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STANDING COMMITTEE ON ENERGY

(2022-23)

SEVENTEENTH LOK SABHA

MINISTRY OF NEW AND RENEWABLE ENERGY

**[Action-taken by the Government on observations/recommendations
contained in Twenty-Seventh Report (17th Lok Sabha) on the subject
'Evaluation of Wind Energy in India']**

THIRTY-EIGHTH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

July, 2023/ Ashadha, 1945 (Saka)

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'Evaluation of Wind Energy in India']**

Presented to Lok Sabha on 25th July, 2023

Laid in Rajya Sabha on 25th July, 2023



**LOK SABHA SECRETARIAT
NEW DELHI**

July, 2023/ Ashadha, 1945 (Saka)

COE NO. 367

Price: Rs.

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Published under Rule 382 of the Rules of Procedure and Conduct of Business
in Lok Sabha (Sixteenth Edition) and Printed by_____.

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY (2022-23)

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3. Shri Chandra Sekhar Bellana
4. Shri Pradeep Kumar Chaudhary*
5. Dr. A. Chellakumar
6. Shri Harish Dwivedi
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13. Shri Gyaneshwar Patil
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15. Shri Dipsinh Shankarsinh Rathod
16. Shri Uttam Kumar Nalamada Reddy
17. Shri Devendra Singh *alias* Bhole Singh
18. Shri Rajveer Singh (Raju Bhaiya)
19. Shri Shivkumar Chanabasappa Udasi
20. Shri Balashowry Vallabbhaneni
21. Shri P. Velusamy

RAJYA SABHA

22. Shri Gulam Ali#
23. Shri Rajendra Gehlot
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31. Shri K.T.S. Tulsi

SECRETARIAT

- | | | |
|----|---------------------------|---------------------|
| 1. | Dr. Ram Raj Rai | Joint Secretary |
| 2. | Shri R.K. Suryanarayanan | Director |
| 3. | Shri Kulmohan Singh Arora | Additional Director |
| 4. | Ms. Deepika | Committee Officer |

* Nominated as Member of the Committee w.e.f. 4th November, 2022.

Nominated as Member of the Committee w.e.f. 16th December, 2022.

INTRODUCTION

I, the Chairperson, Standing Committee on Energy, having been authorized by the Committee to present the Report on their behalf, present this Thirty-Eighth Report on action-taken by the Government on observations/recommendations contained in Twenty-Seventh Report (17th Lok Sabha) on the subject 'Evaluation of Wind Energy in India'.

2. The Twenty-Seventh Report was presented to the Lok Sabha on 2nd August, 2022 and was laid on table of the Rajya Sabha on the same day. Replies of the Government to the observations/recommendations contained in this Report were received on 24th April, 2023.

3. The Report was considered and adopted by the Committee at their sitting held on 20th July, 2023.

4. An Analysis of action-taken by the Government on the observations/recommendations contained in the Twenty-Seventh Report (17th Lok Sabha) of the Committee is given at Appendix-II.

5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

**New Delhi;
20th July, 2023
29 Ashadha, 1945 (Saka)**

**Jagdambika Pal
Chairperson,
Standing Committee on Energy**

CHAPTER - I

This Report of the Standing Committee on Energy deals with action-taken by the Ministry of New and Renewable Energy on observations/recommendations contained in the Twenty-Seventh Report (Seventeenth Lok Sabha) of the Committee (2021-22) on the subject 'Evaluation of Wind Energy in India'.

2. The Twenty-Seventh Report was presented to the Lok Sabha on 2nd August, 2022 and was laid on table of the Rajya Sabha on the same day. The Report contained 7 Observations/Recommendations.

3. Action Taken Notes in respect of all the observations/recommendations contained in the Report have been received from the Government. These have been categorized as follows:

- | | |
|--|---------------------------|
| (i) Observations/Recommendations which have been accepted by the Government:
Serial Nos. 1, 2, 3, 4, 5, 6 and 7 | Total - 07
Chapter-II |
| (ii) Observations/Recommendations which the Committee do not desire to pursue in view of the Government's replies:
Nil | Total - 00
Chapter-III |
| (iii) Observations/Recommendations in respect of which the replies of the Government have not been accepted by the Committee and which require reiteration:
Nil | Total- 00
Chapter-IV |
| (iv) Observation/Recommendation in respect of which the final replies of the Government are still awaited:
Nil | Total - 00
Chapter-V |

4. The Committee desire that Action-taken Statement on the Recommendations/Observations contained in Chapter-I of this Report may be furnished to the Committee within three months of the presentation of this Report.

