13 STANDING COMMITTEE ON ENERGY

(2020-21)

SEVENTEENTH LOK SABHA

MINISTRY OF NEW AND RENEWABLE ENERGY

[Action Taken by the Government on the recommendations contained in the First Report (17th Lok Sabha) on Demands for Grants of the Ministry of New and Renewable Energy for the year 2019-20]

THIRTEENTH REPORT

LOK SABHA SECRETARIAT

NEW DELHI

March, 2021/ Phalguna, 1942 (Saka)

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Presented to Lok Sabha on 19.03.2021

Laid in Rajya Sabha on 19.03.2021

LOK SABHA SECRETARIAT
NEW DELHI

March, 2021/Phalguna, 1942 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY (2020-21)

Shri Rajiv Ranjan Singh *alias* Lalan Singh - *Chairperson*

Members

Lok Sabha

2 Smt. Sajda Ahmed
3 Shri Gurjeet Singh Aujla
4 Shri Chandra Sekhar Bellana
5 Dr. A. Chellakumar
6 Shri Harish Dwivedi
7 Shri S. Gnanathiraviam
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12 Shri Ashok Mahadeorao Nete
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16 Shri Jai Prakash
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24 Shri Muzibulla Khan
25 Shri Maharaja Sanajaoba Leishemba
26 Shri Jugalsinh Mathurji Lokhandwala
27 Shri Surendra Singh Nagar
28 Dr. Sudhanshu Trivedi

29 Shri K.T.S. Tulsi
30 *Vacant
31 #Vacant

SECRETARIAT

1	Shri R.C. Tiwari	Joint Secretary
2	Shri R.K. Suryanarayanan	Director
3	Smt. L.Nemjalhing Haokip	Deputy Secretary

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^ *Nominated as Member of the Committee w.e.f. 28.12.2020*

** Vacant vice Shri Javed Ali Khan, retired from Rajya Sabha on 25.11.2020.*

 # Vacant since constitution of the Committee w.e.f. 13.09.2020

INTRODUCTION

I, the Chairperson, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this Thirteenth Report on the action taken by the Government on the recommendations contained in First Report of the Standing Committee on Energy on Demands for Grant (2019-20) of the Ministry of New and Renewable Energy.

2. The First Report was presented to the Lok Sabha on 6th December, 2019 and was laid in Rajya Sabha on the same day. Replies of the Government to all the recommendations contained in the Report were received on 8th September, 2020 .

3. The Report was considered and adopted by the Committee at their sitting held on 18th March, 2021

4. An Analysis on the Action Taken by the Government on the recommendations contained in the First Report 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
18th March, 2021
Phalguna 27, 1942 (Saka)

Rajiv Ranjan Singh *alias* Lalan Singh,
Chairperson,
Standing Committee on Energy

CHAPTER –I

This Report of the Standing Committee on Energy deals with the action taken by the Government on the Recommendations/Observations contained in the First Report (Seventeenth Lok Sabha) on Demands for Grants of the Ministry of New and Renewable Energy for the year 2019-20.

2. The First Report was presented to Lok Sabha on 06.12.2019 and was laid on the Table of Rajya Sabha on the same day. The Report contained 24 Recommendations/Observations. Action taken notes in respect of all the Recommendations/Observations contained in the Report have been received from the Government on 8th September, 2020. These have been categorized as follows:

i. Recommendations/Observations which have been accepted by the Government:

Sl. Nos. 1,2,3,4,6,7,8,9,11,12,13,14,15,16,17,18,19,20,21, 22,23 and 24

Total - 24
Chapter-II

ii. Recommendation/Observation which the Committee do not desire to pursue in view of the Government's replies:

Nil

Total - 00
Chapter-III

iii. Recommendations/Observations 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. Recommendation/Observation in respect of which the final replies of the Government are still awaited:

Nil

Total - 00
Chapter-V

3. The Committee observe that the First Report (17th Lok Sabha) on Demands for Grants of the Ministry of New and Renewable Energy for the year 2019-20. was presented to Lok Sabha on 06.12.2019 and was laid on the Table of Rajya Sabha

on the same day and the Ministry was required to submit the action taken reply on the recommendations/observations contained in the Report within a period of three months i.e. by 5th of March, 2020. The Committee, however, observe that the Ministry has submitted the requisite action taken reply on 8th September, 2020, after a delay of 6 months. The Committee therefore desire the Ministry to be extra cautious in timely submission of replies to the Committee in future. The Committee further desire that the Action Taken Statement on the Observations/ Comments contained in Chapter-I of this Report be furnished to the Committee within three months of the presentation of the Report.

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

(Recommendation No. 5)

5. The Committee in their original Report had recommended as under :

> "Prior to implementation of GST, the goods/equipment/material required for setting up of Solar Power Generating Systems were exempt from payment of Central Excise Duty and attracted a concessional rate of 5% of Basic Custom Duty on issuance of an end-use certificate from MNRE. Further, Solar PV Modules which constitute more than 50% of the cost of Solar Power Generating Systems, did not attract any duty.
>
> It is submitted that as per the notified GST rates, Renewable Energy devices and spare parts have been kept in 5% GST slab. The Committee observe that there are lot of disputes/ambiguities regarding applicable rate of GST on Solar Power Generating Systems. In order to resolve these disputes/ambiguities, the Ministry of Finance vide its Notification No. 25/2018-Integrated Tax (Rate) dated 31.12.2018 clarified the goods–to–services ratio for Solar Power Generating System as 70:30, with goods comprising 70% of value taxable @ 5% and services comprising balance value taxable @ 18%, resulting into effective rate of GST for Solar Power Generating System as 8.9 % [(70% x 5%) + (30% x 18%)], which is far more higher than the intended rate of 5%.
>
> The Committee are of the opinion that this prevailing ambiguity regarding applicable rate of GST is not healthy for the Renewable Energy Sector as Renewable Energy devices and spare parts have been kept in 5% GST slab whereas the effective rate has come out to be about 9%. Such a situation will lead to increase in generation cost and pose a threat to the viability of the ongoing projects, ultimately hampering the target achievement. The Committee want the Ministry to take up this matter with the Ministry of Finance on urgent basis. The Committee, therefore, recommend that the Ministry should pursue this

issue regarding applicable rate of GST with the Ministry of Finance for necessary clarification or review of its above mentioned notification without any further delay so that the effective rate of GST on Solar Power Generating Systems remain as close to 5% as possible."

6. The Ministry of New and Renewable Energy, in its Action-taken reply, has stated as under:

"MNRE vide DO letter no 283/11/2017-GRID SOLAR dated 2/1/2019 has requested Ministry of Finance for ensuring 5% GST, irrespective of any goods to supply ratio, for all renewable power generating systems."

7. The Committee note that in order to resolve the issue regarding ambiguity in applicable rate of GST on Solar Power Generating Systems, the Ministry of New and Renewable Energy has requested the Ministry of Finance for ensuring levy of 5% GST, irrespective of any goods to supply ratio, for all renewable power generating systems. However, the response of the Ministry of Finance in this regard is not made known to the Committee. The Committee, therefore, would like to reiterate their recommendation that the Ministry may pursue the issue regarding uniform applicable rate of GST with the Ministry of Finance to review and raise its Notification No. 25/2018-Integrated Tax (Rate) dated 31.12.2018 so that the effective rate of GST on Solar Power Generating Systems remain as close to 5% as possible.

(Recommendation No. 10)

8. The Committee in their original Report had recommended as under:

"The Committee note that there is a potential of about 750 GW of Solar Energy in the Country and a target of 100 GW of Solar Capacity has been set to be achieved by 2022. As on September 30, 2019, a capacity of 31,101.68 MW has already been commissioned. The Committee feel that the Ministry have a huge task before it to commission remaining 68,898.32 MW of Solar Energy Capacity in just about two and a half years as to meet the stipulated target of 1,00,000 MW Solar Energy Capacity by 2022, with an average of more than 27,000 MW per year. Although the Ministry has given assurance to the Committee about time bound achievement of target but the Committee are skeptical about this claim.

The Committee observe that for the year 2016-17, 2017-18 and 2018-19, against the targets of 12000 MW, 10000 MW and 11000 MW of Grid- connected Solar Power, the Ministry had been able to achieve 5525.98 GW, 9362.67 MW and 6529.20 GW with utilization of Rs. 2590.59 crore, Rs. 1889.93 crore and Rs

2524.65 crore respectively. It means the target achievement was 46%, 94% and 60% in the respective years. The Committee find that there is no synchronozation with respect to achievement of financial and physical targets, as there is higher physical achievement with lesser financial utilization and lesser physical achievement with higher financial utilization. The Committee are concerned with such haphazard performance of the Ministry in Solar Sector. For the current year, a target of 8500 MW of grid connected Solar Power has been set with an allocation of Rs.2479.90 crore and the Ministry has been able to achieve 2921.02 MW with utilization of Rs.1489.85 crore as on September 30, 2019. Therefore, 5578.98 MW (~65% of the target) are left to be achieved in remaining six months.

The Committee find that the Ministry has continuously been missing on its yearly Solar Energy capacity addition targets, so the Committee are dissatisfied with the performance of the Ministry in Solar Energy Sector and feel that with such performance, the target of 100 GW will be very hard to achieve. The Committee, therefore, recommend that:

i) The Ministry should work hard so as to achieve the target of 8500 MW set for the year 2019-20.

ii) The Ministry should play a proactive role in monitoring the progress of various Solar Energy Projects.

iii) The Ministry should make sustained efforts to find solutions for the constraints being faced in the commissioning of Solar Projects in consultation with other agencies concerned in a time bound manner."

9. The Ministry of New and Renewable Energy, in its Action-taken replyy, has stated as under:

"Ministry had put all efforts to achieve the target of 8500 MW set for the year 2019-20. Total solar capacity added during this year is 6447 MW, which is around 75 % of the given target."

i. The Ministry reviews the progress through meetings with all Stakeholders, including Solar project developers/State Govts/CPSUs regularly under the Chairmanship of Additional Secretary and Secretary. Hon'ble Minister also reviews the progress through regular interaction with all SPDs and Govt agencies and necessary actions are taken to achieve the targets. At present (as on 31-07-2020), total solar capacity commissioned is 35.300 GW. This apart, 31.560 GW solar capacities are awarded and are under construction stage. In addition to that, 20.657 GW solar capacities are under various stages of the tendering process. Therefore, as on date, total solar capacities (commissioned/under construction/under tendering) are about 85.52 GW. Further, new tendering of around 15-20 GW is planned to be done during the current year and first quarter of next year to achieve 100 GW target.

ii. The major challenges in the implementation of solar projects are land allotment and grid infrastructure. Efforts are being made to address these issues.

a. Further, to solve the problem of land allotment, a new mode has been introduced in the existing Solar Park Scheme, i.e. UMREPP. Under this mode, a solar park is developed by CPSUs, State Govt agencies or their joint ventures. The States Govts are given a facilitation charge of Rs 0.05/unit for facilitating in identification and acquisition of land and in obtaining required statutory clearances.

b. For transmission infrastructure, a transmission capacities equivalent to 66.5 GW has been planned in consultation with Ministry of Power, CEA & PGCIL. The works have been started in phases, as given below:

- Phase-I (12.4 GW): Scheduled CoD is December 2020.
- Phase-II (26.1 GW): Scheduled CoD is December 2021
- Phase-III (28 GW): Scheduled CoD is December 2022

Apart from above, under Green Energy Corridors (GEC) Phase-I, Intra-State transmission capacity for 24 GW is under implementation and Inter-State transmission of 6GW has been completed."

