21

STANDING COMMITTEE ON ENERGY

(2021-22)

SEVENTEENTH LOK SABHA

MINISTRY OF NEW AND RENEWABLE ENERGY

FINANCIAL CONSTRAINTS IN RENEWABLE ENERGY SECTOR

TWENTY FIRST REPORT

सत्यमेव जयते

LOK SABHA SECRETARIAT
NEW DELHI

January, 2022/Magha, 1943 (Saka)

TWENTY FIRST REPORT

STANDING COMMITTEE ON ENERGY
(2021-22)

(SEVENTEENTH LOK SABHA)

MINISTRY OF NEW AND RENEWABLE ENERGY

FINANCIAL CONSTRAINTS IN RENEWABLE ENERGY SECTOR

Presented to Lok Sabha on February 03, 2022

Laid in Rajya Sabha on February 03, 2022

सत्यमेव जयते

LOK SABHA SECRETARIAT
NEW DELHI

January, 2022/Magha, 1943 (Saka)

COE NO. 345

Price: Rs..................

©2022 by Lok Sabha Secretariat

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

CONTENTS

		Page No.
	Composition of the Committee (2021-22)	5
	Composition of the Committee (2020-21)	6
	Introduction	7
	List of abbreviation	8
	PART –I NARRATION ANALYSIS	
I	Introductory	10
II	Landscape of Renewable Energy Financing in India – Requirement of Funds vis-à-vis Physical Targets	13
III	Role of IREDA, PFC and REC in Catalyzing Financing in Renewable Energy Sector	17
IV	Financial Constraints in Renewable Energy Sector	29
V	Measures taken by the Government to Boost Investment in Renewable Energy Sector	38
	PART-II RECOMMENDATIONS/OBSERVATIONS OF THE COMMITTEE	41
	ANNEXURES	
I	Details of IREDA's Non Performing Assets as on 31st March, 2021.	49
II	Details of PFC's Non Performing Assets related to Renewable Energy Sector as on 31st March, 2021.	61
III	Details of REC's Non Performing Assets related to Renewable Energy Sector.	63
IV	Minutes of the sitting of the Committee held on 9th April, 2021	64
V	Minutes of the sitting of the Committee held on 27th July, 2021	67
VI	Minutes of the sitting of the Committee held on 5th August, 2021	70
VII	Minutes of the sitting of the Committee held on 22nd December, 2021	74

COMPOSITION OF THE STANDING COMMITTEE ON ENERGY (2021-22)

Lok Sabha

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

2	Shri Gurjeet Singh Aujla
3	Shri Devendra Singh Bhole
4	Shri Harish Dwivedi
5	Shri Sanjay Haribhau Jadhav
6	Shri Kishan Kapoor
7	Shri Ramesh Chander Kaushik
8	Dr. A. Chella Kumar
9	Shri Sunil Kumar Mondal^
10	Shri Uttam Kumar Reddy Nalamada
11	Shri Ashok Mahadeorao Nete
12	Shri Praveen Kumar Nishad
13	Shri Velusamy P.
14	Shri Parbatbhai Savabhai Patel
15	Shri Jai Prakash
16	Shri Dipsinh Shankarsinh Rathod
17	Shri Gnanathiraviam S.
18	Shri Bellana Chandra Sekhar
19	Shri Shivkumar C. Udasi
20	Shri Akhilesh Yadav
21	Vacant #

Rajya Sabha

22	Shri Ajit Kumar Bhuyan
23	Shri T. K. S. Elangovan
24	Shri Rajendra Gehlot*
25	Shri Muzibulla Khan
26	Shri Maharaja Sanajaoba Leishemba
27	Shri S. Selvaganabathy*
28	Shri Sanjay Seth
29	Dr. Sudhanshu Trivedi
30	Shri K.T.S. Tulsi
31	Vacant $

Secretariat

1	Shri R.C. Tiwari	Additional Secretary
2	Shri R.K. Suryanarayanan	Director
3	Shri Kulmohan Singh Arora	Additional Director
4	Ms. Deepika	Committee Officer

^ Nominated as Member of the Committee w.e.f. 01.12.2021 vice Smt. Sajda Ahmed ceased to be Member of the Committee w.e.f. 01.12.2021
#Vacant since constitution of the Committee.
**Nominated as Member of the Committee w.e.f. 11.11.2021*
$ Vacant vice Shri Jugalsinh Lokhandwala resigned from the membership of the Committee w.e.f. 02.12.2021

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

LOK SABHA

Shri Rajiv Ranjan Singh *alias* Lalan Singh - Chairperson

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
8. Shri Sanjay Haribhau Jadhav
9. Shri Kishan Kapoor
10. Km. Shobha Karandlaje @
11. Shri Ramesh Chander Kaushik
12. Shri Ashok Mahadeorao Nete
13. Shri Praveen Kumar Nishad
14. Smt. Anupriya Patel @
15. Shri Parbatbhai Savabhai Patel
16. Shri Jai Prakash
17. Shri Dipsinh Shankarsinh Rathod ^
18. Shri N. Uttam Kumar Reddy
19. Shri Shivkumar Chanabasappa Udasi
20. Shri P. Velusamy
21. Shri Akhilesh Yadav

RAJYA SABHA

22. Shri Ajit Kumar Bhuyan
23. Shri T. K. S. Elangovan
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. Shri Javed Ali Khan *
31. Vacant #

@ Km. Shobha Karandlaje and Smt Anupriya Patel ceased to be Members of the Committee consequent upon their induction in Union Council of Ministers w.e.f. 07.07.2021

^ Shri Dipsinh Shankarsinh Rathod was nominated as Member of the Committee w.e.f. 28.12.2020

** Shri Javed Ali Khan ceased to be Member of the Committee consequent upon his retirement from Rajya Sabha on 25.11.2020*

 # Vacant since constitution of the Committee.

INTRODUCTION

I, the Chairperson, Standing Committee on Energy, having been authorized by the Committee to present the Report on their behalf, present this Twenty-First Report on 'Financial Constraints in Renewable Energy Sector' relating to the Ministry of New and Renewable Energy.

2. The Committee had a briefing on the subject by representatives of the Ministry of New and Renewable Energy and Indian Renewable Energy Development Agency (IREDA) on 9th April, 2021. The evidence of representatives of the Ministry of New and Renewable Energy and Indian Renewable Energy Development Agency (IREDA) were taken on 27th July, 2021. The Committee, with a view to examine the subject in detail, took evidence of representatives of the Indian Renewable Energy Development Agency (IREDA), Power Finance Corporation (PFC) Limited and Rural Electrification Corporation (REC) Limited on 5th August, 2021. The Committee wish to express their thanks to the representatives of the Ministry of New and Renewable Energy, Indian Renewable Energy Development Agency (IREDA), Power Finance Corporation (PFC) Limited and Rural Electrification Corporation (REC) Limited for appearing before the Committee and furnishing the desired information in connection with the issues relating to the subject.

3. The Report was considered and adopted by the Committee at their sitting held on 22nd December, 2021.

4. The Committee place on record their appreciation of the valuable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

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

New Delhi
January 31, 2022
Magha 11, 1943 (Saka)

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

List of Abbreviations	
Abbreviation	**Full Form**
ABS	Asset Based Securitization
ADB	Asian Development Bank
AfD	Agence Française de Développement
AIF	Alternate Investment Fund
BCD	Basic Custom Duty
BESS	Battery Energy Storage System
BG	Bank Guarantee
BIS	Bureau of Indian Standards
CAGR	Compound Annual Growth Rate
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CFA	Central Finance Assistance
CPSU	Central Public Sector Undertaking
CRAR	Capital to Risk Weighted Assets Ratio
CUF	Capacity Utilisation Factor
DFS	Department of Financial Services
DISCOM	Distribution Company
DRT	Debt Recovery Tribunal
DSCR	Debt Service Coverage Ratio
ECL	Expected Credit Loss
ECR	External Credit Rating
EPC	Engineering Procurement Construction
FAME	Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India
FDI	Foreign Direct Investment
FIs	Financial Institutions
FiT	Feed in Tariff
FY	Financial Year
GBI	Generation Based Incentive
G-DAM	Green Day Ahead Market
Gencos	Generating Companies
GoI	Government of India
GST	Goods and Services Tax
G-TAM	Green Term Ahead Market
GW	Gigawatt
IDF	Infrastructure Development Fund
IFC	International Finance Corporation
IIFCL	India Infrastructure Finance Company Limited
IndAS	Indian Accounting Standards
InVITs	Infrastructure Investment Trusts
IPO	Initial Public Offering
IPPs	Independent Power Producers