5. The Committee will now deal with action-taken by the Government on some of their Recommendations that require reiteration or merit comments.

Recommendation No. 2

6. The Committee had recommended as under:

“The Committee note that most of the wind energy potential of the Country is available in only eight states namely, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Telangana and Tamil Nadu. It has been submitted that wind resource is highly site specific and majority of wind rich sites of the Country have already been exploited to a large extent. In this regard, the Committee are of the opinion that there is a need to repower the old wind turbines which not only have completed their life-cycle but also occupy the best wind sites. The Committee, therefore recommend that:

- i) Old and less efficient wind turbines should be retired and replaced with technologically advanced and more efficient wind turbines so as to ensure maximum use of the available natural resource, land and evacuation infrastructure.
- ii) The Ministry should formulate policy for repowering of old turbines so as to boost wind power generation in the Country.
- iii) The Ministry should also issue guidelines for recycling of the old turbines.”

7. In its action-taken reply, the Ministry of New and Renewable Energy has stated as under:

“(i) & (ii) National Institute of Wind Energy has estimated repowering potential of the country to be 25406 MW considering Wind turbines below the capacity of 2 MW. Government had issued ‘Policy for Repowering of the Wind Power Projects’ on 5th August 2016 in order to create a facilitative framework for repowering. Based on the feedbacks from the stakeholders, a revised policy for repowering of wind power projects has been prepared and circulated for stakeholders’ comments on 17.10.2022. The objectives of the draft Repowering Policy are optimum utilization of Wind energy resource by maximizing energy

(kWh) yield per sq.km of the project area and utilizing the latest state-of the art onshore Wind turbine technologies. Based on the comments of stakeholders, the final policy is under approval.

(iii) The following materials are majorly used for manufacturing of wind turbine components:

(a) Metals (steel, iron/cast iron, aluminium, copper, etc) - about 87 %

(b) Fiberglass/resin/plastic – about 10-13%.

All the wind turbine metal parts made of steel, iron/cast iron can be recycled (including the tower, supporting frames, generator and gearbox etc.). Wind Turbine Blades are mainly made up of Fiber Reinforced Plastics (FRP). The Central Pollution Control Board (CPCB) has issued 'Guidelines for Disposal of Thermoset Plastic Waste including Sheet moulding compound (SMC)/Fiber Reinforced Plastic (FRP)' on 25th May, 2016. It, *interalia*, provides provisions for management of Thermoset Polymer including SMC/FRP waste through (a) Minimizing the waste generation, (b) Co-processing in cement kilns and (c) Disposal in secured landfills."

8. In response to the recommendation of the Committee, the Ministry has furnished that the Government issued 'Policy for Repowering of the Wind Power Projects' on 5th August 2016; a revised policy was prepared and circulated for stakeholders' comments on 17.10.2022 and the final policy is under approval. The Ministry has also stated that the objectives of the draft Repowering Policy are optimum utilization of wind energy resource by maximizing energy yield per square km. of the project area and utilizing the latest state-of the art onshore wind turbine technologies. The Committee appreciate that the Policy for Repowering of the Wind Power Projects is being revised based on the comments and suggestions of the stakeholders. As it has been more than 9 months since the policy was circulated for stakeholders' comments, the Ministry should get the revised policy approved as early as possible and ensure its timely implementation to achieve the objectives in this regard. The Committee may be apprised about the final outcome accordingly.

