)
Forbearance Price	1,000
Floor Price	0

71.3. The forbearance price and floor price as above shall be effective from 01.07.2020 and shall remain in force till 30.06.2021 or until further orders of the Commission.

71.4. The Commission directs the Staff to undertake review of REC mechanism in the light of the prevailing market developments, including inter alia review the need for floor and forbearance price for REC mechanism and vintage or technology multiplier.

72. The forbearance price and floor price decided in this order for Non-solar RECs shall be applicable to Non-solar RECs issued on or after 01.04.2017. For Non-solar RECs issued prior to 01.04.2017, the trading shall take place in accordance with Commission's letter dated 28.05.2018 and shall be subject to the final decision of the Hon'ble Supreme Court in Civil Appeal No. 4801/2018.

73. In terms of the above, the Petition No. 05/SM/2020 is disposed of.

Sd/-
(Arun Goyal)
MEMBER

Sd/-
(I.S. Jha)
MEMBER

Sd/-
(P.K. Pujari)
CHAIRPERSON



Annexure-A: List of stakeholders who have submitted their comments

1	ACC Limited	41	Bora Agro Foods
2	Adani Green Energy Ltd	42	BSES Rajdhani Power Ltd
3	Adhya Renewable Energy-Kiran Group	43	C J Shah & Co
4	Aditya Birla Group	44	Cement Manufacturers Association
5	Advik Hi-Tech Private Limited Pvsp16	45	CER IIT Kanpur
6	Advik Renewable Energy Private Limited Ck10	46	Chamber of Commerce and Industry - Kutch
7	Advik Renewable Energy Private Limited J112	47	Chaphalkar Brothers
8	Advik Renewable Energy Private Limited S70	48	Chartered Gold Financial Services
9	Agarwal Packaging Pvt Ltd	49	Cheenu Enterprises
10	Agrawal Minerals (Goa) Pvt Ltd	50	ChemplastCuddaloreVinyls Ltd
11	AIA Engineering Ltd	51	Chiranjilal Spinners Pvt Ltd
12	Ajeet Seeds Pvt Ltd	52	CLP India
13	Alkali Manufacturers Association of India	53	Cogeneration Association of India
14	All India Renewable Energy Protection Association	54	Confederation of Captive Power Plants Odisha
15	Alten Power Pvt Ltd	55	Daksh Infrastructure Pvt Ltd
16	Ambuja Cements Limited	56	Dalmia Cement Bharat Limited
17	Amines & Plasticizers Ltd	57	DCM Shriram Limited
18	Amirthaa Green Infra Private Limited	58	DERC
19	ANU CASHEWS	59	DharampalPremchand Ltd
20	Apar Industries Ltd	60	Dhariwal Industries Pvt Ltd
21	Apex Coco and Solar Energy	61	Dindayal Commodities Private Limited
22	APP	62	DJ Malpani
23	Arcelor Mittal Nippon Steel India Ltd	63	DNH Power Distribution
24	Arhyama Solar Power Pvt Ltd	64	Dubbak Solar Projects Private Limited
25	Arkay Energy Ltd	65	Eastman International
26	Ascent Hydro Projects Ltd	66	Enel Green Power India Private Limited
27	Ashok Iron Works Pvt Ltd	67	Enrich Energy Pvt Ltd
28	Assocham	68	Etica Developers Pvt Ltd
29	Atul Ltd	69	Fab Colors
30	Baidyanath Group of Companies	70	Fasttrack Packers Pvt Ltd
31	Bajaj Finserv Ltd	71	Ferromar Shipping Pvt Ltd
32	Balkrishna Sizing Industries	72	FICCI
33	Basant Windfarms Private Limited Unit-1&2	73	Finolex Cables Limited
34	BC Umapathy	74	Finolex Industries Ltd
35	BG Chitale Dairy	75	Flow Devices Systems
36	BG Raibage	76	Fortum India Private Limited
37	BG Wind Power Limited	77	Friends Salt Works & Allied Industries
38	Bharat Power Inc	78	Gamma Green Power
39	BonafideHimachalies Hydro Power Developer Association	79	Gangadhar Narsingdas Aggarwal 1
40	Bonaterre Greenhouses LLP	80	Gautam Freight Pvt Ltd