10. The Committee note that against the target of 8500 MW set for 2019-20, the Ministry could achieve 6447 MW capacity, which is around 75 percent of the given target. As regard the achievement vis-a-vis target of 100 GW solar power by 2022, the Committee are informed that total solar capacities (commissioned/under construction/under tendering) are about 85.52 GW and that new tendering of around 15 to 20 GW is planned to be done during the current year and first quarter of next year. They find that the Ministry is optimistic in achieving the 100 GW solar energy target by 2022. At the same time, the Committee also note the efforts so far made by the Ministry to address the issues relating to land allotment and grid infrastructure which are the major challenges in the implementation of solar projects. While acknowledging the efforts of the Ministry to achieve its target of 100 GW solar power by 2022, the Committee would like to reiterate their recommendation that the Ministry may play a proactive role in monitoring the progress of various solar energy projects ensuring that the target generation is commissioned by 2022 and make sustained efforts to find solutions for the constraints being faced in the commissioning of solar projects in consultation with other agencies involved, in a time bound manner.

(Recommendation No.15)

11. The Committee in their original Report had recommended as under:

> "The Committee note that the estimated potential for power generation from Biomass/Bagasse Co-generation in the country is about 26 GW. Against this, a cumulative capacity of 9131 MW has reportedly been installed in the country (as on September 30, 2019). The Committee are satisfied with the performance of the Ministry in this sector as the Ministry has outperformed during the last two years. For the year 2017-18 and 2018-19, against the targets of 340 MW and 250 MW, capacity addition of 519 MW and 402 MW respectively have been achieved. The amount allocated for the last two years were Rs. 9 crore and Rs. 8.5 crore, respectively, which have not been fully utilized. The Committee observe that for the year 2019-20, a physical target of 250 MW has been fixed with an outlay of Rs. 53.50 crore and it is submitted that the allocation will be sufficient to achieve the set target. However, the Ministry has not furnished any special reason for drastic increase in budgetary allocation in 2019-20 with physical target remaining the same as that of the last year. The Committee, therefore, recommend that:
>
> i) The Ministry should maintain its performance of previous years in achievement of the physical target for the year 2019-20.
>
> ii) More projects on Biomass/Bagasse Co-generation should be encouraged, especially in those States with high potential like Punjab, Haryana, Madhya Pradesh, Rajasthan, etc. where the installed capacity is low as compared to potential.
>
> iii) The technologies used in the sector should be upgraded and improved, keeping in mind the cost effectiveness and viability of the projects.
>
> iv) Fresh study for biomass resource assessment may be conducted in a time bound manner." .

12. The Ministry of New and Renewable Energy, in its Action-taken reply, has stated as under:

> "The recommendation of the committee has been noted. In FY 2019- 20, Biomass/Bagasse Cogeneration capacity addition was 103.047 MW. Proposals for 35 projects with capacity around 420 MW have been received which are currently being reviewed by the Ministry.
>
> i. The Ministry is implementing a Scheme to Support Promotion of Biomass Based Co generation in Sugar Mills and other Industries in the Country. The scheme was announced on 11 May 2018.
>
> Under the Scheme, Central Financial Assistance (CFA) is being provided to biomass based co-generation projects after successful commissioning and performance inspection of the plants and the CFA pattern is given below:

Project Type	Central Financial Assistance (CFA)
Bagasse based Co-generation by Sugar Mills	Rs. 25 Lakhs / MW of Surplus Exportable Power
Biomass (Non-Bagasse) based co-generation in other Industries	Rs. 50 Lakhs / MW of Installed Capacity

Biomass based co-generation projects which intend to add capacity to the existing plants are also considered for grant of CFA. CFA for such projects are considered only for the enhanced capacity.

However the suggestion of the committee has been noted.

ii. In accordance with CERC tariff orders, technology used in the sector is based on Rankine Cycle Technology. However, the suggestion of the committee has been noted.

A fresh study on Assessment of Biomass Power and Bagasse Cogeneration Potential has been awarded to Administrative Staff College of India in November, 2019. The final report was supposed to be submitted within 8 months from date of award but due to COVID-19 situation, the final report is now expected to be submitted in December, 2020."

13. The Committee find that against the target of 250 MW Biomass/Bagasse Cogeneration capacity addition for 2019-20, the installed capacity reported was 103.047 MW and that proposals for another 35 projects with capacity around 420 MW is under progressed, The Committee believe that the Ministry achieved its target for the year 2019-20. The Committee are also informed that a study on Assessment of Biomass Power and Bagasse Cogeneration Potential has been entrusted to Administrative Staff College of India in November, 2019 and that the final report was to be submitted to the Government within 8 months from date of award but due to COVID-19 situation, the final report is now expected to be submitted during December, 2020. The Committee would like the Ministry to expedite the matter and apprise them of the final outcome in this regard.

(Recommendation No.17)

14. The Committee in their original Report had recommended as under:

"Renewable Energy for Rural Applications includes the New National Bio-Gas and Organic Manure Programme (NNBOMP) and Bio-Gas based Power Generation (0ff-Grid) Programme. NNBOMP aims at setting up small biogas plants for meeting cooking and lighting needs of mainly rural and semi-urban

households of the country, while Bio- gas based Power Generation Programme provides clean energy solution to reduce consumption of diesel and kerosene by installation of medium size biogas plants.

The Committee observe that from the year 2016-17 to 2019-20, allocation for this Sector has been considerably reduced and the Ministry has consistently failed to achieve the physical targets and utilize even the reduced financial allocation. During the year 2018-19, against the Financial Allocation (RE) of Rs. 78 crore, only Rs. 42.71 crore (56 %) have been utilized and against the physical target of 1 lakh Bio-Gas Plants, the Ministry has been able to set up only 26980 such plants (~27 %). The Committee feel that the performance of the Ministry is discouraging in this sector. The Committee are informed that the non-achievement of Bio-Gas target is due to low priority given to this scheme at the State level.

The Committee note that during the year 2019-20, only 6338 small bio-gas plants have been set up against the target of 76000 such plants and only Rs 16.61 crore have been utilized against the financial allocation of Rs 100 crore as on September 30, 2019. The Committee are concerned that this year too, the Ministry may fail to achieve its target by a massive margin. The Committee are of the view that apart from electricity generation, Bio-Gas Plants help millions of rural folk by meeting their cooking and other energy requirements. The Committee, therefore, recommend that:

i) The Ministry should strive hard to achieve their physical targets so as to provide clean energy solutions to the rural poor specially women and children.

ii) The Ministry should hold discussions with the State authorities so as to encourage them to give due priority to this scheme as without their cooperation, this scheme can not bear desired results.

iii) The scheme should be properly publicised in order to spread awareness among rural folks."

15. In its Action-taken replies, the Ministry of New and Renewable Energy has stated as under :

"The suggestions of the committee have been duly noted. The Ministry will take all steps for implementation of bio gas programs for meeting cooking and other energy requirements of rural poor. Regular meetings are held with State Governments/ Implementing Agencies for fixing targets and monitoring the performance of the programme.

The Scheme provides for imparting various designated training courses (Refresher Training Courses; Users courses; Turn-Key workers courses; Staff courses; and Biogas Skill Development Course) on biogas so as to make them well acquainted and take the best use of the biogas plant facilities including managing and utilization of biogas plant produced slurry as an organic bio-manure in a proper sanitized way. Further wider publicity including in regional languages will also be created for promotion of the program.

During FY 2019-20, total 27,616 number of small biogas plants have been set up under the New National Biogas and Organic Manure Programme (NNBOMP)

The following measures were introduced by the Ministry in the NNBOMP scheme issued on May 30th, 2018. The policy is valid up till March 2021.

i. The different sizes of biogas plants have been approved (in range of 1 to 25 Cubic Metre).
ii. PSU/NABARD/IREDA and Regional Rural Banks of scheduled Banks may provide loan for biogas plant installations.
iii. Incentive for use of biogas based engines by farmers for saving diesel / electricity by farmers
iv. The Ministry of New and Renewable Energy (MNRE) invited proposals for new designs of small biogas plant leading towards simple and cost effective domestic, community / village level small scale Biogas usage (in the range of 1 to 25 Cubic Meter) made up of eco-friendly & durable but with standard and virgin quality materials and should be suitable for Indian Climatic conditions and able to process various feedstock/organic wastes for anaerobic fermentation. This would push the adaptability of vide range of biogas models.

However, high cost and UJJAWALA scheme have impacted the overall achievement of the program."

16. The Committee observe that the Ministry in their action taken reply has assured that all steps will be taken for implementation of bio gas programs for meeting cooking and other energy requirements of rural poor. It has also informed that regular meetings are held with State Governments/ Implementing Agencies for fixing targets and monitoring the performance of the programme. The Committee however observe that the various steps being taken by the Ministry must yield tangible result in the form of physical achievement on the ground. The target achieved so far has not been very encouraging as against the target of 76000 biogas plants for the year 2019-20, only 27616 number of biogas plants have been installed, which is only 36% of the target. Further, the Committee are dismayed to note the reply of the Government that high cost of installation of biogas plant and UJJAWALA scheme have impacted the overall achievement of the programe. The Committee, therefore, would like to re-emphasis that the Ministry should regularly monitor the progress and also hold frequent discussions with the State and nodal authorities to encourage them to give priority due to this scheme and also spread awareness among rural folks so that the target set is achieved. At least in this financial year.

CHAPTER II

Observations/ Recommendations which have been accepted by the government

(Recommendation No.1

Demands for Grants of the Ministry for 2019-20

The Committee note that an allocation of Rs. 6731.93 crore was sought by the Ministry for 2019-20, but Rs. 5254.83 crore have actually been sanctioned i.e. Rs. 1477.10 crore less than the required amount. However, there is an increase of Rs 108.20 crore in 2019-20 (BE) as compared to the previous year i.e. an increase of meagre 2 % which does not seem to be in sync with the humongous targets assigned to the Ministry. But at the same time, the Ministry had not been able to fully utilize the allocated amount in the last three years. The Committee are informed that more than 50% of the allocated funds for 2019-20 have already been utilized by the Ministry (as on 15.10.2019)

Although the Ministry has repeatedly failed to utilize the allocated amount during the previous years, keeping in view the high targets assigned to the Ministry, the Committee recommend that additional funds, if required, may be provided to the Ministry at RE stage.

Reply of the Government

During the year 2019-20, against a BE of Rs.5254.83 crore and RE of Rs. 3891.74 crore actual expenditure was Rs. 3542.76 crore which was 91.03% of RE.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.2)

The Committee note that for 2019-20, the physical targets assigned to the Ministry include 11,852 MW of Grid Interactive Renewable Power, 6000 ckm (cumulative) of Green Energy Corridor, 76,000 number of Biogass Plants, 400 MW of Off-Grid Solar Power, etc., with an allocation of Rs. 4272.15 crore for Grid Interactive Renewable Power and Rs. 688.00 crore for Off-Grid/Distributed/Decentralized Renewable Power. The Committee are informed that grid interactive renewable energy capacity addition of 4272.54 MW have been achieved during the current year from April to September 2019 which is about 36 % of the total capacity targeted to be achieved in the current financial year.

The Committee hope that the Ministry will achieve the remaining 64% of the targets set for the year 2019-20 till March 2020. The Committee, therefore, recommend that the Ministry should analyse its past performance and make all out efforts to achieve the envisaged targets. The Committee may be apprised of the analysis done and lessons learnt from the previous years' performance by the Ministry.