IREDA	Indian Renewable Energy Development Agency
IRR	Internal Rate of Return
ISTS	Inter State Transmission System
LC	Letter of Credit
LCOE	Levelized Cost of Energy
JICA	Japan International Cooperation Agency
LIE	Lender's Independent Engineer
LIS	Liquidity Infusion Scheme
LoC	Letter of Comfort
JMR	Joint Meter Reading
Ministry	Ministry of New and Renewable Energy
MNRE	Ministry of New and Renewable Energy
MW	Megawatt
NABARD	National Bank for Agriculture and Rural Development
NBFC	Non-Banking Financial Company
NCLT	National Company Law Tribunal
NDB	New Development Bank
NDSI	Non-Deposit Taking Systematically Important
NHB	National Housing Bank
NPA	Non Performing Asset
OEM	Original Equipment Manufacturers
PAT	Profit After Tax
PBT	Profit Before Tax
PCA	Prompt Corrective Action
PFC	Power Finance Corporation Limited
PM KUSUM	Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan
PPA	Power Purchase Agreements
PV	Photo Voltaic
RBI	Reserve Bank of India
RE	Renewable Energy
REC	REC Limited
REGS	Renewable Energy Generating Stations
RLMM	Revised List of Models and Manufacturers
RPO	Renewable Purchase obligation
RTS	Rooftop Solar
SARFAESI Act	Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002
SEBI	Securities and Exchange Board of India
SECI	Solar Energy Corporation of India
SERC	State Electricity Regulatory Commission
SIDBI	Small Industries Development Bank of India
Transcos	Transmission Companies
VGF	Viability Gap Funding
WTE	Waste to Energy

PART I
NARRATION ANALYSIS

CHAPTER I
INTRODUCTORY

1.1 In line with India's commitments made under the Paris Agreement, the Government of India has been running various renewable energy programmes that are aimed at reducing the carbon footprints of the national economy besides achieving energy security and enhancing energy access. With progressively declining costs, improved efficiency and greater predictability, renewable energy is now an attractive option for meeting the energy needs across different sectors of the economy.

1.2 The renewable energy target of 175 GW has ensured considerable growth in the sector and made renewable energy as one of the fastest growing sectors in the country. This has created immense opportunities for investment and credit growth. The Hon'ble Prime Minister's declaration of renewable energy target of 500 GW by 2030 has reinforced these growth opportunities.

1.3 Given below is the installed capacity of renewable power as on 30th November, 2021:

Segment	Target (GW) to be achieved by December, 2022	Achievement (GW) as on November 30, 2021
Solar	100	48.56
Wind	60	40.03
Bio	10	10.61
Small Hydro	5	4.83
Total	**175**	**104.03**

1.4 The expected optimal generation mix for 2029-30, as furnished by the Ministry of New and Renewable Energy is as follows:

Fuel Type	Expected Installed Capacity (MW) in 2029-30
Solar	2,80,155
Wind	1,40,000
Biomass	10,000
Small Hydro	5,000
Hydro	71,148
Coal	2,66,911
Gas	25,080
Nuclear	18,980
Total	**8,17,254**
Battery Storage	27,000MW/108,000MWh (4 hrs)

1.5 Keeping in view the enhanced target of renewable energy, the overall debt requirement is large and reducing the overall cost of financing to the renewable energy developers is important. The viability of renewable energy sector is linked with favourable policy framework and the related fiscal/ financial incentives provided by the Government of India as reduction/withdrawal of these benefits affects the tariff of these projects.

1.6 The renewable energy sector has also witnessed emergence of large Independent Power Producers (IPPs) and participation of international players. Most of the renewable energy projects in the Country are being implemented by private sector developers selected through transparent and competitive bidding process. A list of major developers in renewable energy sector, as furnished by the Ministry of New and Renewable Energy is given below:

Public Sector

i) Solar Energy Corporation of India Limited (SECI)
ii) NTPC Limited
iii) SJVN Limited
iv) NLC India Limited
v) NHPC Limited
vi) Indian Oil Corporation Limited (IOCL)
vii) Oil and Natural Gas Corporation Limited (ONGC)

viii) Bharat Petroleum Corporation Limited (BPCL)
ix) Hindustan Petroleum Corporation Limited (HPCL)
x) National Aluminium Company Limited (NALCO)
xi) Andhra Pradesh Solar Power Corporation Limited
xii) Rewa Ultra Mega Solar Limited (RUMSL)

Private Sector

xiii) Mytrah Energy India Private Limited
xiv) Adani Green Energy (MP) Limited
xv) ReNew Power Private Limited
xvi) Inox Wind Infrastructure Services Limited
xvii) Green Infra Wind Energy Limited
xviii) Alfanar Energy Private Limited
xix) JSW Future Energy Ltd
xx) Vena Energy Vidyuth Pvt Ltd
xxi) Sprng Vaayu Urja Private Limited
xxii) BLP Energy Private Limited
xxiii) Betam Wind Energy Private Limited
xxiv) Acme Solar
xxv) Greenko
xxvi) Azure
xxvii) Avaada Power
xxviii) Hero Future Energies
xxix) Mahindra Susten
xxx) Tata Power Renewable Energy

1.7 In response to a query about the renewable energy projects in India that have been set up with funding from foreign entities, the Ministry stated that:

> "100% FDI under automatic route has been permitted in renewable energy sector. However, no such list has been maintained by the Ministry."

CHAPTER II

LANDSCAPE OF RENEWABLE ENERGY FINANCING IN INDIA – REQUIREMENT OF FUNDS VIS-À-VIS PHYSICAL TARGETS

2.1 About the requirement of funds in renewable energy sector, the Ministry stated as under:

> "Considering the target of 175 GW renewable energy installation by 2022 and 450 GW by 2030, the overall financing requirement is very large. It is estimated that the Country would need an annual investment of Rs. 1.50 to 2 lakh crore just for the renewable energy capacity additions for our long-term commitments. Against this our estimated investments for last few years have been in the range of Rs. 75,000 crore. This leaves a large gap in terms of required investments. If we consider the demand for related infrastructure costs such as transmission then the gap widens."

2.2 The Committee were informed by the Ministry that the Country would need an annual investment of Rs. 1.5-2 lakh crore for our long-term commitments, and against this our estimated investments for last few years have been in the range of only Rs. 75,000 crore leaving a large gap between the required and actual investments. On being asked about the steps taken to fill this gap, the Ministry furnished the following:

> "To boost IREDA's equity base, Ministry of Finance in the budget speech in February 2021 announced for equity infusion of Rs. 1500 crore into IREDA. In addition, IREDA is planning to come up with IPO shortly, which will enable enough space in the exposure for its existing borrowers as well as new borrowers planning to encash the good business opportunity in the renewable energy Sector. With the equity infusion of Rs. 1,500 crores by Government of India, IREDA would be able to extend additional loan facility of Rs. 12,000 crores. This would be in addition to existing book size of Rs. 27,854 crores as on 31.03.2021. The additional equity will also improve IREDA's capital adequacy which will help IREDA in borrowing at lower rate of interest, thus lowering the interest rates for developers.
>
> Apart from IREDA, there exists a host of other banking and non-banking institutions offering various financial services to accelerate renewable energy growth in India. Also there have been efforts made to create new mechanisms and instruments to drive renewable energy development by providing alternative funding avenues."

2.3 Sources of Debt and Equity Capital in renewable energy sector, as furnished by the Ministry are given below:

"Sources of Debt Capital-

- IREDA, REC, PFC, IIFCL & other FI/Banks - Combined renewable energy Loan Book of PFC, REC and IREDA is ~ Rs. 65,100 crores (as on 31.03.2021).
- Multilateral/Bilateral Agencies-World Bank, AfD, Asian Development Bank, JICA, etc.
- Green Bonds/Masala Bonds - Green/Masala bonds - low-cost funds: Global market increased from US$ 45 billion in 2015 to US$ 269.5 billion in 2020.
- IREDA has also raised Rs. 19.5 billion (US$ 300 million) through a 5-year rupee-denominated Green Bond at an annualized coupon rate of 7.125% p.a
- NTPC, REC, Yes Bank, Axis Bank, Tata Cleantech, IFC, etc. also raise money through Bonds (domestic/international).
- Public Offerings – IREDA is also planning to come up with its IPO shortly. This will enable enough space in the exposure for existing/new borrowers.
- Alternate Investment Fund (AIF) - IREDA is under process to set up a debt fund in the form of an AIF to tap large institutional Investors.

Sources of Equity Capital

- Equity partners may be individual firms, developers or equity funds managed by management firms, bank equity fund managers or pension fund managers."

2.4 Further apprising the Committee about the sources of funds, the Ministry stated as under:

"The large renewable energy market and demand for investment has seen money flows both from international financial institutions (pension and other funds, PE funds, multilateral & bilateral agencies, other FIs) as well as domestic investors (PSUs such as IREDA, REC and PFC, banks and other private sector FIs). The equity requirement is met through equity partners who may be individual firms, developers or equity funds managed by management firms, bank equity fund managers or pension fund managers.