Recommendation No. 4

9. The Committee had recommended as under:

“The Committee note that ‘National Offshore Wind Energy Policy’ was notified on 6th October 2015 for development and use of maritime space within the Exclusive Economic Zone (EEZ) of the Country for production of grid quality electrical power for national consumption. It has been submitted that eight zones each in Gujarat and Tamil Nadu have been identified as potential offshore zones. Initial offshore wind energy potential within these identified zones has been estimated to be about 70 GW off the coast of Gujarat & Tamil Nadu. However, no off-shore wind project has been established in the Country till date. The Committee observe that although, currently off-shore wind power is costly in comparison to on-shore wind power, but off-shore wind energy projects have significantly higher Capacity Utilization Factor as compared to on-shore wind energy projects. Further, as per global trends, the cost of the off-shore wind energy projects reduce gradually with an increase of cumulative installed capacity. Moreover, in order to achieve the enhanced target of 500 GW of non-fossil fuel based installed energy capacity by 2030; there is a need to harness every possible renewable energy resource. The Committee, therefore recommend that off-shore wind energy projects should be established off-the coast of Gujarat and Tamil Nadu after proper environmental impact assessment in a time bound manner. The Committee also desire that initially, Viability Gap Funding may be provided in order to make off-shore wind energy projects viable and associated transmission infrastructure needs to be built to enable power evacuation from these projects. The Committee further desire that off-shore wind potential should also be explored in coastal areas other than Gujarat and Tamil Nadu along India’s 7,600 km long coastline.”

10. In its action-taken reply, the Ministry of New and Renewable Energy has stated as under:

“National Institute of Wind Energy has prepared a mesoscale map indicating wind speed across the entire coastline of the country (Mainland). For initial phase of offshore wind power developments, Government has identified potential zones off Gujarat and Tamil Nadu coast. As per preliminary meso-scale study the estimated potential of these zones is about 70 GW which may further increase based on micrositing and technology improvements in offshore wind. NIWE has installed a LiDAR off Gujarat Coast in 2018 and collected 2 years wind

data which is also available on NIWE website. NIWE has also conducted Geophysical, Geotechnical study, Rapid EIA study, Oceanographic (Wave, Tide & current study) off Gujarat coast for 01 GW capacity. Ministry has issued 'Strategy Paper for Offshore Wind Development' after stakeholders' consultation in July 2022. The strategy includes a bidding trajectory of 37 GW capacity till 2030 along with three business models for offshore wind energy project development. A concept note for VGF scheme of Rs.15608.65 crore for 3 GW capacity of offshore wind energy projects has been sent to Department of Expenditure, Ministry of Finance, for 'in-principle' approval. Central Transmission Utility has completed the planning of required transmission infrastructure for offshore wind projects for initial 10 GW offshore capacity (05 GW each off Gujarat and Tamil Nadu coast). Further, Ministry has issued draft tender document along with contractual agreements for allocation of sea-bed lease rights for offshore wind power projects, for stakeholders' consultation on 14.11.2022. The comments of stakeholders have been received and are under examination."

11. In response to the recommendation of the Committee, the Ministry has furnished that it has issued 'Strategy Paper for Offshore Wind Development' after stakeholders' consultation in July 2022 which includes a bidding trajectory of 37 GW capacity till 2030. Further, a concept note for VGF scheme of Rs.15608.65 crore for 3 GW capacity of offshore wind energy projects has been sent to Department of Expenditure, Ministry of Finance for 'in-principle' approval. The Committee may be apprised about the details regarding bidding trajectory for installation of 37 GW capacity of Off-shore Wind Energy by 2030 and the impact thereof along with the approval status of the proposed Viability Gap Funding Scheme.

CHAPTER - II

Observations/Recommendations which have been accepted by the Government

Recommendation No. 1

The Committee note that the wind resource assessment conducted by the National Institute of Wind Energy has estimated wind power potential of 302.20 GW at 100 meter above ground level and 695.50 GW at 120 meter above ground level in the Country. Further, the Committee have been informed that in order to make the tariff commercially attractive, the wind power installation sites chosen are those which have an annual average Capacity Utilization Factor (CUF) of at least 30%. However, it has also been submitted that potential of about 214 GW has been estimated with more than 30% CUF and about 57 GW with more than 35% CUF. It implies that more than 200 GW of wind power can be installed in the Country with commercially attractive tariff. However, the cumulative installed capacity of wind power is only 40.71 GW as on 31st May, 2022 i.e. less than one fifth of the commercially exploitable potential. The reasons attributed to the slow pace of capacity addition in wind energy sector are shift in tariff regime from Feed-in-Tariff to Bidding Mechanism, aggressive bidding by developers, less availability of wind rich sites, etc. The Committee feel that only a fraction of the Country's wind potential has been tapped till date amounting to under-utilization of available natural resource.