Reply of the Government

During the year 2019-20 a total of 8711.26 MW RE capacity was installed in Grid Interactive Renewable Power against the set target of 11852.00 MW which was 73.5% of the set target. The major shortfall was observed in the achievements of solar and wind power due to the following reasons:

- Non honouring of PPAs by State Governments
- Delay in payments to RE generators by DISCOMS
- Delay in land acquisition

On account of above mentioned reasons, interest of private developers was reduced and hence response to SECI's tenders was not good. This resulted in less tenders finalization in the previous year and therefore less projects could be commissioned in 2019-20.

Regular review meetings are held with State Governments, implementing agencies and all other stakeholders to resolve all pending issues in the RE sector.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.3)

Budget Allocation and Utilization

The Committee appreciate the Ministry for its efforts in mobilising extra funds through IEBR which forms a major part of its expenditure year on year. The Committee note that the Gross Budgetary Support to the Ministry was decreased at RE stage for the years 2016-17 and 2017-18, while it remained constant for the year 2018-19. However the Ministry has not been able to fully utilise even the decreased allocations during the last three years. It could utilise 89.88%, 92.37% and 86.97% of revised budgetary allocations during the years 2016-17, 2017-18 and 2018-19 respectively. Reasons cited for shortfall in utilisation during 2018-19 are same as that of the previous year, so it may be construed that the Ministry did not take any corrective action to solve the problems. Also, it has been submitted that funds from other heads were transferred to Grid Interactive head at RE stage due to inadequacy in that particular head.

The Committee are of the opinion that decrease in budgetary allocation at RE and low utilisation of even the decreased allocated funds are symptomatic of the poor financial planning by the Ministry. In view of the ambitious targets to be achieved, this situation is beyond comprehension. The Committee, therefore recommend that the Ministry should focus on proper and exhaustive utilisation of allocated funds and take remedial measures against factors responsible for low utilisation.

Reply of the Government

The suggestions of the Committee have been noted. The Ministry will make all efforts for proper and exhaustive utilization of allotted funds. It will also monitor progress in this regard on a continuous basis.

[Ministry of New & Renewable Energy OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.4)

Financial Support From National Clean Energy And Environment Fund (nceef)

The Committee note that from the financial year 2011-12 to 2017-18, an amount of Rs. 17,086.24 crore was allocated to MNRE from NCEEF and Inter-Ministerial Group has recommended 48 Renewable Energy Projects for NCEEF support. The Committee are informed that there has been no allocation from NCEEF to MNRE since 2018-19 as the coal cess which formed the NCEEF would now constitute GST compensation Fund as per Goods and Service Tax (Compensation to States) Act, 2017 and the same would be utilised to compensate the states for potential losses on account of GST implementation for five years. Keeping in view discontinuation of financial support from NCEEF, the Committee recommend that the Ministry should make concerted efforts to mobilise additional fund through Government of India serviced Masala Bonds and Multilateral/Bilateral Financial Organisations.

Reply of the Government

In the absence of NCEEF support the Ministry of Finance has increased the GBS of the Ministry from the year 2018-19 onwards. The details of the GBS and NCEEF support allocation during the period of 2016-17 to 2019-20 is as follows:-

Rs. in Crores

YEAR	GROSS BUDGETARY SUPPORT (A)	NCEEF Support (B)	TOTAL BUDGET (BE) (A+B)
2016-17	88.79	4947.00	5035.79
2017-18	131.14	5341.70	5472.84
2018-19	5146.63	---	5146.63
2019-20	5254.83	----	5254.83

Further Indian Renewable Energy Development Agency(IREDA) has:

- In FY 17-18, raised US$ 300 million @7.23% annual yield for a tenure of 5 years with bullet repayment, under the Euro-Medium Term Notes programme listed at

both London Stock Exchange and Singapore Stock Exchange. Withholding tax is applicable on the said Masala Bonds.

- Has been raising funds under the lines of credit signed with multilateral and bilateral agencies such as World Bank, ADB, EIB, JICA, AfD, KfW etc. said lines of credit are with Sovereign guarantee i.e. GoI guaranteed and on non-sovereign basis.

Funds received/ raised from Masala Bonds and various line of credit are used for financing Renewable Energy projects in India by IREDA. The details are as follows:

- Funds received /raised from Masala bonds are used for financing Renewable Energy projects
- Four ongoing Multilateral/Bi-lateral lines of credit are for the purpose as below:

KfW VI Line of Credit for EUR 20M is for Access to Clean Energy

- World Bank Line of Credit for IBRD Loan of USD 75 and CTF Loan of USD 23M is for Shared Infrastructure for Solar Parks Project
- EIB II Line of Credit for EUR 150M is for Renewable Energy and Energy Efficiency
- KfW VII Line of Credit for EUR 200M (in equivalent USD 222.82M) is in general for financing of Renewable Energy projects

[Ministry of New & Renewable Energy OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.5)

Effect of GST on Renewable Energy Sector

The Committee note that prior to implementation of GST, the goods/equipment/material required for setting up of Solar Power Generating Systems were exempt from payment of Central Excise Duty and attracted a concessional rate of 5% of Basic Custom Duty on issuance of an end-use certificate from MNRE. Further, Solar PV Modules which constitute more than 50% of the cost of Solar Power Generating Systems, did not attract any duty.

It is submitted that as per the notified GST rates, Renewable Energy devices and spare parts have been kept in 5% GST slab. The Committee observe that there are lot of disputes/ambiguities regarding applicable rate of GST on Solar Power Generating Systems. In order to resolve these disputes/ambiguities, the Ministry of Finance vide its Notification No. 25/2018-Integrated Tax (Rate) dated 31.12.2018 clarified the goods–to–services ratio for Solar Power Generating System as 70:30, with goods comprising 70% of value taxable @ 5% and services comprising balance value taxable @ 18%, resulting into effective rate of GST for Solar Power Generating System as 8.9 % [(70% x 5%) + (30% x 18%)], which is far more higher than the intended rate of 5%.

The Committee are of the opinion that this prevailing ambiguity regarding applicable rate of GST is not healthy for the Renewable Energy Sector as Renewable Energy devices and spare parts have been kept in 5% GST slab whereas the effective rate has come out to be about 9%. Such a situation will lead to increase in generation cost and pose a threat to the viability of the ongoing projects, ultimately hampering the target achievement. The Committee want the Ministry to take up this matter with the Ministry of Finance on urgent basis. The Committee, therefore, recommend that the Ministry should pursue this issue regarding applicable rate of GST with the Ministry of Finance for necessary clarification or review of its above mentioned notification without any further delay so that the effective rate of GST on Solar Power Generating Systems remain as close to 5% as possible.

Reply of the Government

MNRE vide DO letter no 283/11/2017-GRID SOLAR dated 2/1/2019 has requested Ministry of Finance for ensuring 5% GST, irrespective of any goods to supply ratio, for all renewable power generating systems.

[Ministry of New & Renewable Energy OM.No.372-12/8/2017-PU Dated: 08/09/2020]

Comments of the Committee

(Please see Para No. 7 of Chapter – I of the Report)

(Recommendation Sl. No.6)

Physical Targets and Achievements

The Committee observe with deep concern that the Ministry has continuously failed to achieve its yearly targets. For the years 2016-17 and 2017-18, against the Grid connected Renewable Energy target of 16,560 MW and 14,445 MW , the Ministry could achieve 11,319.75 MW and 11,876.82 MW respectively. Similarly, during the year 2018-19, 8,519.52 MW could be installed against the target of 15,355 MW i.e. a shortfall of 44.50 %. Physical achievement with respect to Family type Biogas Plants is also not up to the mark. Given the time bound target of 175 GW by 2022, such performances are disappointing notwithstanding the continuous assurance of the Ministry to the contrary.

For the current year (2019-20), the Ministry has been assigned a target of 11,852 MW of grid power. Out of which, 4,272.54 MW have been installed as on 30.09.2019. The Committee hope that the Ministry will strive hard to achieve the target in the current year. The Committee feel that year-on-year shortfall in achievement of targets may hamper the entire Mission of achieving 175 GW by 2022 which in turn may reflect poorly upon the commitment and sincerity of the Ministry. The Committee, therefore, recommend that:

a) The Ministry should identify the weak areas and take corrective actions without any further delay.

b) It should also ensure continuous monitoring of the implementing agencies.

Reply of the Government

Regular review meetings are held with State Governments, implementing agencies and all other stakeholders to resolve all pending issues in the RE sector. During 2019-20, in Grid Interactive Renewable Power, the Ministry achieved 73.5% of the target. All efforts are being made to achieve the targets that have been set for the Ministry.

[Ministry of New & Renewable Energy OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.7)

Green Energy Corridor

The Committee note that under Green Energy Corridor Project, there is a target of establishment of Grid sub-stations of different voltage levels with aggregate transmission capacity of approx. 19000 MVA (Mega Volt Ampere) and installation of 9400 ckt-kms (Circuit kilometres) of transmission lines in the states of Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu with funding mechanism consisting of 40% GoI Grant, 40% KfW loan (EUR 500 Million) and the remaining 20 % as State contribution. It has been submitted that the project would be completed by March 2020. The Committee also note that as on September 30, 2019, 5050 ckt-kms of transmission lines have been constructed and 4750 MVA capacity substations have been commissioned. It can be deduced from the data provided, that to meet the given target, 4350 ckt-kms of transmission lines have to be installed and grid substations of aggregate capacity of 14250 MVA have to be established in just six months i.e. upto March 2020 so as to meet the deadline.

The Committee know that for 2018-19, the Ministry was provided Rs. 600 crore (BE) for Green Energy Corridor with a physical target of 3000 ckt-kms (cumulative) and for 2019-20, an allocation of Rs. 500 crore (BE) has been made with a physical target of 6000 ckt-kms (cumulative). In the view of the Committee, this cumulative target of 6000 ckt- kms for 2019-20 is beyond comprehension when the Ministry had the original target to install 9400 ckt-kms (cumulative) by March, 2020. The Ministry seems to be proclaiming its failure to achieve the envisaged target. It shows the unrealistic assessment of physical targets set by the Ministry.

The Committee are highly disappointed with performance of the Ministry with respect to Green Energy Corridor. The Committee, therefore, recommend that the Ministry should work on mission mode to get the Green Energy Corridor ready within the reasonable time frame in order to avoid grid congestion and to facilitate integration and evacuation of large scale renewable power capacity.

Reply of the Government

The GEC is being implemented by the State Transmission Utilities (STUs) of the respective States. The targets of 19000 MVA of substations and 9400 ckm transmission

lines by March 2020 were set in FY 2015-16, when the CCEA approval was granted to the States as per their respective proposals. The tender processes were done by the STUs and it got delayed due to their internal procedures and approvals in most of the cases, resulting in delay in implementation of the projects. On the request received from the States, the scheme timeline has been extended upto December 2020, which is likely to be extended further due to COVID-19. This is the cause for mismatch in the year-wise targets and overall target. The cumulative target for FY 2019-20 was set as 6000 ckm, however due to regular monitoring by MNRE, the scheme has picked up pace and cumulative 6500 ckm transmission lines have been constructed and 6812 MVA capacity substations have been commissioned as on date. As per progress reports received in July 2020, the project is likely to be completed by December 2021. Apart from this Inter – State transmission for 3200 ckm lines and 17,000 MVA sub-stations has been completed.