Different investor based on their expertise put in moneys at different stages of project development. Funds with low risk appetite and long horizons such as pension funds typically invest in commissioned & stabilized assets. Retail investors also participate in the bond market. It may also be seen that there are substantial upfront investments in renewable energy sector (as maintenance costs are negligible as compared to conventional power systems) and the capacity additions are driven mostly by private sector. Growth of renewable energy sector has also seen evolving of money market in terms of new tools such as Infrastructure Development Fund (IDF), Infrastructure Investment Trusts (InVITs) and Alternate Investment Funds. Masala Bonds for foreign currency debt raising have also been successful."

2.5 When asked about the total investment that has been made in the renewable energy sector till date, the Ministry stated that the Department of Promotion of Industry and Internal Trade has reported FDI equity inflow in non-conventional energy sector since 2010-11 as under:

S. No	**Year**	**FDI in US$ million**
1	2010-11 Apr-Mar	214.40
2	2011-12	452.17
3	2012-13	1,106.52
4	2013-14	414.25
5	2014-15	615.95
6	2015-16	776.51
7	2016-17	783.57
8	2017-18	1,204.46
9	2018-19	1,446.16
10	2019-20	1,393.39
Grand Total		8,407.38

2.6 On being asked whether any estimation has been made regarding funds required to have 450 GW installed capacity by 2030, the Ministry stated as under:

"Based on certain assumptions, a total additional investment of Rs 17,00,000 crore is envisaged, which would include associated transmission cost. Considering the cost trends, the cost/MW may range from Rs 3.5-4 crore, while the rest would be for associated transmission & battery/storage facilities required."

2.7 About the broad break-up of the Investment to be incurred, the IREDA stated that as per the various estimates, including that of CEA, the likely capacity addition till 2030 under the category of renewable energy & storage with plausible investment cost is as under:

Technology	Capacity (MW)	Cost per MW (Rs. Cr.)	Total Investment (Rs. Cr)
Solar	2,40,000	3.25	7,80,000
Wind	1,00,000	5.5	5,50,000
Transmission	3,40,000	0.6	2,04,000
Pumped hydro	10,000	5	50,000
Battery (without BOS)	1,08,000 (MWh)	11,250 (Rs per kWh)	1,21,500
Total			**17,05,500**

2.8 About the Regulatory framework related to financing, the Ministry furnished as under:

> "The regulatory framework for financing is being governed with various RBI Guidelines w.r.t. exposure norms, NPA and asset categorization, risk weight and provisioning norms, priority lending norms, infrastructure sector norms. 100% FDI is permissible in RE sector. SEBI guidelines are applicable for raising financial resources from public through bonds, InVITs, AIF.
>
> Regulatory bodies however, do not mandate lending to any sector as the credit decision ultimately lies with the lender who is exposed to the risk. In practice therefore, the exposure to sectors is a function of regulatory directives as well as the banks internal policies and the demand for funds from companies/projects with acceptable risk profiles."

CHAPTER III
ROLE OF IREDA, PFC AND REC IN CATALYSING FINANCING IN RENEWABLE ENERGY SECTOR

Role of Indian Renewable Energy Development Agency (IREDA)

3.1 When asked about the role of IREDA in catalyzing financing in renewable energy sector, the Ministry stated as under:

> "Indian Renewable Energy Development Agency (IREDA) is a specialized public sector financial institution (under the Ministry's administrative control) dedicated for financing renewable energy (RE) projects in India. IREDA has facilitated financing of renewable energy projects for past 34 years and developing several innovative financial schemes/solutions for meeting the market requirement from time to time. IREDA has financed more than 2800 renewable energy projects in the Country with cumulative loan sanctions of Rs. 96,250 crore and disbursed loans of Rs. 63,158 crore cumulatively, supporting green power capacity addition of more than 16,165 MW. The total asset book of IREDA as on 31st March, 2021 (provisional) is more than Rs 28,000 crore. Net NPAs (audited, as on 30th September) are 5.79 per cent of its book value. IREDA is an ISO 27001:2013 based Information Security Management System Certified Company. The Company is also IS/ISO: 9001:2015 certified by the Bureau of Indian Standards (BIS).
>
> As IREDA understands risks involved in the sector, it has been the preferred lender for most of the players. To meet market demands, IREDA keeps coming out with new financial products e.g. factoring, Letter of Comfort (LoC) towards performance bank guarantee."

3.2 Details regarding rate of interest on loans provided by IREDA for renewable energy projects, as furnished by the Ministry are given below:

Sector	Internal Rating/Grading				
	IR 1	IR 2	IR 3	IR 4	IR 5
(Solar and Wind)	9.20%	9.45%	9.70%	9.95%	10.20%
(Small Hydro, Biomass, Cogeneration, Waste to Energy)	9.70%	9.95%	10.20%	10.45%	10.70%

3.3 When asked about the financial performance of IREDA during the last three years, the Ministry furnished the following:

(Rs. in Crores)

S No.	Particulars	2018-19	2019-20	2020-21
1	Sanction	11942	12696	11001
2	Disbursement	9385	8785	8827
3	Revenue from operations	2020	2367	2614
4	Profit Before Tax (PBT)	311	241	570
5	Profit After Tax (PAT)	250	215	346
6	Networth	2584	2521	2995
7	Dividend payout (on paid basis)	21.84	128.19	-
8	Loan Book	20888	23548	27854
9	Total Borrowing	18753	21854	24000
10	Gross NPA%	6.12%	10.08%	8.77%
11	Net NPA %	3.74%	7.18%	5.61%
12	CRAR%	16.32%	14.34%	17.12%

3.4 About its Non-Performing Assets, IREDA furnished that there are 94 NPA accounts (84 projects) with total loan outstanding of Rs. 2,646 crores (book debt of Rs. 2,442 crores*) as per the audited figures as on 31.03.2021. As on 30.06.2021, NPA figures are Rs. 2,163 crores. The NPA status for last three financial years and the current financial year (as on 30.06.2021) are as follows:

NPA	FY 2018-2019		FY 2019-2020		FY 2020-2021		FY 2021-2022 (upto 30.06.2021)	
	Rs. in crores	%	Rs. in crores	%	Rs. in crores	%	Rs. in crores	%
NPA (Gross)	1308	6.12	2373	10.08	2442	8.77	2163	8.11
NPA (Net)	780	3.74	1637	7.18	1510	5.61	1258	4.88

*Write off amount: Rs. 205 crores (prior to 2015-16).
In FY 2018-19, an amount of Rs. 24.90 crores (principal amount) was sacrificed in one account in line with Consortium One-time settlement.

3.5 Details of IREDA's Non Performing Assets as on 31st March, 2021 are attached as **Annexure – I.**

3.6 Sector wise breakup of NPAs for last three financial years, as furnished by IREDA is as follows:

Sector	No. of cases	Loan Outstanding (Book Debt) (Rs. in Crore)
Wind	7	488
Solar	6	286
Hydro	3	42
Biomass	2	8
Cogeneration	9	485
Short Term Loan	1	131
Manufacturing	1	82
Transmission	2	85
Energy Efficiency	1	10
Others (Briquetting, WTE, Substation)	-	-
Total	**32**	**1,617**

3.7 When asked about the details regarding loan write-offs made by IREDA in the last three years, the Ministry stated that IREDA has not written off any of its loan during last three financial years.

3.8 On being asked about the reasons for NPAs, IREDA furnished the following:

Reasons for being NPA/Stressed	Total NPA			NPA in Last 3 years	
	No. of Accounts	Loan O/s (Book Debt) as on 31.03.2021 (Rs. in Crore)	%	Total No. of Accounts	Loan O/s (Book Debt) as on 31.03.2021 (Rs. in Crore)
Delay in payment from DISCOM & Tariff Related Issue	14	755	31%	13	695
Force Majeure Events	12	431	18%	5	154
Rise in Raw material cost	12	82	3%	1	6
Delay in Project Implementation/ Commissioning	7	528	22%	4	237

Promoters 'Dispute/Court/NCLT/ Financial Stress of Promoters	36	275	11%	3	154
Technology/resources/ Generation Related Issue	13	371	15%	6	371
Total	**94**	**2442**		**32**	**1617**

3.9 Further explaining about the reasons for high NPAs of IREDA particularly during 2019-20, the Ministry stated as under:

- "RBI norms revision for NBFCs- During FY 2018-19, vide circular dated 31st May, 2018, RBI withdrew the exemptions from their prudential norms which were previously available to all Government NBFCs (NDSI). As per the revised RBI norms, the NPA classification, as on March 31, 2019, includes any loan asset which is in default for more than 120 days and, as on March 31, 2020, shall include any loan asset that is in default for more than 90 days.
- IndAS - The Company adopted Indian Accounting Standards (Ind AS) notified under the Companies (Indian Accounting Standards) Rules, 2015 (as amended) from April 1, 2018, through which adoption of Expected Credit Loss (ECL) is mandatory for all NBFCs. After adopting IndAs system, during 2019-20, higher provisioning based on Expected Credit Loss (ECL) calculations was done."