Moreover, the Committee observe that the installed capacity of wind power was 21042.58 MW as on 31st March, 2014 which has increased to 40706.38 MW as on 30th May, 2022 i.e. an increase of 93.45% in 8 years. On the other hand, installed capacity of solar power has exponentially increased by 2063.86% during the same period. It gives an impression that solar energy has been prioritized over wind energy despite heavy dependence on imports in solar energy sector. Therefore, keeping in view the fact that India has strong domestic manufacturing in wind energy sector and wind turbines along with other related components are exported to USA, Australia, Europe, Brazil and other Asian Countries, the Committee recommend that the wind energy sector should be given due priority vis-à-vis solar energy sector in order to maintain a balanced energy mix and also to allow the sector to reach its potential.

Reply of the Government

According to the National Institute of Wind Energy, an estimated wind power potential of about 214 GW with more than 30% CUF is available in the

country at the height of 120 above ground level. Out of this 214 GW wind potential, 207 GW is available in five states only, i.e. Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu. On the other hand, solar potential is distributed across the country. Thus, the concentration potential provides limited scope of accelerated deployment, in comparison to the solar power. Further, the discovered tariff of solar power is lower than the wind power, making solar power a preferable option for DISCOMs.

Government has taken several steps especially to promote wind energy, such as

i) Declaration of trajectory for Wind Renewable Purchase Obligation (RPO) up to the year 2030.

ii) Concessional custom duty exemption benefit on certain components required for manufacturing of wind electric generators.

iii) A revised policy for repowering of wind power projects has been prepared and circulated for stakeholders' comments vide OM dated 17.10.2022.

iv) In order to provide relief to wind power project developers on account of supply chain disruption due to second COVID-19 surge, an additional time extension up to 3 (three) months in the Scheduled Commissioning Date have been provided for wind power projects.

v) Ministry also permitted part commissioning of wind power projects in lot of 10 MW or more, in place of stipulated minimum capacity of 50 MW for part commissioning in the guidelines.

vi) Technical support including wind resource assessment and identification of potential sites through the National Institute of Wind Energy, Chennai.

vii) Ministry has submitted a concept note for a VGF scheme for Rs. 14283/- crore for supporting the initial 3.0 GW project.

viii) A strategy paper on offshore wind has been published including various business models for offshore wind development and indicative auction trajectory of 37 GW offshore capacity/sites allocation till 2030.

Further, the Ministry vide letter dated 09.01.2023 has reviewed the competitive bidding mechanism for procurement of power from wind power projects. It, interalia, provides the following provisions:

i) Bids for a cumulative capacity of about 08 GW will be issued each year from 1st January, 2023 onwards up to 2030.

ii) In order to ensure that wind energy capacity comes up in all the 8 windy states; every bid will be a composite bid-comprising of state specific sub-bids for each of the 8 windy states. The power generated from capacity established in each of the state sub-bids will be pooled and offered at pooled

tariff to all procurers. The pooling of tariff will be as per the notified Electricity (Amendment) Rules, 2022.

iii) The bids will be on a single stage two envelope closed bid basis.

[Ministry of New and Renewable Energy
O.M. No. 372-12/8/2022-PU, Dated: 24/04/2023]

Recommendation No. 2

The Committee note that most of the wind energy potential of the Country is available in only eight states namely, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Telangana and Tamil Nadu. It has been submitted that wind resource is highly site specific and majority of wind rich sites of the Country have already been exploited to a large extent. In this regard, the Committee are of the opinion that there is a need to repower the old wind turbines which not only have completed their life-cycle but also occupy the best wind sites. The Committee, therefore recommend that:

i) Old and less efficient wind turbines should be retired and replaced with technologically advanced and more efficient wind turbines so as to ensure maximum use of the available natural resource, land and evacuation infrastructure.

ii) The Ministry should formulate policy for repowering of old turbines so as to boost wind power generation in the Country.

iii) The Ministry should also issue guidelines for recycling of the old turbines.