With respect to the budget allocation, it is submitted that as per the scheme guidelines, the Government of India share is given to the States in two instalments: a) 70% Advance on the award of contract, b) Balance 30% after commissioning. The fund disbursal does not depend 'proportionately' upon the completion of transmission lines in terms of ckm. Also, savings in the project cost has been found as a result of competitive bidding, which resulted in savings towards Government of India grant as well.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.8)

Wind Energy

The Committee note that the Wind Power Potential in the country at 100 meters above ground level, as assessed by the National Institute of Wind Energy, is 302.25 GW. Against this, a total capacity of 36,930.325 MW has reportedly been installed as on September 30, 2019. The Committee are informed that besides commissioned capacity of 36.93 GW, a capacity of 9.78 GW is under implementation and bids are undergoing for another 3.84 GW.

The Committee observe that while the Ministry outperformed its target in 2016-17, it remained miserably short of its target in 2017-18 and 2018-19. Its achievements in the Wind Energy Sector during the years 2016-17, 2017-18 and 2018-19 were about 137%, 47% and 37% of the targets respectively. The Committee feel that the Ministry was clearly not able to keep up the momentum it acquired in 2016-17 as its performance in subsequent years are highly disappointing. The budget allocated for each of the three years i.e. 2016-17, 2017-18 and 2018-19 have reportedly been fully utilized.

The Committee are informed that for the year 2019-20, a physical target of 3000 MW has been set with a budgetary allocation of Rs. 920 crore which also includes disbursal under Generation Based Incentive Scheme. The Ministry has also submitted that an additional amount of Rs 600 crores has been sought in RE to cater the requirements of current financial year. The Committee observe that a Wind Power capacity addition of 1304.36 MW has been achieved from April to September 2019 against the target of

3000 MW. It means a capacity of 1695.64 MW has to be installed in the remaining six months. The Committee hope that the Ministry will achieve its target of the current year unlike the previous years. The Committee, therefore, recommend that:

i) The Ministry should make concerted efforts to achieve the physical target of 3000 MW wind energy capacity for the year 2019-20 and the overall target of 60 GW in a time bound manner.

ii) The Ministry should look into the reasons responsible for non-achievement of the physical target in 2017-18 and 2018-19 and take corrective measures for the same. The Committee may be apprised of the reasons and corrective measures taken in this regard.

Reply of the Government

i) & ii): The Government had set a target of 175 GW of installed capacity of renewable energy sources by 2022, which includes 60 GW from Wind Power. The capacity additions till 2017 (i.e. 32.27 GW) were through Feed in Tariff (FiT) mechanism. The installation of wind power was highest during 2016-17 with 5502 MW installed capacity due to discontinuation of following incentives:

1. Generation Based Incentive (GBI) was provided at the rate of 50 paisa / unit of generation with upper cap Rs. 1 Cr/MW. The scheme was available for projects commissioned till 31.3.2017 and discontinued after that.
2. Accelerated Depreciation was set to be reduced from 80% to 40%.

Because of change in tariff regime, there was initial slowdown in capacity addition but the competitive bidding resulted in much lower tariff and was, therefore, beneficial to the country. Presently, the wind power projects in the country are installed on the basis of commercial viability through tariff based competitive bidding process, which has reduced the tariff of wind power considerably, i.e. from over Rs 4 per units during FiT to around Rs 2.80 per unit in bidding regime. The Minimum Tariffs discovered from tenders auctioned for Wind Power are as under:

Sl. No.	Bid	Capacity Awarded (MW)	Type	Min. Tariff (Rs./kwh)
1.	SECI-I	1049.9	Central	3.46
2.	SECI-II	1000	Central	2.64
3.	SECI-III	2000	Central	2.44
4.	SECI-IV	2000	Central	2.51
5.	Tamil Nadu	450	State	3.42
6.	Gujarat (GUVNL)	500	State	2.43

7.	Maharashtra (MSEDCL)	500	State	2.85
8.	SECI-V	1190	Central	2.76
9.	NTPC	850	Central	2.77
10.	SECI-VI	1200	Central	2.82
11.	SECI-VII	480	Central	2.79
12.	SECI-VIII	440	Central	2.83
13.	Gujarat (GUVNL)	202.6	State	2.80
	Sub Total	11862.5		

To compensate for slow down, the Ministry issued bidding guidelines and the bids of 14100 MW were done during last three years. As a result of which, capacity additions have started increasing now. During 2019-20, installation of wind power capacity has started pacing up and projects of 2117 MW capacity was installed, which is 43% higher than the capacity installed in previous year. The achievement in 2019-20 was 70.5% of the target . A total capacity of 2749 MW wind power projects have already been installed from awarded bids and around 9110 MW of projects are at various stages of implementation. The overall status of wind power projects are as under:

1. Cumulative commissioned capacity till 30/06/2020: 37.83 GW
2. Capacity under implementation: 9.11 GW
3. Bids issued: 3.1 GW

Total (1+2+3): 50.04 GW

The Ministry has planned to issue bids of remaining 10 GW in current year, so that the projects can be commissioned by 2022 to achieve the target of 60 GW. In order to ensure the timely execution of projects, MNRE is regularly monitoring the implementation of awarded wind power projects.

[Ministry of New & Renewable Energy OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.9)

The Committee note that there is 10 GW of annual production capacity of Wind Turbines and all the major global WTG manufactures have manufacturing units in the country. The Committee congratulate the Ministry for the fact that around 70-80% indigenization has been achieved in Wind Energy Sector.

The Committee are informed that off-shore wind energy potential of about 70 GW has been identified along the coasts of Gujarat and Tamil Nadu and there is a plan to develop the first off-shore Wind Energy Project of 1 GW capacity off the coast of Gujarat. The Committee also note with satisfaction that SECI has awarded three Wind-Solar Hybrid Projects of total capacity of 1440 MW in the States of Rajasthan and Tamil

Nadu and issued a tender to install 160 MW capacity of Wind-Solar Hybrid Project in the State of Andhra Pradesh. The Committee are of the opinion that Wind and Solar are complementary and hybridizing these two would help in minimizing the variability apart from optimally utilizing the infrastructure, including land and transmission system. The Committee feel that these new initiatives will diversify the Ministry's resources and work as a cushion against any shortfall in already planned capacity of 175 GW of installed Renewable Energy Capacity by 2022. The Committee, therefore, recommend that:

i) The Ministry should take forward the lead achieved in Wind Energy Manufacturing and strive for maximum indigenization of Wind Turbines Manufacturing.

ii) The Ministry should not only ensure achievement of the target of 5 GW of off-shore wind capacity by 2022 but also try to develop maximum capacity out of the potential of 70 GW in both the States of Gujarat and Tamil Nadu.

iii) The Ministry should encourage the Wind–Solar Hybrid Projects as much as possible in order to minimize the intermittency of Renewable Power.

Reply of the Government

i): The Wind Turbine Generator technology has evolved and state-of-the-art technologies are available in the country for the manufacture of wind turbines. Around 70-80% indigenization has been achieved with strong domestic manufacturing in the wind sector. All the major global players in this field have their presence in the country and over 40 different models of wind turbines are being manufactured by more than 17 different companies, through (a) joint ventures under licensed production (b) subsidiaries of foreign companies, and (c) Indian companies with their own technology. The unit size of machines has gone up to 3.00 MW. The current annual production capacity of wind turbines in the country is about 8000 MW to 10000 MW.

The domestic manufacturing of wind turbines is encouraged through incentives such as concessional custom duty exemption (CCDC) on certain critical components of WTG. Further, the Government has introduced an online portal (RLMM Portal) for processing applications for including and updating wind turbine models in Revised List of Models and Manufacturers (RLMM).

Ministry is interacting with various stakeholders including wind turbine manufacturers, component manufacturers and raw material manufacturers to understand the issues/bottlenecks which need government interventions to further increase the domestic content in wind turbine manufacturing. National Institute of Wind Energy has been asked to prepare a comprehensive report on this.

ii): Offshore wind energy development is an emerging technology with global installation capacity of about 28 GW mostly in European waters. India is yet to start its first offshore wind energy project. The preliminary assessments suggested the offshore wind energy potential of 70 GW off the coast of Gujarat and Tamil Nadu. This needs to be validated through actual ground measurements of wind data and other geophysical, geotechnical

and oceanographic studies. Ministry has planned to carryout wind measurements and geophysical, geotechnical and oceanographic studies off the coast of Gujarat and Tamil Nadu in order to ascertain the feasibility of offshore wind projects in these areas through National Institute of Wind Energy. The study results will also helpful for project developers in estimating of any future offshore wind project cost in these study areas.

The first offshore wind energy project of 1 GW capacity was planned off the coast of Gujarat for which a concept was proposed to Ministry of Finance for a viable gap funding scheme. However, the proposal was differed because of the high VGF that was required. It is expected that, the initial offshore wind projects will have higher tariff in comparison to onshore wind or solar projects and hence financial assistance will be required from the Government. The learnings from the first few projects along with a conducive ecosystem will lead to tariff reduction in subsequent offshore wind projects.

The Ministry is working on various strategy options for development of offshore wind energy projects in India.

iii): SECI has awarded 1440 MW capacity of wind solar hybrid projects through tariff based transparent bidding process including e- reverse auction, which are under implementation. The details of these projects are as under:

Sr. No.	Bidder's Name	Project Capacity (MW)	Tariff (INR/kWh)	Project Location	Scheduled Commissioning Date	
1	Mahoba Solar (UP) Private Ltd	390	2.69	Rajasthan	03.12.2020	
2	SBE Renewables Ten Pvt Ltd	450	2.67	Tamil Nadu	03.12.2020	
3	Adani Renewable Energy (Park) Gujarat Ltd	600	2.69	Rajasthan	17.02.2021	
	Total	1440				

In addition to this, SECI has issued a bid 1200 MW ISTS connected wind-solar hybrid projects.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.10)

Solar Energy

The Committee note that there is a potential of about 750 GW of Solar Energy in the Country and a target of 100 GW of Solar Capacity has been set to be achieved by 2022. As on September 30, 2019, a capacity of 31,101.68 MW has already been commissioned. The Committee feel that the Ministry have a huge task before it to commission remaining 68,898.32 MW of Solar Energy Capacity in just about two and a half years as to meet the stipulated target of 1,00,000 MW Solar Energy Capacity by 2022, with an average of more than 27,000 MW per year. Although the Ministry has given assurance to the Committee about time bound achievement of target but the Committee are skeptical about this claim.

The Committee observe that for the year 2016-17, 2017-18 and 2018-19, against the targets of 12000 MW, 10000 MW and 11000 MW of Grid-connected Solar Power, the Ministry had been able to achieve 5525.98 GW, 9362.67 MW and 6529.20 GW with utilization of Rs 2590.59 crore, Rs. 1889.93 crore and Rs 2524.65 crore respectively. It means the target achievement was 46%, 94% and 60% in the respective years. The Committee find that there is no synchronozation with respect to achievement of financial and physical targets, as there is higher physical achievement with lesser financial utilization and lesser physical achievement with higher financial utilization. The Committee are concerned with such haphazard performance of the Ministry in Solar Sector. For the current year, a target of 8500 MW of grid connected Solar Power has been set with an allocation of Rs 2479.90 crore and the Ministry has been able to achieve 2921.02 MW with utilization of Rs 1489.85 crore as on September 30, 2019. Therefore, 5578.98 MW (~65% of the target) are left to be achieved in remaining six months.