3.10 When asked about the measures adopted by IREDA to contain the growth of NPAs, the Ministry furnished the following:

"IREDA is following various benchmarks of financial prudence as announced by Reserve Bank of India (RBI) from time to time including, formation of its Policies in line with RBI Circulars on Prudential Framework for Resolution of Stressed Assets & Other relevant Policies for timely identification of stress & its early resolution. IREDA has also taken various steps for improvement in system and processes such as:

a) Independent concurrence by finance has been introduced for all the projects at the time of appraisal of projects for sanctions, disbursement etc.
b) Setting up of Dedicated Review & Monitoring.
c) Periodic review and monitoring of entire loan portfolio including NPA accounts for identification of early warning signals & timely initiation of recovery actions, wherever required.

d) A separate Board Level Committee has been constituted for periodic review & monitoring of all the stressed assets including NPA.

e) Regular monitoring and appointing Lender's Independent Engineer (LIE) for knowing the early signals for issues related to projects delay, timely implementation of projects and issues related to the projects during operations to contain growth of NPAs"

3.11 The breakup of various recovery actions taken by IREDA is as follows:

Recovery Actions taken so far	**Total Number of Accounts**	**Loan Outstanding (Book Debt) as on 31.03.2021** **(Rs. in Crore)**	**%**
SARFAESI Act	10	247	10%
DRT	27	1	0%
NCLT	20	634	26%
Multiple Actions Taken	10	173	7%
Actions under process	3	190	8%
Subjudice	2	89	4%
Under Resolution (Restructuring, Change of management etc.)	22	1108	45%
Total	**94**	**2442**	**100%**

3.12 When asked about the expected recovery from NPA Accounts, IREDA stated as under:

"Against the NPA of Rs. 2,163 crore as on 30.06.2021, ECL provisioning of Rs. 906 crore (approx.) has been made and is backed by tangible security. 71 assets representing Rs. 1,497 crore are under Recovery through Legal proceedings, Resolution, etc., which may take time and may lead to change in valuation of tangible security. IREDA on a periodic basis undertakes the valuation of all these assets.

3.13 On being asked as to what extent IREDA can step-in and overcome the limitation by providing re-finance to banks with the equity infusion of Rs. 1,500 crore by Government of India, the Ministry stated the following:

"IREDA is a specialized financing agency for the sector and has witnessed strong growth in the last five years. However, presently, its low capital base has started adversely affecting its operations. IREDA's CRAR has dipped from 23.14% in 2014-15 (which is considered as very good for any financial institution) to 14.34% in FY 19-20 and has slightly increased to 17.12% in FY 20-21 owing to various measures taken by the company. CRAR is considered critical for operations and market borrowings. As on 31st March, 2021, IREDA's borrowing limit is 8 times its net-worth, which is in line with CRAR prescribed by RBI. In addition to proposed infusion of equity from Government of India IREDA is planning to come up with IPO issue, which will enable space for further financing. With the equity infusion of Rs. 1,500 crores by Government of India, IREDA would be able to extend additional loan facility of approximately Rs. 12,000 crores. The additional equity will also improve IREDA's capital adequacy which will help IREDA in borrowing at lower rate of interest, thus lowering the interest rates for developers. The company tentatively aims to have a loan book of Rs. 1.35 lakh crore over the next 5 years with additional capital infusion through IPO and Tier I & II capital, maintaining a CRAR of near 20%."

3.14 In response to a question about constraints being faced by IREDA in order to increase its share in renewable energy sector, the Ministry furnished the following:

"IREDA is constrained in meeting the financing requirement of large capacity projects mainly because of exposure norms; IREDA's exposure in major groups has nearly exhausted. IREDA though has been growing and aggressively supporting the RE sector, however its capital base is low. As on 31.03.2021, IREDA's loan book stands at Rs. 27,854 crores and borrowings at Rs. 24,000 crore. Networth of the company stands at Rs. 2,995 crores and CRAR is at 17.12%. As per the guidelines of Reserve Bank of India (RBI), IREDA is required to maintain a minimum CRAR of 15%, accordingly, there is very limited window for further borrowings."

3.15 On being asked whether IREDA can play a dynamic and pro-active role in the renewable energy sector similar to the role played by NABARD in the agricultural and rural sector, the Ministry stated as under:

"IREDA has been playing a catalytic role in financing RE & Energy Efficiency (EE) sector, since its inception in 1987. The company is registered with RBI as Non-deposit taking systemically important Non-banking finance company (NBFC). IREDA has acquired unique insights into various aspects of financing for the RE sector & provides a comprehensive range of financial services & products from project conceptualization to the post commissioning stage for its client(s). The company has been providing fund based & non-fund-based facilities for project loans, short term loans, bridge loans etc., primarily to the private sector developers. The management strategies are aimed at streamlining the delivery processes implying reduction of transaction costs for customers, improving customer satisfaction encouraging online transactions, reducing cycle by simplifying procedures/ processes. It may be noted that IREDA is already playing a vital role for development of RE sector in the past 35 years.

The company tentatively aims to have a loan book of Rs. 1.35 lakh crore over the next 5 years with additional capital infusion through IPO and Tier I & II capital. To provide availability of low-cost resources, IREDA may be given special window for borrowing from RBI at repo rate in line with other specialized Financial Institutions viz. NHB, SIDBI, NABARD, etc."

3.16 When asked about the status regarding IREDA being converted into a Green Bank to enable it to access funding from overseas banks that are currently not supporting the renewable funding, the Ministry stated as under:

"Indian Renewable Energy Development Agency's entire operations are centered around clean energy, and it functions like a Green Bank without the official status of India's Green Bank. A proposal for change of name of IREDA, without having to converting its legal status of an NBFC was submitted to MNRE.

Subsequently, MNRE *vide* its letter dated 14.09.2017 communicated that since IREDA has become a brand name, it will not be advisable to change the name and also suggested that IREDA can qualify itself as 'IREDA-A Non-Banking Financial Institution'. IREDA is presently categorized as NBFC-NDSI (Non-Deposit Taking Systematically Important) and it has not been converted into Green Bank."

Role of Power Finance Corporation Limited (PFC)

3.17 On being asked about its investment in renewable energy sector, the PFC furnished the following:

"PFC has provided a cumulative sanction & disbursement of Rs. 53,870 crore & Rs. 31,104 crore respectively up to 31.03.2021 for implementation of renewable energy projects in the Country. The total capacity supported by PFC as on 31.03.2021 is around 14670 MW."

3.18 The sector wise details of funding of renewable energy projects from financial year 2010-11 to financial year 2020-21, as furnished by the PFC are given below:

Sector	Sanction (Rs. in Crore)	Disbursement (Rs. in Crore)
Solar	27539	15545
Wind	21386	12374
WTE	1286	524
Small Hydro (<=25 MW)	864	466
Bagasse	795	795
Biomass	68	25
Total	**51939**	**29728**

3.19 PFC Limited also stated that during RE-Invest, it has committed to provide a financial assistance of Rs. 15000 crore for renewable energy projects with a capacity addition of 3000 MW from 2015 to 2019 and during FY 20-21, it has sanctioned Rs 14,777 crore and disbursed Rs 4,698 crore for renewable energy projects. The achievement against the commitment is as given below:

From 12th February 2015 to 31st Mar, 2020	
Total Supported Capacity (in MW)	8926
Total Sanction (in crore)	34910
Total Disbursement (in crore)	23812

3.20 Details regarding rate of interest on loans provided by PFC Limited for renewable energy projects, as furnished by the Ministry are given below:

Company	**Internal Rating/Grading**				
	IR 1	**IR 2**	**IR 3**	**IR 4**	**IR 5**
(Solar and Wind)	9.25%	9.50%	9.75%	10.00%	10.25%
(Small Hydro, Biomass and Waste to Energy)	9.75%	10.00%	10.25%	10.50%	10.75%

3.21 Further explaining about the rates of interest for renewable energy projects, the PFC furnished the following:

a) "For solar & wind projects, the interest rate on monthly rest basis ranges from 9.00% p.a to 10.25% p.a based on the applicable category of the borrower and depending upon rating of borrower /project.

b) Interest rates for Biomass/Waste to Energy/Hydro (upto 25 MW) shall be higher by 50 bps as compared to respective applicable Renewable Energy rates of the solar/wind.

c) Special rebate of 10 bps on card rate for solar projects if the domestic content is 75% or more.

d) Post CoD rebate of 25 bps is allowed after 6 months of satisfactory commercial operations.

e) Upto1.25% lower than conventional project lending rates."

3.22 When asked about the details regarding loan write-offs made by PFC in the last three years, the Corporation stated that there has been no write-off in renewable energy projects by PFC in the last three years.