Reply of the Government

(i) & (ii) National Institute of Wind Energy has estimated repowering potential of the country to be 25406 MW considering Wind turbines below the capacity of 2 MW. Government had issued 'Policy for Repowering of the Wind Power Projects' on 5th August 2016 in order to create a facilitative framework for repowering. Based on the feedbacks from the stakeholders, a revised policy for repowering of wind power projects has been prepared and circulated for stakeholders' comments on 17.10.2022. The objectives of the draft Repowering Policy are optimum utilization of Wind energy resource by maximizing energy (kWh) yield per sq.km of the project area and utilizing the latest state-of the art onshore Wind turbine technologies. Based on the comments of stakeholders, the final policy is under approval.

(iii) The following materials are majorly used for manufacturing of wind turbine components:

(a) Metals (steel, iron/cast iron, aluminium, copper, etc) - about 87 %

(b) Fiberglass/resin/plastic - about 10-13%.

All the wind turbine metal parts made of steel, iron/ cast iron can be recycled (including the tower, supporting frames, generator and gearbox etc.). Wind Turbine Blades are mainly made up of Fiber Reinforced Plastics (FRP). The Central Pollution Control Board (CPCB) has issued 'Guidelines for Disposal of Thermoset Plastic Waste including Sheet moulding compound (SMC)/Fiber Reinforced Plastic (FRP)' on 25th May, 2016. It, *interalia*, provides provisions for management of Thermoset Polymer including SMC/FRP waste through (a) Minimizing the waste generation, (b) Co-processing in cement kilns and (c) Disposal in secured landfills.

[Ministry of New and Renewable Energy
O.M. No. 372-12/8/2022-PU, Dated: 24/04/2023]

Comments of the Committee
(Please see Para No. 8 of Chapter - I of the Report)

Recommendation No. 3

The Committee have been informed that the wind energy capacity addition till the year 2017 was through Feed in Tariff (FiT) mechanism and subsequently, the tariff regime has been shifted from Feed-in-Tariff (FiT) to bidding route which has disrupted the installation of projects. Due to this shift, there was a transition from relatively high tariff of ₹ 4-5/unit to more competitive tariff of ₹ 2.5-3/unit causing a reduction in profitability of the wind projects. Further, in the competitive bidding regime, the size of wind power projects has considerably increased and these projects are being awarded to large IPPs/developers. It has also been submitted that some of the developers resort to aggressive bidding, thus lowering the prices to unsustainable level and then back out of the project. In view of the Committee, there is an urgent need of strict action against such developers in order to maintain the sanctity of the bidding process and save the time and efforts of the bidding agencies like Solar Energy Corporation of India, NTPC Ltd. etc. The Committee therefore, recommend that provisions for imposition of heavy penalty on developers should be made in case they back out unilaterally and persistent defaulters should be blacklisted.

Reply of the Government

Government has issued 'Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Wind Power Projects' having provision with regard to the event of default of the generator and its resulting consequences. The bids for wind projects are being

conducted as per provisions of these guidelines. The present bid documents of SECI has following provisions relating to liquidated damages:

i) If the bidder withdraws or varies the bid after due date and time of bid submission and during the validity of bid, Bank Guarantee (BG) towards Earnest Money Deposit (EMD) shall be encashed.

ii) In case, SECI offers to execute the Power Purchase Agreement (PPA) with the Selected Bidder and if the Selected Bidder does not execute the PPA within the stipulated time period, then the EMD will be encashed, and the selected Project shall stand cancelled.

iii) Further, in case of default in achieving Financial Closure within the stipulated time, SECI shall be entitled to encash Performance Bank Guarantee (PBG) and remove the Project from the list of the selected Projects, unless the delay is on account of factors not owing to any action or inaction on the part of the Wind Power Developer (WPD), or caused due to a Force Majeure as per PPA.

iv) In case of delay in commissioning beyond the Scheduled Commissioning Date (SCD), i.e., 24 months from PPA, the developers are allowed to commission the Project with encashment of PBG, on a per-day basis, until 270 days from the SCD. In case of delay beyond 270 days, the entire PBG shall be encashed and the Project shall be terminated.

Further, the Ministry vide letter dated 09.01.2023 has reviewed the competitive bidding mechanism for procurement of power from wind power projects. It, *interalia*, includes the following penalties for non-execution of the awarded project:

i) In case the project commissioning is delayed by one year or more from SCD, the performance bank guarantee (PBG) shall be encashed. The PBG shall be 5% or as per the upper limit stipulated by Ministry of Finance from time to time, whichever is lower.

ii) Where the project is not executed by the bidder even after 18 months of the SCD the bidder will be debarred for 5 years.