The Committee find that the Ministry has continuously been missing on its yearly Solar Energy capacity addition targets, so the Committee are dissatisfied with the performance of the Ministry in Solar Energy Sector and feel that with such performance, the target of 100 GW will be very hard to achieve. The Committee, therefore, recommend that:

i) The Ministry should work hard so as to achieve the target of 8500 MW set for the year 2019-20.

ii) The Ministry should play a proactive role in monitoring the progress of various Solar Energy Projects.

iii) The Ministry should make sustained efforts to find solutions for the constraints being faced in the commissioning of Solar Projects in consultation with other agencies concerned in a time bound manner.

Reply of the Government

i) Ministry had put all efforts to achieve the target of 8500 MW set for the year 2019-20. Total solar capacity added during this year is 6447 MW, which is around 75 % of the given target.

ii) The Ministry reviews the progress through meetings with all Stakeholders, including Solar project developers/State Govts/CPSUs regularly under the Chairmanship of Additional Secretary and Secretary. Hon'ble Minister also reviews the progress through regular interaction with all SPDs and Govt agencies and necessary actions are taken to achieve the targets. At present (as on 31-07-2020), total solar capacity commissioned is 35.300 GW. This apart, 31.560 GW solar capacities are awarded and are under construction stage. In addition to that, 20.657 GW solar capacities are under various stages of the tendering process. Therefore, as on date, total solar capacities (commissioned/under construction/under tendering) are about 85.52 GW. Further, new tendering of around 15-20 GW is planned to be done during the current year and first quarter of next year to achieve 100 GW targ)et.

iii) The major challenges in the implementation of solar projects are land allotment and grid infrastructure. Efforts are being made to address these issues.

a. Further, to solve the problem of land allotment, a new mode has been introduced in the existing Solar Park Scheme, i.e. UMREPP. Under this mode, a solar park is developed by CPSUs, State Govt agencies or their joint ventures. The States Govts are given a facilitation charge of Rs 0.05/unit for facilitating in identification and acquisition of land and in obtaining required statutory clearances.
b. For transmission infrastructure, a transmission capacities equivalent to 66.5 GW has been planned in consultation with Ministry of Power, CEA & PGCIL. The works have been started in phases, as given below:

- Phase-I (12.4 GW): Scheduled CoD is December 2020.
- Phase-II (26.1 GW): Scheduled CoD is December 2021
- Phase-III (28 GW): Scheduled CoD is December 2022

Apart from above, under Green Energy Corridors (GEC) Phase-I, Intra-State transmission capacity for 24 GW is under implementation and Inter-State transmission of 6GW has been completed.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

Comments of the Committee

(Please see Para No. 10 of Chapter – I of the Report)

(Recommendation Sl. No.11)

The Committee note that NISE has estimated a Roof-top SPV potential of 42.8 GW. Accordingly, a target of 40 GW of installed Roof-top Solar Power by 2022 has been set by the Government. The Committee know that as per the year-wise targets set by the Ministry so as to install 40 GW by 2022, there should have been an installed Roof-top Solar Power (RTS) Capacity of 16,000 MW by 2018-19. But, as on October 15, 2019, only 1826 MW of RTS Capacity has reportedly been installed i.e. the achievement is only 11.50 % of the target. The Committee are highly disappointed with the dismal performance of the Ministry in this Sector. CCEA has now revised the yearly RTS targets according to which a capacity of 3000 MW has to be commissioned during 2019-20.

The Committee feel that Roof-top Systems are not remunerative due to high maintenance cost and delay in disbursement of subsidy despite Ministry's assertion to the contrary. The Committee are of the opinion that given the performance of the Ministry in this Sector till date, the Roof-top Solar target of 40 GW by 2022 is unrealistic and it is highly unlikely that this target will be met. The Committee are of the considered view that the Ministry should give this programme a serious relook, otherwise it will derail the entire National Solar Mission. The Committee, therefore, recommend that:

i) The process of subsidy disbursement should be made simpler and faster and the Ministry should widely advertise the benefits of having a Roof-top Solar Projects and the incentives provided by the Government for the same so as to spread awareness among the masses.

ii) The Ministry should make arrangements so that the cost payable by the consumer may be recovered through monthly installments as people are generally reluctant to invest the whole amount at a time.

iii) Single Window Clearance System should be adopted for approvals like connectivity, net-metering, electricity inspection, limitation in sanctioned load, etc.

iv) The Ministry should have regular review meetings with the implementing agencies.

Reply of the Government

i. In Phase-I of Rooftop Solar (RTS) Programme, there was a provision of 30% advance of the project cost calculated at benchmark cost or the tendered cost whichever is lower. Balance 70% of the payment was to be released after completion of the project and submission of all the documents. As, implementing agencies were taking longer time in submission of documents, therefore, release of balance 70% of the subsidy amount was taking time. In Phase-II of RTS Programme, a provision of additional 30% advance after the implementing agency exhausted the initial 30% advance has been made. Further, it has been

made mandatory for the implementing agencies to submit the documents within 30 days after the project completion timelines. Further, the residential consumers will have to pay only the balance of subsidy amount to the empaneled vendor. For example, if the total cost of the system is Rs.100/- with subsidy amount of Rs. 40/-. Now consumer will have to pay only Rs.60/- to the empaneled vendor and subsidy amount of Rs.40/- will be claimed by the vendor from the DISCOM (which has been made the implementing agency). Therefore, the consumer will not have to wait for the subsidy amount. With these provisions it is expected that process of subsidy disbursement will be faster. MNRE has requested all the State/UT Governments to give wide publicity to the Rooftop Solar Programme including the incentive available for installation of Rooftop Solar. MNRE will also provide the content for the Information, Education and Communication (IEC) material to the States/UTs which can be used for publicity of the Rooftop solar.

ii. Ministry has written to the States/UTs Governments to tie up with the banks so that consumers can get the bank loan and the monthly installments can be paid by them either in their month electricity bills or directly to the banks. Further, a line of credit of 245 million $ from world Bank to State Bank of India (SBI) is under negotiation, which will be used by SBI for providing loan to the residential consumers at cheaper rate of interest.

iii. Technical Assistance is being provided to the DISCOMs, the implementing agencies for creation of Single Window Clearance Portal. As one 11th August 2020, single Window clearance portals of 10 States are live and integrated with SPIN Portal of MNRE. It is expected that by 31st December 2020 all the implementing agencies will have this facility for their consumers.

iv. MNRE had a workshop cum review meeting with the implementing agencies on 14th November 2019. Special Secretary, Joint Secretary and other concerned officers from MNRE and concerned officers from the implementing agencies participated in the meeting. Second and third Review meetings with all the implementing agencies were held in the month of January 2020 and April 2020. As recommended by the Standing Committee, review meetings with the implementing agencies will be held regularly.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.12)

. The Committee note that there are 2,37,120 units of Solar Pumps installed in the country (as on March 31, 2019). Further, the Committee are informed that a new initiative 'PM-KUSUM' has been announced to empower farmers by giving them 17.50 lakh stand-alone pumps with capacity upto 7.5 HP for replacement of existing diesel pumps/irrigation systems and Solarization of 10 lakh Grid connected Agricultural Pumps by the year 2022. According to this scheme, the farmers can supply the excess power to the grid and earn an additional income. The Scheme also includes installation of 10,000 MW of Grid Connected Solar or any other RE Power Plants of individual plant size upto 2 MW.

The Committee appreciate the Government for its efforts to empower farmers. But, the Committee feel that the number of agricultural pumps provided under the scheme are meagre as compared to total number of intended target group. Further, the Committee are concerned that already financially constrained DISCOMs may not be able to pay the farmers for the excess power supplied to the grid. The Committee are of the opinion that non-payment of dues by the DISCOMs will further alienate the farmers and will definitely have serious repercussions for the scheme. The Committee, therefore, recommend that:

i) The Ministry should formulate some mechanism to ensure payment from DISCOMs to farmers, if they choose to send excess power to the Grid. The Committee would like to know about the details of any such mechanism as early as possible.

ii) The Ministry should also ensure quality, sustainability and maintenance of installed Solar Pumps.

Reply of the Government

1 .Installation of solar power plants at barren/fallow land under Component-A and Solarisation of existing grid connected pumps under Component-C of the PM-KUSUM Scheme are being implemented for the first time and therefore, has been recommended for implementation on pilot mode. For Component-A model PPA has been developed by MNRE, which has provision for payment security mechanism and DISCOM will have to maintain LC and Escrow Arrangement as defined in the PPA. Further, one of the conditions for disbursement of Procurement Based Incentives to DISCOM is timely payment of lease rent/solar energy by DISCOM to farmers. Regarding Component-C there could be different models and therefore, flexibility for implementation has been given to states. Based on evaluation of pilot mode modifications in the scheme will be considered. Further, the solar power available to Discom would be much cheaper than average pooled power purchase cost (APPC) and there will be saving on T&D losses also, therefore, Discom should prefer to buy this cheaper power rather than conventional power.

2. Ministry has upgraded its specifications standards and testing procedure for solar water pumps to ensure quality products are made available to the farmers. To monitor quality out-put during operation and proper maintenance remote monitoring mechanism has been made mandatory for every solar water pump installed under the scheme. In addition, Vendors will mandatorily provide AMC for a period of 5 years from the date of commissioning of the systems including insurance coverage for the installed systems against natural calamities and theft. AMC will include inspection by Vendor at least once in a quarter and submission of quarterly inspection report of the installed pumps as per prescribed format. To ensure timely maintenance of the systems the vendor shall have one authorized service centre in each operational district and a helpline in local language in each operational State. Helpline number shall be indicated on the pump/ controller at suitable location easily visible to the user.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation No.13)

The Committee note that there is an installed Solar PV Manufacturing capacity of 3 GW for Solar PV Cells and around 10 GW for Solar PV Modules and there is no commercial production in India for upstream stages of Solar PV manufacturing like wafers, ingots and polysilicon. The Ministry has submitted that the price of Solar equipment produced in the Country is not competitive as compared to that of foreign manufacturers, especially Chinese manufacturers and about 85% of Solar equipment/Cells/Modules are imported from China and other countries like Vietnam and Malaysia. The Committee are informed that the reasons for poor domestic manufacturing capacity include lack of integrated set up, high cost of land/electricity, lack of skilled workforce, low capacity utilization, lack of economies of scale, high cost of financing & lack of modern technology resulting in higher cost of production, etc.

The Committee are concerned about the lack of domestic Solar Manufacturing Capacity in the Country. The Committee are of the view that it is necessary for India to support Domestic Solar Manufacturing as over-reliance on any single foreign country puts Indian Solar Sector at a risk of disruption in supply chain and cripple indigenization of the Sector. The Committee feel that Renewable Energy Sector can not be sustained on imported equipments in the long term. The Committee, therefore, recommend that:

v. The Ministry should urgently formulate a dedicated programme to support Solar Manufacturing in the country.

ii. The Ministry should work to provide subsidy/Viability Gap Funding (VGF) and low interest rate loans to domestic manufacturers so as to make them competitive.

Reply of the Government

Detailed note on present status of Solar PV Manufacturing and further steps proposed by MRNE for incentivising solar PV manufacturing in India is at Annexure.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.14)

The Committee note that financing of about Rs. 2,80,000 Crore (@ Rs. 4 Cr/MW) will be required for additional 70 GW. It is also submitted before the Committee that banks are reluctant to provide debt/loan to Renewable Energy sector as there are lot of NPAs in power sector and at present, both conventional power sector and Renewable Energy sector are clubbed together for their loan basket. The Committee find that while Small Hydro and Biomass Sector have NPAs, Wind and Solar Sector do not have any NPA till date. But, the Committee are informed that about Rs 9700 crore of developers/generators are due on States/DISCOMs and if the same is not paid back, many of the solar and wind projects may also turn into NPAs. The Committee, therefore, recommend that:

i) The loan basket and loan limit for conventional power sector should be separate from that of Renewable Energy sector so that the development of this sector does not get affected due to prevalence of NPAs in conventional power sector.

ii) The Ministry should hold discussions with the State Governments and come up with guidelines/directives so as to ensure timely payment from DISCOMs to developers/generators.