3.23 In response to a query about its NPAs in renewable energy sector during the last three financial years, PFC furnished the following:

Stage-III Renewable borrowers as on 31.3.2021 (Rs. crore)	333.46
Stage-III Renewable borrowers as on 31.3.2020 (Rs. crore)	340.16
Stage-III Renewable borrowers as on 31.3.2019 (Rs. crore)	332.45

3.24 Details of PFC's Non Performing Assets related to renewable energy sector as on 31st March, 2021 are attached as **Annexure – II.**

3.25 On being asked about its policy initiatives to promote renewable energy, the PFC stated as under:

a) "Faster appraisal of renewable energy projects through web based loan application system.

b) Sole lending up to Rs. 2000 crores to expedite financial closure.

c) Loan tenor up to 80% of economic life (wind/solar–20 years, Hydro–32 years).

d) Principal Moratorium of up to 1 year.

e) Debt: Equity Ratio of up to 80:20.

f) Standard Loan Documents introduced for solar projects to reduce documentation time Funding DSRA allowed as part of project cost.

g) Introduced non-fund based product (Letter of Undertaking) to RE project developers, which can be used in lieu of Performance Bank Guarantee, for participating in tariff based bidding.

h) Introduced Project Specific Funding to renewable energy Equipment Manufacturers/EPC Contractors to ensure timely execution of projects.

i) Under GoI Liquidity Package, PFC has introduced Special Long Term Transitional loans to Discoms for clearance of dues including renewable energy dues."

Role of REC Limited

3.26 About its Renewable Energy Business, REC Limited stated the following:

"REC is determined to facilitate capacity building for promotion and financing of renewable energy projects. The renewable energy projects funded by REC have a diversified technology mix of 60% Solar PV, 35% Wind Energy, 5% other technologies like Small Hydro, Biomass etc. REC has cumulatively sanctioned renewable energy projects with installed capacity of around 11 GW with total project cost of approx. Rs. 82,000 crore till date. The loan sanctions in renewable energy space have grown at a CAGR of over 37% from Rs. 7,034 crore in FY 2017-18 to Rs. 18,213 crore in FY 2020-21. REC's Loan book of renewable energy Sector witnessed an impressive Growth of 30% from Rs. 7,506 crore to Rs. 16,505 crore during the same period. Today, REC has in its fold renowned international renewable energy developers like Soft Bank Group, Engie, Actis Fund and leading domestic players like JSW, Adani, Renew, Avaada, Azure etc. REC is evolving itself in line with the changes taking place in the Indian Power Sector. In support of the "Make in India" initiatives of GoI, REC has sanctioned a credit facility of Rs. 1225 crore for domestic Solar PV Cell and Module manufacturing unit of 2 GWp per annum capacity. REC has initiated steps for financing of Sunrise Sector Projects such as Electric mobility, Battery Manufacturing, Smart Metering, electrical components in large infrastructure projects etc. In line with this initiative and as part of diversification drive, REC has also provided term loan assistance for 940 E-buses in 11 cities with loan amount of Rs. 578 crore under FAME-I and FAME-II schemes of GoI."

3.27 About the International Cooperation done by REC Limited for renewable energy projects, the Corporation furnished the following:

> "For financing of renewable energy projects, REC has availed two lines of credit from KfW, Germany amounting to Euro 100 million in March 2012 and USD 228 million in August 2018 under Official Development Assistance. Additionally, a line of credit for USD 300 million has also been availed from New Development Bank (NDB), China in May 2020. Being associated with multilaterals like KfW and NDB, REC has gained experience and exposure to best international practices in implementation of renewable energy projects and addressing Environment Social Health and Safety (ESHS) issues."

3.28 Details regarding rate of interest on loans provided by REC Limited for renewable energy projects, as furnished by the Ministry are given below:

Company	**Internal Rating/Grading**				
	IR 1	**IR 2**	**IR 3**	**IR 4**	**IR 5**
(Solar and Wind)	9.25%	9.50%	9.75%	10.00%	10.25%
(Small Hydro, Biomass and Waste to Energy)	9.75%	10.00%	10.25%	10.50%	10.75%

3.29 When asked about the details regarding loan write-offs made by REC Limited in the last three years, the Corporation stated that there has been no write-off in renewable energy projects by REC Limited in the last three years.

3.30 In response to a query about its NPAs in renewable energy sector during the last three financial years, REC Limited furnished the following:

Stage-III Renewable borrowers as on 31.3.2021 (Rs. crore)	40.66
Stage-III Renewable borrowers as on 31.3.2020 (Rs. crore)	4.35
Stage-III Renewable borrowers as on 31.3.2019 (Rs. crore)	80.06

3.31 Details of REC's Non Performing Assets related to renewable energy sector are attached as **Annexure – III**.

3.32 About the policy initiatives taken to promote wider participation in financing of renewable energy sector, REC furnished the following:

a) "Take-Out financing based on External Credit Rating (ECR) of the borrowers.

b) Green field projects financing with additional rebate of 10 bps to Solar projects having 75% domestic content;

c) Letter of undertaking as a Non-fund based product in lieu of the PBG offered by the banking system.

d) Project Specific Funding for a short time frame to tie up the immediate fund requirement towards timely execution of projects by renewable energy equipment suppliers/equipment manufacturers/EPC contractors etc."

CHAPTER IV
FINANCIAL CONSTRAINTS IN RENEWABLE ENERGY SECTOR

4.1 When asked about the financial constraints in renewable energy sector, the REC Limited furnished the following:

> "One of the key constraints is the ability of the system to accommodate renewables, both in terms of balancing electricity supply and demand in energy terms and transporting energy across transmission and distribution networks. In addition to the aforementioned technical constraints, there are following risks/ constraints in financing renewable energy projects which can essentially be addressed through policy interventions:
>
> (i) **Re-negotiation of PPA Tariffs discovered through Competitive Biddings**
>
> Some States have resorted to cancellation/renegotiation of Tariffs discovered through Competitive bidding in recent past. In case of Andhra Pradesh, an interim tariff of lesser amount (Rs. 2.44/unit) has been allowed by the High Court pending final decision. Such uncertainty and consequential impact on revenues has affected the debt serviceability of the project as well as Investor's sentiment.
>
> (ii) **Delay in adoption of PPA Tariffs**
>
> As per statute, the tariffs discovered through competitive bidding are required to be adopted by Central/State Electricity Regulatory Commissions. While PPA Off takers are filing application for adoption of tariffs, there have been multiple instances of delay in disposal of tariff adoption applications by the electricity regulatory commissions. As the gestation period for renewable energy projects are generally low, renewable energy developers resort to aggressive biddings estimating fixed cost of implementation with timely project execution. Delay in tariff adoption further delays the project execution and may cause time and cost overrun thereby impacting the viability of the project.
>
> (iii) **Delay in payment of energy bills by State DISCOMs**
>
> Renewable energy developers are facing severe challenges in realising revenue on time from renewable energy generation. There have been cases of exorbitant delay in receipt of payments from various state Discoms. Renewable energy Developers in Telangana have witnessed payment delays of more than 10 months at times. Some of the RE developers in Maharashtra and Andhra Pradesh are also facing similar issues. While the projects are performing very well technically generating the envisaged energy, however, delay in releasing the payments against the energy bills of developers has led to delay in debt

servicing of lenders and thus downgrading of assets to Non-performing Assets (example Shrikant Energy and Global Metals and Energy Pvt Limited in Maharashtra). While Discoms have been claiming rebates for payments before due dates as per PPA terms, they are reluctant to pay compensation/penal interest to the renewable energy developers for delayed payments payable in the form of Late Payment Surcharge as per terms of PPA which adversely affects the lenders' as well as investors' sentiments.

(iv) **Non-compliance of payment security instrument**

The standard PPAs approved/adopted by the regulators have provision of Payment Security which generally include revolving Letter of Credit or sometimes Payment Security Funds, Escrow etc. It has been observed that in majority of cases where PPAs are executed with Discoms, the payment security instrument i.e. Letter of Credit are not being provided by DISCOMs.

(v) **Reliance on Imports**

Presently the domestic manufacturing capacity of Solar Cells and Modules is only ~3 GW and ~13 GW respectively which is not sufficient to cater the current demand of Country. Therefore, renewable energy developers in India are dependent on imports of Solar Modules mainly from China. High reliance of imports creates uncertainly of prices and timely availability of modules. The Government of India has introduced a 40% basic customs duty (BCD) on solar modules as of April 2022 and 25% on solar cells to reduce the reliance on imports and expand the Country's PV manufacturing base. However, owing to inadequate domestic capacity, reliance on expensive imports and price variation may affect the viability of current projects under execution.

(vi) **Lower tariffs**

Discovery of lower tariffs in competitive biddings and rise in module cost in recent past have adverse bearing on Debt Service Coverage Ratio (DSCR) and Internal Rate of Return (IRR) of the projects. Given the high cost of debt in Indian Market, funding of renewable energy projects with significantly low tariffs is a cause of concern for Lenders.

(vii) **Land acquisition and clearances constraints**

Acquisition of Land and Non-Agriculture (NA) conversion of acquired land policies are State specific. Pending litigations (post acquisition) in Courts and non-disposal of NA conversion applications by State Departments lead to delay in security creation leading to charging of additional interest for non creation of security which further burdens the project cash flows.