[Ministry of New and Renewable Energy
O.M. No. 372-12/8/2022-PU, Dated: 24/04/2023]

Recommendation No. 4

The Committee note that 'National Offshore Wind Energy Policy' was notified on 6th October 2015 for development and use of maritime space within the Exclusive Economic Zone (EEZ) of the Country for production of grid quality electrical power for national consumption. It has been submitted that eight zones each in Gujarat and Tamil Nadu have been identified as potential offshore zones. Initial offshore wind energy potential within these identified

zones has been estimated to be about 70 GW off the coast of Gujarat & Tamil Nadu. However, no off-shore wind project has been established in the Country till date. The Committee observe that although, currently off-shore wind power is costly in comparison to on-shore wind power, but off-shore wind energy projects have significantly higher Capacity Utilization Factor as compared to on-shore wind energy projects. Further, as per global trends, the cost of the off-shore wind energy projects reduce gradually with an increase of cumulative installed capacity. Moreover, in order to achieve the enhanced target of 500 GW of non-fossil fuel based installed energy capacity by 2030; there is a need to harness every possible renewable energy resource. The Committee, therefore recommend that off-shore wind energy projects should be established off-the coast of Gujarat and Tamil Nadu after proper environmental impact assessment in a time bound manner. The Committee also desire that initially, Viability Gap Funding may be provided in order to make off-shore wind energy projects viable and associated transmission infrastructure needs to be built to enable power evacuation from these projects. The Committee further desire that off-shore wind potential should also be explored in coastal areas other than Gujarat and Tamil Nadu along India's 7,600 km long coastline.

Reply of the Government

National Institute of Wind Energy has prepared a mesoscale map indicating wind speed across the entire coastline of the country (Mainland). For initial phase of offshore wind power developments, Government has identified potential zones off Gujarat and Tamil Nadu coast. As per preliminary meso-scale study the estimated potential of these zones is about 70 GW which may further increase based on micrositing and technology improvements in offshore wind. NIWE has installed a LiDAR off Gujarat Coast in 2018 and collected 2 years wind data which is also available on NIWE website. NIWE has also conducted Geophysical, Geotechnical study, Rapid EIA study, Oceanographic (Wave, Tide & current study) off Gujarat coast for 01 GW capacity.

Ministry has issued 'Strategy Paper for Offshore Wind Development' after stakeholders' consultation in July 2022. The strategy includes a bidding trajectory of 37 GW capacity till 2030 along with three business models for offshore wind energy project development. A concept note for VGF scheme of Rs.15608.65 crore for 3 GW capacity of offshore wind energy projects has been sent to Department of Expenditure, Ministry of Finance, for 'in-principle' approval. Central Transmission Utility has completed the planning of required transmission infrastructure for offshore wind projects for initial

10 GW offshore capacity (05 GW each off Gujarat and Tamil Nadu coast). Further, Ministry has issued draft tender document along with contractual agreements for allocation of sea-bed lease rights for offshore wind power projects, for stakeholders' consultation on 14.11.2022. The comments of stakeholders have been received and are under examination.

[Ministry of New and Renewable Energy
O.M. No. 372-12/8/2022-PU, Dated: 24/04/2023]

Comments of the Committee

(Please see Para No. 11 of Chapter – I of the Report)

Recommendation No. 5

The Committee note that the Government issued National Wind-Solar Hybrid Policy on 14th May, 2018 with the objective to provide a framework for promotion of large grid-connected wind-solar PV hybrid system for optimal and efficient utilization of wind and solar resources, transmission infrastructure and land. It has been submitted that wind-solar hybrid projects with capacity of 4250 MW have been awarded, out of which 201.18 MW have been commissioned in the Country as on 28th February, 2022. Further, fourteen sites in seven States have been identified for development of Wind Parks/Wind-Solar Hybrid Park with installable potential of 53,125 MW. The Committee feel that wind and solar energy are complementary to each other since solar power can be harnessed only during the day, while wind power projects are more productive during the night and thus, the capacity utilization factor of the hybrid plants will be more as compared to standalone solar and wind energy plants. The Committee, therefore recommend that the Ministry should promote setting up of wind-solar hybrid power plants so that the maximum of installable potential of more than 50 GW can be harnessed with added benefits of greater grid stability, lower generation variability, efficient utilization of evacuation infrastructure and optimum use of land resources.