Reply of the Government

i. Ministry had written a letter to RBI with a request to segregate loan limit for renewable power from conventional power sector. In response RBI had replied that sector limits are decided by boards of Respective banks. The Ministry had also written to Secretary, Department of Financial Services and CMD's of all public sector banks in this regards.
ii. Ministry of Power has issued order no. 23/22/2019-R&R dated 28th June, 2019 for Opening and maintaining of adequate letter of Credit (LC) as Payment Security Mechanism under Power Purchase Agreements by Distribution Licensees.
iii. The Ministry had been consistently pursuing with states for timely payment of dues to RE generators. It had also been facilitating loans from IREDA to state utilities to clear RE dues. MoP has come out with Rs. 90,000 crore loan package for all utilities to clear pending dues.

[Ministry of New & Renewable Energy OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.15)

Biomass Power and Bagasse Co-Generation Programme

The Committee note that the estimated potential for power generation from Biomass/Bagasse Co-generation in the country is about 26 GW. Against this, a cumulative capacity of 9131 MW has reportedly been installed in the country (as on September 30, 2019). The Committee are satisfied with the performance of the Ministry in this sector as the Ministry has outperformed during the last two years. For the year 2017-18 and 2018-19, against the targets of 340 MW and 250 MW, capacity addition of 519 MW and 402 MW respectively have been achieved. The amount allocated for the last two years were Rs. 9 crore and Rs. 8.5 crore, respectively, which have not been fully utilized. The Committee observe that for the year 2019-20, a physical target of 250 MW has been fixed with an outlay of Rs. 53.50 crore and it is submitted that the allocation will be sufficient to achieve the set target. However, the Ministry has not furnished any special reason for drastic increase in budgetary allocation in 2019-20 with physical target remaining the same as that of the last year. The Committee, therefore, recommend that:

i) The Ministry should maintain its performance of previous years in achievement of the physical target for the year 2019-20.

ii) More projects on Biomass/Bagasse Co-generation should be encouraged, especially in those States with high potential like Punjab, Haryana, Madhya Pradesh, Rajasthan, etc. where the installed capacity is low as compared to potential.

iii) The technologies used in the sector should be upgraded and improved, keeping in mind the cost effectiveness and viability of the projects.

iv) Fresh study for biomass resource assessment may be conducted in a time bound manner.

Reply of the Government

i) The recommendation of the committee has been noted. In FY 2019-20, Biomass/Bagasse Cogeneration capacity addition was 103.047 MW. Proposals for 35 projects with capacity around 420 MW have been received which are currently being reviewed by the Ministry.

ii) The Ministry is implementing a Scheme to Support Promotion of Biomass Based Co generation in Sugar Mills and other Industries in the Country. The scheme was announced on 11 May 2018.

Under the Scheme, Central Financial Assistance (CFA) is being provided to biomass based co-generation projects after successful commissioning and performance inspection of the plants and the CFA pattern is given below:

Project Type	Central Financial Assistance (CFA)
Bagasse based Co-generation by Sugar Mills	Rs. 25 Lakhs / MW of Surplus Exportable Power
Biomass (Non-Bagasse) based co-generation in other Industries	Rs. 50 Lakhs / MW of Installed Capacity

Biomass based co-generation projects which intend to add capacity to the existing plants are also considered for grant of CFA. CFA for such projects are considered only for the enhanced capacity.

However the suggestion of the committee has been noted.

iii) In accordance with CERC tariff orders, technology used in the sector is based on Rankine Cycle Technology. However, the suggestion of the committee has been noted.

iv) A fresh study on Assessment of Biomass Power and Bagasse Cogeneration Potential has been awarded to Administrative Staff College of India in November, 2019. The final report was supposed to be submitted within 8 months from date of award but due to COVID-19 situation, the final report is now expected to be submitted in December, 2020.

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Comments of the Committee

(Please see Para No. 13 of Chapter – I of the Report)

(Recommendation Sl. No.16)

Small Hydro Power

The Committee note that the identified potential for power generation from Small Hydro Projects (upto 25 MW capacity) is around 21,133.62 MW from 7133 identified sites all over the country. Against this estimated potential, a cumulative capacity of 4610.807 MW has been installed (as on September 30, 2019). The Committee find that the performance of the Ministry in this sector has been good. During 2016-17, 2017-18 and 2018-19, against the target of 150 MW, 100 MW and 100 MW, a capacity addition of 105.90 MW, 105.96 MW, and 107.35 MW respectively have been installed and the expenditure during this period have been more than the allocated amount except in 2018-19. However, there are apprehension that instead of striving to achieve the yearly target of 250 MW that was there before 2016-17, the Ministry has lowered its target from 250 MW in 2014-15 and 2015-16 to 100 MW 2017-18 onwards. The Committee observe that for the year 2019-20, the budgetary allocation has been Rs. 190.90 crore with a physical target of 100 MW. The Committee are also apprised that the National Mission on Small Hydro has been dropped. Some of the challenges faced in the SHP Sector are short working season in the hilly areas, unwillingness of DISCOMs to sign PPAs, levy of inter-state charges, long time taken for clearances, etc. It is also submitted that the new projects could not be sanctioned in North Eastern States since the continuation of SHP scheme from April 2017 to March 2020 is still under consideration of CCEA . The Committee, therefore, recommend that:

i) The Ministry should formulate new scheme for implementation of Small Hydro Projects so as to revamp the small hydro sector in the country especially in North Eastern Region.

ii) Reassessment of SHP potential in the country should be taken up in a time bound manner.

iii) The Government may critically review its performance under the SHP sector and ensure that the factors which hinder the growth of the sector are addressed.

iv) The Ministry should make efforts in consultation with concerned stakeholders to ensure that the interstate charges/cess are not levied on SHP and these

projects are exempted from providing free power so as to give a fillip to the Sector.

Reply of the Government

i. The Ministry has already formulated a scheme for SHP which could not be sent to DEA, Ministry of Finance because of ban on proposing new scheme on account of COVID.
ii. Assessment of SHP potential was done in 2016 with hydrological data of more than 10 years. There is not much likelihood of change in hydrological data in short period.
iii. While preparing new scheme, the Ministry had got assessment of previous scheme and issues pointed out are addressed in revised scheme.
iv. The suggestion of the Hon'ble Committee regarding ISTS waiver for small hydro projects has been noted for further action.

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(Recommendation Sl. No.17)

Renewable Energy For Rural Applications

The Committee are informed that Renewable Energy for Rural Applications includes the New National Bio-Gas and Organic Manure Programme (NNBOMP) and Bio-Gas based Power Generation (0ff-Grid) Programme. NNBOMP aims at setting up small biogas plants for meeting cooking and lighting needs of mainly rural and semi-urban households of the country, while Bio-gas based Power Generation Programme provides clean energy solution to reduce consumption of diesel and kerosene by installation of medium size biogas plants.

The Committee observe that from the year 2016-17 to 2019-20, allocation for this Sector has been considerably reduced and the Ministry has consistently failed to achieve the physical targets and utilize even the reduced financial allocation. During the year 2018-19, against the Financial Allocation (RE) of Rs. 78 crore, only Rs. 42.71 crore (56 %) have been utilized and against the physical target of 1 lakh Bio-Gas Plants, the Ministry has been able to set up only 26980 such plants (~27 %). The Committee feel that the performance of the Ministry is discouraging in this sector. The Committee are informed that the non-achievement of Bio-Gas target is due to low priority given to this scheme at the State level.

The Committee note that during the year 2019-20, only 6338 small bio-gas plants have been set up against the target of 76000 such plants and only Rs 16.61 crore have been utilized against the financial allocation of Rs 100 crore as on September 30, 2019. The Committee are concerned that this year too, the Ministry may fail to achieve its target by a massive margin. The Committee are of the view that apart from electricity generation, Bio-Gas Plants help millions of rural folk by meeting their cooking and other energy requirements. The Committee, therefore, recommend that:

i) The Ministry should strive hard to achieve their physical targets so as to provide clean energy solutions to the rural poor specially women and children.

ii) The Ministry should hold discussions with the State authorities so as to encourage them to give due priority to this scheme as without their cooperation, this scheme can not bear desired results.

iii) The scheme should be properly publicised in order to spread awareness among rural folks.

Reply of the Government

The suggestions of the committee have been duly noted. The Ministry will take all steps for implementation of bio gas programs for meeting cooking and other energy requirements of rural poor. Regular meetings are held with State Governments/ Implementing Agencies for fixing targets and monitoring the performance of the programme.

The Scheme provides for imparting various designated training courses (Refresher Training Courses; Users courses; Turn-Key workers courses; Staff courses; and Biogas Skill Development Course) on biogas so as to make them well acquainted and take the best use of the biogas plant facilities including managing and utilization of biogas plant produced slurry as an organic bio-manure in a proper sanitized way. Further wider publicity including in regional languages will also be created for promotion of the program.

During FY 2019-20, total 27,616 number of small biogas plants have been set up under the New National Biogas and Organic Manure Programme (NNBOMP)

The following measures were introduced by the Ministry in the NNBOMP scheme issued on May 30th, 2018. The policy is valid up till March 2021.

i) The different sizes of biogas plants have been approved (in range of 1 to 25 Cubic Metre).

ii) PSU/NABARD/IREDA and Regional Rural Banks of scheduled Banks may provide loan for biogas plant installations.

iii) Incentive for use of biogas based engines by farmers for saving diesel / electricity by farmers

iv) The Ministry of New and Renewable Energy (MNRE) invited proposals for new designs of small biogas plant leading towards simple and cost effective domestic, community / village level small scale Biogas usage (in the range of 1 to 25 Cubic Meter) made up of eco-friendly & durable but with standard and virgin quality materials and should be suitable for Indian Climatic conditions and able to process various feedstock/organic wastes for anaerobic fermentation. This would push the adaptability of vide range of biogas models.

However, high cost and UJJAWALA scheme have impacted the overall achievement of the program.

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Comments of the Committee

(Please see Para No. 16 of Chapter – I of the Report)

(Recommendation Sl. No.18)

Renewable Energy for Urban, Industrial and Commercial Applications

The Committee note that the programmes under the head 'Renewable Energy for Urban, Industrial and Commercial Applications' include Energy efficient Solar/Green Buildings Programme; Energy from Urban, Industrial and Agricultural Waste including Biomass Cogeneration in Industry and Waste to Energy Programme. The Committee observe that during 2018-19, 6.58 MW could be achieved against the target of 20 MW under Waste to Energy Programme. Further, against the financial allocation of Rs. 22 crore, no amount was utilized during the same year. The Committee find that performance in Waste to Energy Sector is not up to the mark, both in financial as well as physical terms.

The Committee are informed that as of now, 199 waste-to-energy plants based on Municipal Solid Waste (MSW) and Urban, Industrial and agricultural waste/residues have been set up for generation of power, biogas and bio-CNG to meet thermal and electrical needs of the industries and for production of Bio-CNG for transportation as well as cooking fuel etc. But, these Plants, reportedly, are not doing well in terms of viability and profitability, due to various reasons like unavailability of any supporting scheme, long delays in obtaining statutory clearances, etc.