(viii) **Evacuation Constraint**

Solar and Wind Power being intermittent in nature, have created complexities to the transmission grid due to mismatch in peak demand and generation availability. Refurbishment/revamping of grid infrastructure is required for sustainable transmission of RE. Availability of evacuation approvals along with adequate infrastructure at the time of commissioning of renewable energy project is critical.

(ix) **Non-Compliances of "Must Run" status**

In India, renewable energy projects enjoy the status of "Must Run" and hence are not subjected to curtailment except for grid safety reasons. However, there have been some instances where PPA Off-takers are Discoms, State Load Dispatch Centres at times restrict the energy evacuation schedule from renewable energy projects causing capacity loss as well as revenue loss to renewable energy developers."

4.2 Further explaining about the financial constraints in renewable energy sector, the Ministry stated as under:

"Major challenge is about quantum & tenor of financing, as we would need investments of about three times size of the present annual investments. The size of investment would also mean that a large portion of it would come from a mix of domestic and international sources. Renewable energy projects typically gives reasonable and stable (but not large) returns over a longer duration, so larger quantum of investment is needed from investors that have matching appetite. It may also be seen that the technology of most of RE sources would keep evolving and therefore technology would remain as one of perceived risks. Further, not all financial institutions and banks understand the risks and returns of renewable energy sector and this has been proving as one of major challenges in the sector's financing. It may be seen that few of financial institutions and limited number of banks are providing financial assistance to the sector.

High cost of debt financing in the Country, when compared to international financial markets also affects cost of the projects as well as LCOE. This is also one of the reasons for attracting large investment from international sources. Availability of equity finance for renewable energy projects sometimes becomes challenging even for large developers, if the projects in which they had invested runs into major delays or there are payment challenges from DISCOMs.

Asset and Liability mismatch also creates challenges for financing as shorter-term finances are available more readily than requirement of funds for renewable energy which are often in nature of long terms.

Further, there is no 'Green' element in our financial system framework and these are treated as any other project finance, as indirect advantages to environment and society at large are often not considered or monetised. If a non-green project is able to offer better returns, funds will flow to that project. Further clubbing renewable energy projects with conventional power projects for sectoral exposure and a large quantum of NPAs and stressed assets also creates challenges in funding for renewable energy projects.

Regulatory environment relating to financing and investments, which are drafted considering all sectors including renewable energy, proves to be challenging at the time of implementation. It is evident that renewable generation is highly seasonal and a large proportion of generation occurs during a particular season (for example maximum power generation from wind projects and small hydro projects occur during monsoon) and revenue generation is also not uniform during the year. However, if a project during period of low generation does not remit its due, it will be treated as NPA according to RBI's notification of NPA and asset categorisation. Further, although renewable energy power projects worth less than Rs. 15 crore categorised under 'priority sector' lending and this can take care of small sized renewable energy projects only. Many banks which are not conversant with renewable energy projects, may not offer even this reduced financial assistance and may cover their priority sector lending obligations with other priority sector projects. It may be clarified that while regulators give guidelines to encourage lending to renewable sector, the credit decision ultimately lies with the lender.

Financing of renewable energy projects is also significantly affected by perceived risks in the sector which are dependent on project execution and revenue recovery. The one risk which has significantly affected funding in the sector is that of attempts towards renegotiation of tariffs. It may be appreciated that while reducing tariffs, which has been hallmark of renewable energy sector, has facilitated larger interest from utilities and their reluctance to buy renewable energy has significantly reduced, it has also created a perpetual risk as one or the other utilities start actions towards renegotiations. Sanctity of these contracts seem to be compromised and the entire sectoral risks goes up. International players are more sensitive to such moves.

Ideally renewable energy projects gets executed within a period of about one and half years, but delays or change in policy of land allotment, approval of PPAs by State regulators, Defence clearance adversely affect project execution and exceptional delays sometimes make the projects unviable affecting investment climate.

The creditworthiness of DISCOMs and delays in making payments is another major risk area adversely affecting financing of these projects. For a number of states utilities payment delays are more than a year and even within the same utility, delays are typically longer for renewable energy projects than for conventional gencos. This also gets reflected in their discovered tariffs as these are higher in their state renewable energy bids."

4.3 In response to a specific query about any instance where a renewable energy project could not come up because of constraint/lack of financing, the Ministry furnished the following:

"So far no such instance has been reported by IREDA or Power Finance Corporation or REC. However, IREDA is constrained in meeting the financing requirement of large capacity projects mainly because of exposure ceiling limits. However, having limited net worth, IREDA is facing problem from taking additional exposure in major groups in line with the RBI norms. This issue is likely to be resolved upon equity infusion by GoI & through public offering.

It is also reported that most of the OEMs & biomass supply chain companies are facing constraints in getting working capital (fund & non-fund based) from banks for their growth. This was probably because a fair amount of banks were under Prompt Corrective Actions by RBI. It is expected that the matter would be resolved in the coming period."

4.4 Further explaining about the instances of financial constraints in renewable energy sector, the Secretary, Ministry of New and Renewable Energy deposed as under:

"No financing constraints have come up so far. However, some individual schemes are facing problems. If we look at the sector as a whole, it is driven by private investment and there is no complaint on a systematic basis that financing is a constraint. It is true that in some projects like Solar Rooftop schemes etc. which are for small consumers there have been issues that banks are reluctant to lend or they are not aware enough of the schemes."

4.5 It was furnished by the Ministry that the major challenge in financing of renewable power projects is about quantum and tenor of financing, as we would need investments of about three times size of the present annual investments. On being asked about the planning to increase annual investment in renewable energy sector especially keeping in mind the Covid-19 pandemic, the Ministry stated as under:

> "The Investment trends in Indian renewable energy (RE) sector during last 6-7 years averages around US$ 9-10 Bn/year, which is likely to increase substantially in view of Government's capacity addition targets of 450 GW by 2030. Various initiatives taken by the Government and conducive policies for the sector have paved the way for several global Pensions Funds, Sovereign Wealth Funds, Multilateral & Bilateral agencies and other Financial Institutions (FIs), domestic institutions such as IREDA, REC, PFC, banks and other private sector FIs, Private Equities etc., for investments in the Indian RE Sector.
>
> In this scenario, deepening of the money market in terms of new tools Alternate Investment Funds or Bonds is of utmost importance for facilitating investments in fresh projects. Further, funds with long horizon such as Pension Funds, LIC/GIC etc. require to invest in RE Sector, so that low-cost long-term funds are made available to the Sector. IREDA is under process to set up a debt fund in the form of an AIF to tap large Institutional Investors who otherwise didn't have a platform to participate in renewable energy financing at project level. AIF will also help IREDA in financing new projects of those borrowers who are nearing the exposure limit. The company is also planning to do asset-based securitization (ABS) by issuance of pass through certificates."

4.6 The Ministry furnished that only few financial institutions and limited number of banks are providing financial assistance to the sector. When asked about the steps that have been taken to encourage more banks and financial institutions to finance renewable energy projects, the Ministry stated as follows:

> "Secretary, MNRE *vide* MNRE DO letter No. 340-12/4/2018-IREDA dated April 26, 2021 has requested Secretary, Department of Financial Services (DFS) to impress upon banks to enhance funding to RE projects and set up a separate credit limit for the RE sector. Further, DFS vide letter No. 17/47/2019-IF1 dated 3rd March, 2020 has written to major nationalised banks for taking action as appropriate in accordance with their Board approved credit policies and relevant RBI guidelines. The Ministry has also directly written to banks in this regard.

> This is in line with the earlier actions taken by Ministry to get RE included in the Priority Sector Lending."

4.7 RBI has categorised renewable energy sector under priority sector lending for loans up to a limit of Rs. 30 crores. When asked whether this amount is sufficient for large renewable projects, the Secretary, Ministry of New and Renewable Energy deposed during the evidence as under:

> "What you have mentioned about the limit of Rs. 30 crore is absolutely correct, that this amount is not sufficient and there is a need to enhance the limit."

4.8 The Ministry furnished that the high cost of debt financing in the Country when compared to international financial markets affects cost of the projects. However during examination of Demands for Grants (2021-22), it was stated by the Ministry that the overall landed cost of foreign currency loans post hedging and including Government of India guarantee fee is higher than the cost of raising resource from domestic sources. When asked to reconcile these seemingly contradictory statements, the Ministry stated as under:

> "It may be noted that foreign currency loans are subject to various risks such as exchange rate fluctuation risk, interest rate volatility risk etc. To minimize the risk, hedging is undertaken, and it involves payment of hedging cost. Further, the GoI charges guarantee fee of up to 1.2% p.a. for providing guarantee on the loan outstanding. Overall i.e., hedging cost and the GoI guarantee fee, makes landed cost of the foreign currency higher compared to domestic borrowing. In the current scenario, domestic resources are more competitive from past 2 years."