Reply of the Government

The Ministry issued National Wind-Solar Hybrid Policy on 14th May, 2018, with an objective to provide a framework for promotion of large grid connected wind-solar PV hybrid system for optimal and efficient utilization of wind and solar resources, transmission infrastructure and land. Ministry has issued bidding guidelines for wind solar hybrid projects on 14.10.2020 and amended on 23.07.2021, 09.03.2022 and 02.11.2022. The wind solar hybrid

projects of total 5420 MW capacity are awarded under hybrid bids, out of which projects of 1440 MW have already commissioned as on 31.10.2022. Further, SECI has awarded 400 MW capacity of project to provide round the clock power and 1200 MW capacity of project with assured peak power supply, which includes hybrid power generation from both wind and solar projects along with energy storage.

[Ministry of New and Renewable Energy
O.M. No. 372-12/8/2022-PU, Dated: 24/04/2023]

Recommendation No. 6

The Committee have been informed that IREDA has disbursed a cumulative amount of Rs. 18,620.08 crore for 746 wind power projects of 10,540.34 MW till 30th November, 2021 with NPAs of Rs. 600 crore in wind energy sector. It has been submitted that one of the reasons for most of these NPAs is non-payment of dues by Discoms. It is also furnished that Rs. 14246.99 crore of wind energy developers are overdue as on 31st March, 2022 mainly on the States of Andhra Pradesh, Tamil Nadu, Telangana, Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, etc. In view of the above, the Committee recommend that the Ministry should pursue with the concerned State Governments in order to ensure timely payment of dues to wind energy developers and intimate the Committee about the outcome thereof.

Reply of the Government

The Ministry has emphasized time and again that State DISCOMs should ensure timely payment to the RE generators. Further, any such grievances received from the RE generators are taken up at appropriate level with the concerned State for early resolution of the same. Ministry of Power issued orders in June/ July 2019 for not allowing procurement of power from power exchanges and not granting short term open access, if Letter of Credit (LC) provision which is part of the PPAs and acts as payment security mechanism for generators, is not in place or payment is not made in advance. As per orders, the LC shall be opened against the power purchases made from 1 August 2019 onwards. Further, Ministry of Power has notified 'Electricity (Late Payment Surcharge and Related Matters) Rules, 2022 dated 3rd June, 2022. These rules aim to financially strengthen the electricity suppliers and bring financial discipline in the power sector, including alleviating the interest burden on account of late payment of power purchase dues by the State utilities.

[Ministry of New and Renewable Energy
O.M. No. 372-12/8/2022-PU, Dated: 24/04/2023]

Recommendation No. 7

The Committee note that in pursuance of the Electricity Act 2003, the Tariff Policy of 2016 mandates the Appropriate Commission to fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase from renewable energy sources. Under the Renewable Purchase Obligation (RPO), any obligated entity can meet its RPO target by setting-up its own renewable energy generating plant, purchasing power from any renewable energy generator or purchasing Renewable Energy Certificates (RECs). It has been submitted that only four states, namely - Himachal Pradesh, Karnataka, Andhra Pradesh and Tamil Nadu have fulfilled the RPO target of 19% as per National RPO trajectory notified by the Ministry of Power for the year 2020-21. While expressing their displeasure about the non-compliance of RPO trajectory, the Committee recommend that the Ministry should actively pursue all the SERCs/JERCs for ensuring RPO compliance and enforcing penalty against defaulting obligated entities.

Reply of the Government

In order to ensure the RPO compliance and align the RPO trajectory of the states with the RPO trajectory issued by the Ministry of Power, MNRE has been regularly following up with the SERC/JERCs. In this regard, Ministry vide letters dated 6th October 2020, 4th January 2021, 28th July 2021, 12th November 2021, 14th February 2022 and 15th December 2022, requested the States/UTs to align their RPO trajectory with the one issued by the Ministry of Power and enforcing penal provisions against defaulting obligated entities. Moreover, Hon'ble Minister, NRE vide letter 30th January 2021 also requested the Chief Ministers/Administrators of States/UTs to emphasize the need of RPO Compliance by the DISCOMs of respective States/UTs. The Ministry vide letter dated 25th January, 2023 requested the State Governments to pursue the matter with respective SERCs/JERCs and align its RPO trajectory in accordance with RPO trajectory notified by the Ministry of Power.