The Committee note that for 2019-20, a budgetary allocation of Rs. 53.50 crore with a physical target of 15 MW has been assigned for Waste to Energy and Biomass Programmes. The Committee hope that the Ministry will ensure achievement of its target during the current year. The Committee, therefore, recommend that:

i) The Ministry should formulate a dedicated scheme to support waste to energy projects.

ii) In view of the importance of waste to energy programme, there should be an integrated strategy to manage/streamline all activities under this programme so as to avoid delay in obtaining statutory clearances/ approvals from various agencies.

iii) The Ministry should encourage States/Municipal Corporations and other stakeholders to come up with suitable proposals for recovery of Energy from Urban, Industrial and Agricultural Wastes.

Reply of the Government

i. This Ministry is already implementing a Programme on Energy from Urban, Industrial, Agricultural Wastes/ Residues and Municipal Solid Waste to support waste to energy projects. Central Financial assistance in the form of back-ended capital subsidy is provided under the programme for setting up Waste to Energy plant is as follows:

a. Biogas generation : Rs 1.0 crore per 12000cum/day (Maximum Rs 10Cr/project); ;
b. BioCNG generation (including setting of Biogas plant) : Rs 4.0 Crore per 4800Kg/day (Maximum Rs 10Cr/project);
c. Power generation based on Biogas (including setting of Biogas plant): Rs 1.5 Cr to Rs 3.0 Crore per MW(Maximum Rs 10Cr/project);
d. Power generation based MSW: Rs 5.0 Crore per MW (Maximum Rs 50Cr/project);
e. Biomass Gasifier:
    - Rs. 2,500 per kW_e with duel fuel engines for electrical application
    - Rs. 15,000 per kW_e with 100% gas engines for electrical application
    - Rs. 2 lakh per 300 kW_{th} for thermal applications.

ii. The recommendations of the committee have been noted for compliance.

iii. This Ministry has revised Waste to Energy programme on 28.02.2020 to include financial support for projects based on Municipal Solid Waste which encouraged States/Municipal and private developers to submit suitable proposals to this Ministry seeking for CFA for setting up of Waste to Energy projects. Consequently, during 2020-21, this Ministry has received 14 proposals with cumulative installed capacity of approx. 126MWeq Waste to Energy projects. During FY2019-20, 24 projects with total capacity of 28.43 MWeq of Waste to Energy plant was added as against target set of 12MWeq.

[Ministry of New & Renewable Energy OM.No.372-12/8/2017-PU Dated: 08/09/2020]

(Recommendation Sl. No.19)

Research, Design, Demonstration And Development In Renewable Energy Sector

The Committee note that Budgetary Allocation under RDD&D for the years 2016-17, 2017-18 and 2018-19 were drastically reduced at RE stage i.e. in 2016-17, BE of Rs. 90 crore was reduced to Rs. 60 crore, in 2017-18, BE of Rs. 144 crore was reduced to Rs. 81 crore and in 2018-19, BE of Rs 94 crore was reduced to 43 crore at RE stage . It is found that even the reduced amount could not be fully utilized. Keeping in view the fact that there are three institutions dedicated to research in Renewable Energy Sector namely NISE, NIWE and NIBE, the Committee are not able to understand this inability of the Ministry to utilize the allocated amount. Regarding the major programmes/research activities undertaken during the last three years, the Committee are informed that RD&D

is being supported in the field of Solar Photovoltaic, Solar Thermal, Hydrogen fuel Cells and Wind-Solar Hybrid Systems.

The Committee note that an amount of Rs. 60.00 crore has been allocated under RDD&D for the year 2019-20. The Committee are informed that during the year 2019-20, thrust will be on development of solar thermal technology, improving Si PV efficiency, developing new material solar cells, storage solutions, development of efficient and cost effective designs of biogas plants, off-shore technology and wind solar hybrid systems, pumped storage systems, technology for storage and development of efficient and cost effective fuel cells, etc. The Committee, therefore recommend that:

i) The Ministry should focus on maximum utilization of allocated funds so that Research, Design, Demonstration and Development in Renewable Energy Sector do not suffer due to low utilization of sanctioned amount.

ii) The Ministry should ensure a coordinated approach for successful collaboration among the technological and R&D institutions and industry to achieve the goal of renewable energy technology development.

iii) The Ministry should also ensure constant monitoring of all R&D projects with a view to evaluating their functioning in a cost effective and result-oriented manner.

Reply of the Government

i. New R&D scheme and policy was launched in Feb, 2019 and proposals were invited from R&D institutes/ Universities/IITs/NITs/ Industry in line with the R&D thrust area of the Ministry in the field of solar thermal & solar photovoltaic, biogas, waste to energy, wind energy, hybrid systems, storage, hydrogen and fuels cells and geothermal, etc. with the ultimate aim of increasing share of renewables in the energy mix in the country. The R&D efforts are expected to make industry competitive and renewable energy generation supply self-sustainable/ profitable

ii. The proposals are screened and sanctioned after the expert evaluation and RDPAC Committees in every year. Under the Research and Development programme revised budget of Rs. 15.00 crores against allocated budget estimate of Rs. 60.00 crores for FY 2019-20 was fully utilized.

Further, fund were provided to the three institutions of the Ministry i.e. National Institute of Solar Energy (NISE), National Institute of Wind Energy (NIWE) and National Institute of Bio Energy (NIBE) for undertaking research, testing, training, field trials etc. The details of the funds released to these institutions during 2019-20 are as follows.:-

Institute	B.E/R.E (in crores)	Expenditure (in crores)
NIWE	17.00/23.00	23.00
NISE	15.00/13.00	13.00

NIBE	3.00/0.70	0.70

iii. The standing committee recommendations will be followed and implemented to achieve the maximum utilization of allocated funds.

iv. The Ministry ensures a coordinated approach for successful collaboration among the technological like IITs and R&D institutions and industry to achieve the goal of renewable energy technology development and also ensure constant monitoring of all R& D projects by project monitoring committee (PMC) comprising of the experts identified by MNRE / RDPAC Committee with a view to evaluating their functioning in a cost effective and result-oriented manner.

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(Recommendation Sl. No.20)

PSUs/Institutions under the Ministry

The Committee note that IREDA is a non-banking financial institution engaged in promoting, developing and extending financial support for setting up projects relating to new and renewable energy and energy efficiency/ conservation. After scrutiny of the data provided, the Committee feel that the performance of IREDA has been good as its MoU ratings has been "Excellent" for the years 2016-17 and 2017-18 and the same is expected to be "very good" for the year 2018-19. However, its NPA of 3.74 % during 2018-19 is the cause for concern. The Committee, therefore recommend that IREDA should work towards reducing its NPA in accordance with the target set.

Reply of the Government

Since, IREDA is a financing institution, operating in the Renewable Energy Sector, it faces the considerable risk on asset portfolio in terms of NPA, as Renewable Energy projects are more vulnerable to vagaries of nature for their operation/ performance. The company has been taking various measures towards NPA reduction and recovery. Notwithstanding, rising NPAs is a cause of concern and the observation is noted.

Some of the major reasons for NPAs includes Delays in payments from Discoms, most of the NPAs are in the Biomass / Cogeneration and SHP projects, mainly due to Drought conditions for more than one year & other unforeseen circumstances and Factors beyond the control of the promoters. Also, the Seasonal nature of sugar industry, Seasonal Electricity Generation pattern in other technologies affect cash flows.

With regard to NPAs, IREDA do take timely steps to contain NPA limits with the following measures.

- Regular & continuous follow up with Stressed accounts
- Re-schedulement / Restructuring of loans, in deserving cases
- Dedicated Risk and Monitoring Cell

- Recovery through Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, SARFAESI Act
- Recovery suits in Debt Recovery Tribunal, DRT
- Criminal court cases u/s 138 of Negotiable Instrument Act
- Initiation of insolvency proceedings/winding-up petition against guarantors
- Resolution through National Company Law Tribunal, NCLT (10 Cases under NCLT)

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(Recommendation Sl. No.21)

The Committee note that SECI has achieved most of its MoU targets during the year 2018-19 which is an improvement over the last two years. The Committee observe that SECI received Rs. 100 crore and 50 crore during 2016-17 and 2017-18 respectively. However, data related to fund utilization during the same period has not been furnished. It has been submitted that for the year 2019-20, SECI has not sought any equity support from the Ministry as the new projects to be undertaken in the current year will be carried out from its internal resources and external borrowings. SECI has a target to issue tenders for about 16,000 MW of Solar Projects among other activities during 2019-20. The Committee, therefore, recommend that being the implementing and executing arm for the National Solar Mission, SECI should make more efforts towards achieving its targets so that the overall target of 100 GW of Solar Energy can be achieved by 2022.

Reply of the Government

During 2016-17 and 2017-18 SECI received Rs. 100 Cr. and Rs. 50 Cr. respectively as equity support from Govt. of India. This is being utilized to meet the payment obligations arising out of SECI's role as intermediate procurer and to smooth out the mismatch between payables to SPDs and receivables from DISCOMs. Now, SECI has drawn up plans to set up own Solar Plants in excess of 2000 MW and this fund will be utilized for meeting out the equity component of the investments.

SECI issues tenders for solar/wind and hybrid power projects on build-own-operate basis, wherein selected bidders develop the projects with their own investment. Selection is through an open competitive bidding process. In 2019-20, SECI has issued tenders for 26975 MW (Solar-14875 MW, Wind-4300 MW and Hybrid-7800 MW) and awarded 13306 MW. SECI is the PPA counter-party for most of these projects.

SECI is planning to set up 2500 MW of CAPEX projects in the period 2020-2025. The CAPEX requirement for these projects is estimated at about Rs.11,000 Cr. Out of this SECI expects to award setting up of 100 MW in 2020-21, for which the estimated project cost is Rs. 863 Crs. and the expected outgo in FY 2020-21 is Rs. 375 crs. In addition, SECI is also planning to set up 2 Solar Parks with an aggregate capacity of 7500 MW with an estimated outlay of Rs. 4500 Cr. and 200 MW of Floating Solar with an estimated outlay of Rs. 1500 Cr., subject to availability of funds.

MNRE has already got the consent of Department of Investment and Public Asset management (DIPAM) for Equity support of Rs. 1000 Cr. to SECI. The proposal is being

taken up for requisite approval in the Government. The funds are expected to enable SECI to set up a part of the planned projects & set up the rest in a staggered manner through expected earnings from the projects & trading activities.

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(Recommendation Sl. No.22)

The Committee note that major achievements of NISE during the last year include Solar powered cold storage unit with thermal storage, solar powered bulk milk cooler unit, design and development of an innovative dryer, development of solar induction controller for induction based cooking system, implementation of Suryamitra Skill Development programme, etc. The Committee observe that NISE could not fully utilize the allocated amount, especially during 2016-17 and 2017-18. However, it utilized the full allocated amount in 2018-19. The Committee also note that for 2019-20, an amount of Rs. 15.00 Crore has been allocated to NISE. It is submitted that the allocated funds under capital head will not be sufficient and there is a requirement of Rs 11.60 crore against the allocated amount of Rs 6.00 crore. The Committee, therefore, recommend that:

i. More funds should be provided to NISE under capital head so that its proposed activities/projects may be carried out as planned.

ii. NISE should take up research projects for increasing the efficiency of Solar Cells and development of storage system.