4.9 On being asked about the attempts by various State Governments towards renegotiation of tariffs and steps taken in this regard, the Ministry stated as under:

> "There have been few cases of Tariff renegotiation by certain states (viz. Andhra Pradesh & Punjab). The matter in the state of Andhra Pradesh is sub-judice. However, Ministry has reiterated its stand to States that PPAs are sacrosanct and they cannot be renegotiated."

4.10 When asked about the reasons for not allowing the States to renegotiate tariff considering the fact that we have surplus installed power capacity in the Country and the cost of Renewable Power has been decreasing day by day, the Ministry stated the following:

> "The renewable energy sector is one sector which has attracted a large amount of foreign investment. Almost all the sovereign funds, major pension funds, PE funds of the world are invested in India through renewable energy companies. This sector is one of the fastest growing sectors in the country. If there is an impression that contracts are not honored, then investments will be adversely affected.
>
> Tariffs are fixed by regulators who are independent –at the centre there is a Central Electricity Regulatory Commission (CERC) and at the level of States, there are different State Electricity Regulatory Commissions (SERCs). It is these commissions which fix the tariffs. The Commissions fix the tariff after public hearing and after examining all the input costs. Power Purchase Agreements (PPAs) are contracts binding on all signatories. If the contracts are not honoured, the investments will be adversely affected."

4.11 When asked about the regulatory issues faced by the Ministry/ developers/lending institutions in renewable energy sector, the Ministry stated as under:

> "Developers are facing problem in financing arrangements and fund disbursement from lenders due to delay in approvals by SERC under Section 86(1)(b) of the Electricity Act, 2003. RE Developers/SPDs are also facing issues of financial viability of projects in Rajasthan & Gujarat after Supreme Court's Order dated 19.04.2021on issues related to conservation of Great Indian Bustard (GIB)."

4.12 On being asked about the steps taken by the Ministry to solve the issue of delays in approval of tariff by the State Electricity Regulatory Commissions, the Secretary, Ministry of New and Renewable Energy deposed during the evidence as under:

> "Section 86(1)(b) provides that State Regulatory Commissions shall regulate electricity purchases and the prices of electricity. It is true that sometimes there are delays in these approvals. The problem has been highlighted more in the last four-five months. In some cases, banks

have denied lending due to absence of approvals. We pursue with the State Governments in such cases. For example, in Jharkhand, the Regulatory Commission is not functional as it does not have Chairman/Members in position. In such case, we are helpless but we try to pursue with the State Government concerned."

4.13 The Committee were informed that creditworthiness of Discoms and delays in making payments are major risk areas adversely affecting the financing of renewable power projects. When asked about the steps taken to ensure timely payment of dues to renewable energy developers, the Ministry stated as under:

"Government of India has announced a Liquidity Infusion Scheme (LIS) through REC and PFC to DISCOMs for liquidating outstanding dues of Central Public Sector Undertakings (CPSU), Generating Companies (Gencos) & Transmission Companies (Transcos), Independent Power Producers (IPPs) and Renewable Energy Generators as existing on 30.06.2020. Combined REC and PFC have released a sum of Rs. 6577 crore to RE Generators on behalf of DISCOMs and reimbursed Rs. 711 crore to Discoms against payment done to RE Gencos under this scheme. To ensure that the DISCOMs improve upon their performance, the LIS comes with certain reform linkages which have to be adhered to by the States in order to avail loans under the scheme. Apart from the above, the Government of India has also decided to launch a Revamped Reforms-Based Results-Linked Distribution Scheme which allows financial assistance to the State owned DISCOMs tied to their financial performance. This would enable initiation of reforms and would bring focus to the financial performance of DISCOMs which if not carried out, will make DISCOMs ineligible for such funding from the Government of India."

CHAPTER V

MEASURES TAKEN BY THE GOVERNMENT TO BOOST INVESTMENT IN RENEWABLE ENERGY SECTOR

5.1 Given below are the measures taken by the Government to boost investments in Renewable Energy Sector as furnished by the Ministry -

a) Permitting Foreign Direct Investment (FDI) up to 100 percent under the automatic route.

b) Fiscal incentives such as accelerated depreciation, Goods and Services Tax (GST) at lower rates, concessional custom duty, etc.

c) Payment Security Mechanism for SECI bided projects to cover delays of its receivables.

d) Mandating requirement of Letter of Credit (LC) as payment security mechanism by distribution licensees for ensuring timely payments to renewable energy generators.

e) Dispute Resolution Committee - To consider the unforeseen disputes between solar/wind power developers and SECI/NTPC, beyond contractual agreement which facilitates smooth implementation of solar/wind energy projects.

f) Setting up of Renewable Energy Industry Promotion & Facilitation Board.

g) Waiver of Inter State Transmission System (ISTS) charges and losses for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025.

h) Declaration of trajectory for Renewable Purchase Obligation (RPO).

i) Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission on plug and play basis.

j) Green Energy Corridor Scheme for evacuation of renewable power.

k) Notification of standards for deployment of solar photovoltaic system/devises and RLMM (revised list of models and manufacturers) for wind turbines as quality control mechanism.

l) Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar PV and Wind Projects.

m) 'Must run' status for renewable energy projects under India Electricity Grid code.

n) Introduction of Green Term Ahead Market (G-TAM) and considering introduction of Green Day Ahead Market (G-DAM)."

5.2 When asked about steps taken by the Government in order to mitigate the impact of lockdown imposed due to COVID, the Ministry furnished the following:

i) **Ensuring uninterrupted operation of Renewable Energy (RE) Plants in lockdown:**
MNRE requested States/UTs for facilitating ensuring uninterrupted essential operation of Renewable Energy Generating Stations (REGS) (solar power plants, wind power plants, solar-wind hybrid power plants, small hydro power plants, biomass/biogas based power plants, etc.) and provide facilitation/permission for material movement needed by them during the nation-wide lockdown for COVID-19 outbreak.

ii) **Time-Extension of around 7.5 months on account of lock-down and disruption due to COVID-19:**
MNRE has issued orders regarding treating lockdown due to COVID-19 as Force Majeure and granting of time-extension of around 7.5 months for renewable energy projects on account of lockdown and disruptions on account of COVID-19.

iii) **Facilitating Invoicing: by non–insistence on signed hard copy**.
MNRE issued directions regarding accepting invoices over email without insisting on submission of signed hard copy and in cases where Joint Meter Reading (JMR) cannot be signed due to lockdown, acceptance of Invoices generated by RE Developers on basis of photograph of meter reading/downloaded meter data.

iv) **Insisting on Must-Run, Timely Payments & no Curtailments**:
MNRE issued clarifications that Renewable Energy (RE) Generating Stations have been granted 'Must-Run' status and this status of 'Must-Run' remains unchanged during the period of lockdown and further directing DISCOMs that since RE Generating Stations comprise only a minor portion of the total electricity generation in the country, the payments to RE generators be done on regular basis as was being done prior to lockdown as per established procedure. MNRE further issued directions reiterating that Renewable Energy remains 'Must-Run' and any curtailment but for grid safety reason would amount to deemed generation.

v) **Relaxations w.r.t. Earnest Money & Performance Security:**

In line with directions dated 12.11.2020 from Procurement Policy Division, Department of Expenditure, Ministry of Finance, MNRE has issued following directions w.r.t. renewable energy projects:

a) Reduction in Performance Security from existing 5-10% to 3% of the value of the contract.

b) Keeping Bid Security Declaration provisions in place of Bid Security provisions in future Bid Documents.

c) Not keeping any provision in Bid Documents regarding Additional Security Deposit/Bank Guarantee (BG) in case of Abnormally Low Bids."

PART –II
OBSERVATIONS/RECOMMENDATIONS OF THE COMMITTEE

1. The Committee note that India's power sector has been experiencing transition with increasing penetration of renewable energy in the energy mix and the Country has a target to install 175 GW of renewable energy by 2022 and commitment has been made to increase the renewable energy capacity to 500 GW by 2030. The Committee have been informed by the Ministry that for our long term commitments, an additional investment of about Rs 17 lakh crore has been envisaged which would include associated transmission cost and the Country would need an annual investment of Rs. 1.5-2 lakh crore in renewable energy sector against which our estimated investment for last few years have been in the range of Rs. 75,000 crore only. The Committee find that there is a huge gap between the required and actual investment and it will be a gargantuan task to fill this gap which requires an enabling framework to be created by the Government. Keeping in view that the overall debt requirement is large and reducing the cost of financing to the renewable energy developers is important, the Committee recommend that:

i) The Ministry should work proactively to make available and explore innovative financing mechanisms and alternative funding avenues like Infrastructure Development Fund (IDF), Infrastructure Investment Trusts (InVITs), Alternate Investment Funds, Green/Masala Bonds, crowd funding etc. for renewable energy sector.

ii) The Ministry may explore the possibility of prescribing Renewable Finance Obligation on the lines of Renewable Purchase Obligation

for banks and financial institutions in order to make them invest a specific percentage of their investment in renewable energy sector.

iii) Since Green Banks have emerged as an innovative tool for accelerating clean energy financing globally, the Government should explore setting up of a green bank system which can address the persisting finance related challenges being faced by the renewable energy sector in the Country.