81	GHCL Limited	123	Kandla Agro& Chemicals Pvt Ltd
82	Giriraj Enterprises	124	Kanoria Chemicals & Industries Ltd
83	GMR Energy Trading Limited	125	Karur Sree Rama Trading Private Limited
84	GMR Generation Assets Limited	126	KERC
85	Gokak Power & Energy Ltd	127	KG Denim
86	Gomathy International	128	Kreate Energy
87	GovindramShobharam& Co	129	Liberty Oil Mills Limited
88	Grasim Industries Limited	130	LNJ Bhilwara
89	Green Energy Association	131	Malpani Tea Corporation
90	Greenko Group	132	Manikanchan Solar Park
91	Gujarat Ambuja Exports Limited	133	Manikaran Power Limited
92	Gujarat Biomass Energy Developers Association	134	MB Power (Madhya Pradesh) Limited
93	Gujarat Chamber of Commerce and Industry	135	MEDAK Solar Projects Private Limited
94	Gujarat Fluorochemicals Limited	136	Medilink services
95	Gupta sons	137	MeghmaniFinechem Limited
96	Gurudnyanankit Energy Pvt Ltd	138	MERC
97	H&L Energy Solutions	139	MESCOM
98	Harsh Renewable Energy-Kiran Group	140	MNRE
99	Hazira Area Industries Association	141	Mytrah Energy (India) Private Limited
100	Hemant Group	142	Nava Bharat Ventures Ltd
101	Hero Future Energies	143	NavalakhaTranslines
102	Hindalco	144	NHPC
103	Hindustan Platinum Private Limited	145	Nirma Limited
104	ICC Realty (India) Pvt Ltd	146	NSEFI
105	IEX	147	NTPC
106	India Glycols Ltd	148	NTS Power
107	Indian Sugar Mills Association	149	NVVN
108	Indian Wind Power Association	150	Oil India Limited
109	Indo Rama Synthetics	151	Olam Agro India Private Limited
110	Inox Renewables Ltd	152	ONGC - Hazira Plant
111	InWEA	153	ONGC Uran Plant
112	IPF Vikram India Limited	154	Orient Green Power Company
113	IPPAI	155	Oswal Salt & Chemicals Industries
114	ITC Limited	156	Parekh Medisales Pvt Ltd
115	IWPA-NRC	157	PEDA
116	IWTMA	158	Persistent Systems Ltd
117	Jathar Textiles	159	PGSD Engineering LLP
118	JJ PV Solar Pvt Ltd	160	PHD Chamber of Commerce and Industry
119	JM Industries	161	PONNI SUGARS (ERODE) LTD
120	JSW Steel Coated Products Ltd	162	Pooja Renewable Energy Pvt Ltd
121	JVS Export	163	POSOCO
122	Kanchanjunga Power Company Private Limited	164	Power Company of Karnataka Ltd



165	Poysha Power Generation Private Limited	201	Sivajothi Spinning Mills
166	Pradeep Metals Ltd	202	SkShivaraj
167	Pragati Agencies	203	SK Veerabhadrapa& Co
168	Pristine Developers (P) Ltd	204	Snowdew Hydroelectric Power Projects Pvt Ltd
169	Prodigy Hydro Power Private Limited	205	Shri Someswara Prasad KM
170	PTC India	206	Southern Gujarat Chamber of Commerce & Industry
171	PXIL	207	SRG Apparels Pvt Ltd
172	R3K Power	208	Sri Amareshwar Industries
173	Raghu Rama Renewable Energy Pvt Ltd	209	Sri Kumaraswamy Mineral Exports Pvt Ltd
174	Ramesh Steels	210	Sri Laxmi Industries
175	Rana Sugars Limited	211	SRS Engineers
176	Reliance Industries Ltd	212	Star Delta Transformers Ltd
177	Renew Power	213	Statkraft
178	RPG Power Trading Co Ltd	214	Systematics Enterprises Pvt Ltd
179	RSPL Limited	215	Tamilnadu Petroproducts Limited
180	SahkarmaharshiBhausahbThorat SSK Ltd	216	TATA Chemicals
181	Sai Engineering Foundation	217	Tata Power Company Ltd
182	Saidpur Jute Company Ltd	218	Tata Steel BSI
183	Salora International	219	TNERC
184	Sanghi Industries Ltd	220	TRBEX IMPEX Pvt Ltd
185	Sapphire Pro Ventures Pvt Ltd	221	Triveni Sangam Holdings & Trading Co
186	Saraswati Industries	222	TS Wind Power Developers
187	Sargam Retails Pvt Ltd	223	Tuhina Enterprises
188	Saurashtra Chamber of Commerce & Industry	224	Ujaas Energy Ltd
189	Seattle Power Solutions Pvt Ltd	225	Ultratech Cement
190	Semcorp Green Infra	226	UP Sugar Mills Cogen Association
191	Serum Institute of India	227	UPPCL
192	Shah Promoters & Developers	228	Uttam Value Steels Limited
193	Sharada Erectors Pvt Ltd	229	Vedanta Ltd
194	Sharma Industries	230	Vikram Tea Processor Pvt Ltd
195	Shell Energy India Pvt Ltd	231	Vikram Urethane Private Limited
196	Shivashri Techno Homes Pvt Ltd	232	Vippy Industries Limited
197	Shree Cement Ltd	233	Visaka Industries Limited
198	Shri Tradco India Pvt Ltd	234	Welspun Group
199	Siporex India Pvt Ltd	235	Winsol Engineers
200	SISMA Tamil Nadu		