In addition, the necessary provisions have been included in the Draft Electricity (Amendment) Bill 2022 for ensuring strict compliance of RPO.

[Ministry of New and Renewable Energy
O.M. No. 372-12/8/2022-PU, Dated: 24/04/2023]

CHAPTER – III

Observations/Recommendations which the Committee do not desire to pursue in view of the Government's Replies

Nil

CHAPTER - IV

Observations/Recommendations in respect of which the Replies of the Government have not been accepted by the Committee and which require Reiteration

Nil

CHAPTER – V

Observations/Recommendations in respect of which the final Replies of the Government are still awaited

Nil

**New Delhi;
20th July, 2023
29 Ashadha, 1945 (Saka)**

**Jagdambika Pal
Chairperson,
Standing Committee on Energy**

STANDING COMMITTEE ON ENERGY

**MINUTES OF TWENTY-EIGHTH SITTING OF THE STANDING COMMITTEE
ON ENERGY (2022-23) HELD ON 20th JULY, 2023 IN MAIN COMMITTEE
ROOM, PARLIAMENT HOUSE ANNEXE, NEW DELHI**

The Committee sat from 1500 hours to 1545 hours

LOK SABHA

Shri Jagdambika Pal - Chairperson

- 2 Shri Chandra Sekhar Bellana
- 3 Shri Pradeep Kumar Chaudhary
- 4 Dr. A. Chellakumar
- 5 Shri S. Gnanathiraviam
- 6 Shri Sunil Kumar Mondal
- 7 Shri Gyaneshwar Patil
- 8 Shri Jai Prakash
- 9 Shri Uttam Kumar Nalamada Reddy
- 10 Shri Devendra Singh *alias* Bhole Singh
- 11 Shri Balashowry Vallabbhaneni
- 12 Shri P. Velusamy

RAJYA SABHA

- 13 Shri Gulam Ali
- 14 Shri Narain Dass Gupta
- 15 Shri Javed Ali Khan
- 16 Shri K.R.N. Rajeshkumar
- 17 Dr. Sudhanshu Trivedi

SECRETARIAT

1. Dr. Ram Raj Rai Joint Secretary
2. Shri Kulmohan Singh Arora Additional Director

2. At the outset, the Chairperson welcomed the Members of the Committee and apprised them about the agenda of the sitting. The Committee then took up for consideration and adoption the following draft Reports:

- (i) Report on action-taken by the Government on observations/recommendations contained in 20th Report (17th Lok Sabha) on the subject 'Tidal Power Development in India'.
- (ii) Report on action-taken by the Government on observations/recommendations contained in 21st Report (17th Lok Sabha) on the subject 'Financial Constraints in Renewable Energy Sector'.
- (iii) Report on action-taken by the Government on observations/recommendations contained in 27th Report (17th Lok Sabha) on the subject 'Evaluation of Wind Energy in India'.

3. After discussing the contents of the Reports in detail, the Committee adopted the aforementioned draft Reports without any amendment/modification. The Committee also authorized the Chairperson to finalize the above-mentioned Reports and present the same to both Houses of the Parliament during the current session.

The Committee then adjourned.

APPENDIX - II

(Vide Introduction of the Report)

Analysis of action-taken by the Government on Observations/ Recommendations contained in the Twenty-Seventh Report (17th Lok Sabha) of the Standing Committee on Energy

(i)	Total number of Recommendations	07
(ii)	Observations/Recommendations which have been accepted by the Government: Sl. Nos. 1, 2, 3, 4, 5, 6 and 7	
	Total:	07
	Percentage:	100 %
(iii)	Observations/Recommendations which the Committee do not desire to pursue in view of the Government's replies: Sl. No. Nil	
	Total:	Nil
	Percentage:	00
(iv)	Observations/Recommendations in respect of which the replies of the Government have not been accepted by the Committee and which require reiteration: Sl. No. Nil	
	Total:	Nil
	Percentage:	00
(v)	Observations/Recommendations in respect of which final replies of the Government are still awaited: Sl. No. Nil	
	Total:	Nil
	Percentage:	00