Reply of the Government

i. The details of BE, RE and utilization of funds by NISE is given below:

(Rs. in Crore)

Financial Year	Budget (BE) In crores	Budget (RE) In crores	General Head		Salary Head		Capital Head		Expenditure
			Budget	Expenditure	Budget	Expenditure	Budget	Expenditure	
2016-17	20.00	7.00	1.00	5.30	3.50	2.82	2.50	5.59	13.71
2017-18	20.00	14.64	6.00	6.00	2.82	3.06	5.82	6.15	15.21
2018-19	18.00	18.00	5.00	4.96	3.50	2.63	9.50	10.52	18.11
2019-20	15.00	13.00	6.00	5.88	1.00	1.40	6.00	9.05	16.33

ii. NISE has already taken up a research project titled “Development of High Efficiency (21%/19%) PERC type of c-Si/mc-Si Solar Cells” for increasing the efficiency of Solar Cells;

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(Recommendation Sl. No.23)

The Committee note that major activities at NIWE during the last few years include development of wind potential GIS map at 120 m for the whole country, Offshore Wind resource Assessment, preparation of Geo-tagging portal, testing of Wind Turbines and solarization of wine farm, etc. The Committee find that fund utilization by NIWE, during the last three years i.e. 2016-17, 2017-18 and 2018-19 have been poor. The Committee are informed that for the year 2019-20, a sum of Rs. 19 crores has been approved and an additional fund of Rs 24.44 crore will be sought during RE stage. The Committee, therefore, recommend that:

i) NIWE should take corrective steps for alleviation of reasons responsible for low utilization of allocated funds, so as to achieve the projected targets with proper and exhaustive utilization of fund allocated.

ii) The Committee should be apprised of corrective steps taken in this regard.

Reply of the Government

i) & ii): The funds allocated to NIWE, Chennai were primarily spent on wind resource assessment activities being implemented throughout the country and the execution of these projects depends on the land clearance/ aviation clearances etc., from various States and other infrastructural developmental activities. Hence, the funds allocated for the year were not completely utilized during 2016-17, 2017-18 and 2018-19. Further, during 2017-18, a large portion of fund was allocated for offshore related activities such as Geo-technical surveys/ boreholes/ LiDAR measurements including other activities. Since, these activities are new and first of its kind in the country, drawing of initial technical specifications along with identifying the tender requirements took time and also the difficulty in arriving at the budgetary estimate on offshore Lidar/geo physical/ technical as off shore activities. Due to these reasons, the funds were not completely utilized.

Ministry is regularly monitoring the tasks assigned to NIWE and utilization of funds. During 2019-20, NIWE has fully utilized the allocated funds of Rs. 23 crore.

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(Recommendation Sl. No.24)

The Committee note that the total number of R&D activities/projects undertaken and completed by NIBE during the last few years have been decreasing. The institute has undertaken and completed only two R&D activities during the year 2018-19 reportedly due to acute shortage of manpower. The Committee observe that NIBE generates some revenue by providing services, but the same has also been decreasing over the years. The Committee are informed that for 2019-20, the budget allocation is Rs. 3 crore. The Committee, therefore, recommend that:

i) NIBE should work towards making Bio-Gas/Bagasse Power Plants sustainable and viable through appropriate technological development.

ii) It may work towards finding a viable alternative to stubble burning so as to alleviate the problem of air pollution in the country especially in Northern India.

iii) The Ministry should take steps to solve the problem of acute shortage of technical and scientific manpower at NIBE through recruitment/deputation as soon as possible.

iv) The Ministry should provide more funds to NIBE because the it will help in proper utilization of agricultural residues for generation of power and other environment- friendly use.

Reply of the Government

i. The primary mandate of SSS-NIBE is to carry out research in the field of Bioenergy. In regards to technological development for biogas generation, the institute has been working on projects of biogas generation through anaerobic digestion. A project entitled 'Biogas production and utilization for heat and power generation applications using potential alternative feed-stocks' funded by MNRE has been completed. A thermophilic consortium has been developed at the institute which is very efficient to digest lignocellulosic biomass including agricultural waste and kitchen and food wastes with higher biogas yield and lower retention time as compared to conventional process. A proposal for pilot scale study entitled 'Scale-up of biogas plant for co-digestion of paddy straw with kitchen waste' has been submitted to MNRE for funding since Dec 2018. A detailed project proposal in the area of waste to energy entitled "100 kW Power Generation for MSW to Gasification Plant" is submitted to MNRE for approval.

ii. To cater the issue of stubble burning of agro-waste, the institute is working on biorefining of lignocellulosic wastes to produce bioethanol, biogas and other value added products including platform chemicals. Two DBT funded R&D projects entitled 'Biorefining of sugarcane bagasse for production of bioethanol and value-added products' and 'Biorefinery approach for generation of platform chemicals and bioethanol from indigenous lignocellulosic agrowaste bioresources' are going on at the Institute. Further, to utilize the agro-waste for power generation, two R&D projects entitled 'Densification and co-firing of agro-waste for power generation through gasification' and 'Design and development of a lab scale solar reactor for biomass torrefaction under high concentration' have been submitted to MNRE for approval.

iii. The recruitment of 11 scientific posts is under process and it is expected to be completed soon.

iv. The budget allocation (BE) for the FY 2019-20 was Rs 3 Crore (BE), which was revised to Rs 0.7 Crore (RE). During the year 2020-21 a B.E. of Rs. 1.50 Crore has been provided to the Institute. Further a proposal of additional amount of Rs. 2.00 Crore has been submitted in the first batch of Supplementary demand for taking various activities of the Institute.

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Annexure

SOLAR PV MANUFACTURING

Steps taken by MNRE to incentivize Domestic Manufacturing in solar sector:

1. **Schemes with Domestic Content Requirement (DCR) and 'Preference to Make in India Order':**

   Through a number of Schemes like CPSU Scheme Phase-II, PM- KUSUM and Grid-connected Rooftop Solar Program Phase-II, Domestic Content Requirement (DCR) of more than 36 GW (of solar PV cells & modules) has been mandated which will promote domestic manufacturing. Further, through "Implementation of Public Procurement (Preference to Make in India) Order" procurement and use of domestically manufactured solar PV cells and modules, has been mandated for procurement by Govt/ Govt. entities. This is expected to create enough demand for domestically manufactured solar PV cells & modules and thus reduce imports thereof.

2. **Tenders for setting up Solar PV Manufacturing Capacities in India linked with Power Purchase Agreements (PPAs) for Solar PV Power Plants:**

   MNRE has recently concluded an innovative bid through which new additional manufacturing capacities of 3 GW of solar PV cells & 3 GW of solar PV modules, will be set up without any direct financial subsidy through the Government exchequer.

3. **Extension of Safeguard Duty on import of solar PV cells & modules by one year beyond 29th July, 2020 till 29th July, 2021, at following rates:**

   - 14.90% for imports during 30th July, 2020 to 29th January, 2021;
   - 14.50% for imports during 30th January, 2021 to 29th July, 2021;

4. **Proposal for Phased Imposition of Basic Customs Duty (BCD) on import of solar PV cells, solar PV modules and solar inverters:**

MNRE, through D.O. letter dated 22.07.2020 from Hon'ble Minster (NRE & Power) to Hon'ble Minister (Finance) has requested Ministry of Finance for imposition of Basic Customs Duty (BCD)

5. New Manufacturing Schemes under consideration:

Interest Subvention Scheme for manufacturing of ingots, wafers and solar cells.

[Ministry of New & Renewable Energy
OM.No.372-12/8/2017-PU Dated: 08/09/2020]

CHAPTER III

Observation/ Recommendation 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
18th March, 2021
Phalguna 27, 1942 (Saka)

Rajiv Ranjan Singh *alias* Lalan Singh,
Chairperson,
Standing Committee on Energy

APPENDIX –I

MINUTES OF THE EIGHTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2020-21) HELD ON 18th MARCH, 2021 IN COMMITTEE ROOM '2', PARLIAMENT HOUSE ANNEXE EXTENSION, NEW DELHI

The Committee met from 1500 hrs. to 1535 hrs.

Shri Rajiv Ranjan Singh alias Lalan Singh - Chairperson

LOK SABHA

2. Kumari Shobha Karandlaje
3. Shri Ramesh Chander Kaushik
4. Shri Ashok Mahadeorao Nete
5. Shri Parbatbhai Savabhai Patel
6. Shri Dipsinh Shankarsinh Rathod
7. Shri N. Uttam Kumar Reddy
8. Shri Shivkumar Chanabasappa Udasi

RAJYA SABHA

9. Shri T.K.S. Elangovan
10. Shri Maharaja Sanajaoba Leishemba
11. Shri Jugalsinh Mathurji Lokhandwala
12. Dr. Sudhanshu Trivedi
13. Shri K.T.S. Tulsi

SECRETARIAT

1.	Shri R.C. Tiwari	-	Joint Secretary
2.	Shri R.K. Suryanarayanan	-	Director
3.	Shri Kulmohan Singh Arora	-	Additional Director
4.	Smt. L.N. Haokip	-	Deputy Secretary

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

a) Report on Action-taken by the Government on the recommendations contained in the 28th Report (16th Lok Sabha) on 'National Solar Mission-An Appraisal';

b) Report on Action-taken by the Government on the recommendations contained in 37th Report (16th Lok Sabha) on Stressed/Non-performing Assets in Power Sector';

c) Report on Action-taken by the Government on recommendations contained in 40th Report (16th Lok Sabha) on 'Impact of RBI's Revised Framework for Resolution of Stressed Assets on NPAs in the Electricity Sector';

d) Report on Action-taken by the Government on recommendations contained in 42nd Report (16th Lok Sabha) on 'Stressed/Non-Performing Assets in Gas based Power Plants';

e) Report on Action-taken by the Government on the recommendations contained in the 43rd Report (16th Lok Sabha) on 'Hydro Power'; and

f) Report on Action-taken by the Government on the recommendations contained in the 1st Report (17th Lok Sabha) on Demands for Grants (2019-20) of the Ministry of New and Renewable Energy;

g) Report on Action-taken by the Government on the recommendations contained in the 2nd Report (17th Lok Sabha) on Demands for Grants (2019-20) of the Ministry of Power;

h) Report on Action-taken by the Government on the recommendations contained in the 3rd Report (17th Lok Sabha) on Demands for Grants (2020-21) of the Ministry of New and Renewable Energy'.

i) Report on Action-taken by the Government on the recommendations contained in the 4th Report (17th Lok Sabha) on Demands for Grants (2020-21) of the Ministry of Power.

j) Report on the subject 'Action Plan for achievement of 175 Gigawatt (GW) Renewable Energy Target'.

3. After discussing the contents of the Reports, 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 the Houses of Parliament in the current Budget Session.

The Committee then adjourned.

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APPENDIX II

(*Vide Introduction of Report*)

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE OBSERVATIONS/ RECOMMENDATIONS CONTAINED IN THE FIRST REPORT (17TH LOK SABHA) OF THE STANDING COMMITTEE ON ENERGY

(i) Total number of Recommendations 24

(ii) Observations/Recommendations which have been accepted by the Government:

All

Total: 24

Percentage 100%

(iii) Observations/Recommendations which the Committee do not desire to pursue in view of the Government's replies:

Nil

Total: 00

Percentage 0%

(iv) 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

Percentage 0 %

(v) Observations/Recommendations in respect of which final replies of the Government are still awaited:

Nil

Total: 00

Percentage 0%