2. The Committee note that the Indian Renewable Energy Development Agency (IREDA) is a specialized public sector financial institution dedicated for financing renewable energy projects in India. As on 31st March, 2021, it has financed more than 2800 renewable energy projects in the Country with cumulative loan sanctions of Rs. 96,250 crore and disbursement of Rs. 63,158 crore supporting green power capacity addition of more than 16,165 MW. However, the Committee have been apprised by the Ministry that IREDA is constrained in meeting the financing requirement of large capacity projects mainly because of exposure norms and its low capital base. The Committee observe that as per the guidelines of Reserve Bank of India, IREDA is required to maintain a minimum CRAR of 15%, however its CRAR has dipped from 23.14% in 2014-15 to 14.34% in 2019-20 with slight improvement to 17.12% in 2020-21 thereby limiting the window for further borrowings. Further, the Ministry has submitted that in addition to proposed equity infusion of Rs. 1,500 crores by the Government of India which will facilitate extending additional loan facility of approximately Rs. 12,000 crores, IREDA has been planning to come up with IPO to enable space for further financing. As IREDA has been playing a catalytic role in financing renewable energy sector since its inception in 1987 and it understands the risks involved in the sector, the

Committee recommend that IREDA should be given special window for borrowing from RBI at repo rate in line with other specialized financial institutions viz. NHB, SIDBI, NABARD, etc. to ensure availability of low-cost financial resources for renewable energy sector.

3. The Committee have been apprised that only few financial institutions and limited number of banks have been providing financial assistance to the renewable energy sector as all financial institutions and banks do not understand the risks and returns of this sector which is one of major challenges in its financing. Further, it has been submitted that there is no 'Green' element in our financial system framework and renewable energy projects are treated as any other project, since the indirect advantages of renewable energy to environment and society at large are often not considered at the time of investment. The Committee feel that in such a scenario where banking sector has a reluctant attitude to finance renewable energy sector, public sector lending institutions need to take up the extra responsibility of providing funds to renewable energy sector. The Ministry has also submitted that the Government of India charges guarantee fee of up to 1.2% p.a. for providing guarantee on the loan outstanding from international financial market, thereby increasing the landed cost of these loans. In view of the above, the Committee are of the opinion that there is a need to facilitate and encourage Government-owned sector-specific lenders like PFC limited, REC Limited and IREDA through supportive policy initiatives, exemptions, concessions, etc in order to reduce the cost of funds. The Committee, therefore recommend that the Ministry should explore the possibility of exempting PFC Limited, REC Limited and IREDA from payment of guarantee fee for raising funds from international multilateral agencies like KfW, JICA, ADB etc. or alternatively, guarantee

fee should be charged at a concessional rate like in the case of National Bank for Financing Infrastructure and Development.

4. The Committee note that as on 31st March, 2021, IREDA had 94 non-performing accounts (84 projects) with total loan outstanding of Rs. 2,442 crores, PFC had NPAs of Rs. 333.46 crores and REC had NPAs of Rs. 40.66 crores. The Committee have been apprised that revenue generation of renewable energy projects is not uniform throughout the year since electricity generation from renewable energy sources is highly seasonal as a large proportion of generation occurs during a particular season, for example, maximum power generation from wind and small hydro projects occur during monsoon. As a consequence, if a renewable energy project is not able to remit its due during the period of low generation, it will be treated as NPA according to RBI's notification regarding NPA and Asset Categorization. The Committee observe that the peculiar realities of renewable energy sector have not been taken into account while formulating the regulatory policies relating to financing and investments, as a result, there is heightened risk of renewable energy projects becoming NPAs in compliance of RBI's regulations and guidelines since revenue generation from renewable power is not uniform throughout the year because of its high seasonality and intermittency. The Committee, therefore recommend that:

i) The Ministry should take up the matter related to highly seasonal revenue generation from renewable energy projects with the Ministry of Finance and the Reserve Bank of India for necessary relaxations in the concerned regulations and guidelines.

ii) The Ministry should pursue all the banks which provide funds to renewable energy sector to restructure the loans in such a way that

EMI is kept higher in peak season of revenue generation and lower in the off-season.

5. The Committee have been apprised that one risk which has significantly affected the funding of renewable energy sector is the attempts towards renegotiation of tariffs. Some States have resorted to cancellation/renegotiation of tariffs which were discovered during early stages of market development when tariffs were high due to higher input cost, adversely impacting the debt serviceability of the projects. The Ministry has been of the view that PPAs are sacrosanct and they cannot be renegotiated. In view of the above, the Committee recommend that the Ministry should actively engage with the State Governments to avoid any unilateral cancellation/renegotiation of PPA as it causes uncertainty and negatively affects the investment in the renewable energy sector.

6. The Committee note that as per Section 86(1)(b) of the Electricity Act, 2003, SERCs have been mandated to regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies. Accordingly, the tariffs discovered through competitive bidding are required to be adopted by Central/State Electricity Regulatory Commissions. However, the Committee have been apprised that developers are facing problem in financing arrangements and fund disbursement from lenders due to delay in disposal of tariff adoption applications by the electricity regulatory commissions. The Ministry has submitted that one of the reasons for delay in approvals by the Electricity Commissions is the delay in appointment of Members to these Commissions by the concerned State Government. The Committee feel that renewable energy developers resort to aggressive biddings after

estimating fixed cost of implementation with timely execution of the project and any delay in tariff adoption derails the project execution causing time and cost overrun thereby impacting the viability of the project. The Committee, therefore recommend that:

i) A maximum period should be prescribed for according approvals/ disposing-off petitions by the SERCs under Section 86(1)(b) through appropriate amendments in the Electricity Act.

ii) A maximum stipulated time should also be prescribed for appointment of Members of the SERCs after the vacancy arises.

7. The Committee note that renewable energy developers have been facing severe challenges in realizing revenue on time since there have been cases of exorbitant delay in receipt of payments from various Discoms causing problem in debt servicing and thus downgrading of the asset to NPA. It has been submitted that delays are typically longer for renewable developers than conventional generating companies even within the same utility. The Committee have been apprised that while Discoms have been claiming rebates for payments before due dates as per terms of PPA, they are reluctant to pay compensation/penal interest to the renewable energy developers for delayed payments payable in the form of Late Payment Surcharge. Further, it has been submitted that standard PPAs approved/adopted by the regulators have provision of Payment Security which generally include revolving Letter of Credit or sometimes Payment Security Funds, Escrow etc., however in majority of cases where PPAs are executed with Discoms, the payment security instrument i.e. Letter of Credit are not being provided. In view of the above, the Committee recommend that:

i) The Ministry should ensure proper implementation of Electricity (Late Payment Surcharge) Rules, 2021 so that the developers get compensated for the delay caused by Discoms in payment of dues.

ii) The Ministry should also ensure that every PPA signed by renewable energy developers with Discoms has the provision of payment security instrument and the same is implemented in letter and spirit.

iii) The Ministry should pursue the States/Discoms to clear dues on the first in – first out basis so that the oldest dues are paid first.

8. The Committee note that renewable energy projects in the Country enjoy the status of "Must Run" and hence are not subjected to curtailment except for grid safety reasons. The Ministry has apprised that the status of 'Must-Run' remained unchanged even during the period of lockdown. However, it has been submitted that there have been some instances where the energy evacuation scheduled from renewable energy projects was restricted causing capacity loss as well as revenue loss to renewable energy developers. In view of the above, the Committee recommend that the Ministry should come out with lucid & enforceable guidelines for compensation with respect to curtailment for reasons other than the grid security.

9. The Committee note that there is a target to install 40 GW of renewable energy through roof-top solar by 2022 and KUSUM Scheme has been initiated to ensure energy security for farmers. The Committee have been apprised that in respect of schemes like Roof-top Solar and KUSUM which are for small consumers, there have been complaints that banks are reluctant to lend as they are not aware enough of these schemes. In view of the above, the Committee recommend that the

Ministry should pursue this matter with the local banks and ensure availability of funds for installation of renewable power under schemes like Roof-top Solar and KUSUM.

10. The Committee note that the RBI has categorised renewable energy sector under priority sector lending for loans up to a limit of Rs. 30 crores. The Ministry has apprised the Committee that the loan upto a limit of Rs. 30 crores is not sufficient as it can take care of small sized renewable energy projects only and there is a need to increase this limit. Further, the Ministry has also submitted that many banks which are not conversant with renewable energy projects, may not offer even this small financial assistance and may cover their priority sector lending obligations with projects from other sectors. In view of the above, the Committee recommend that:

i) The limit of loans for renewable energy sector under priority sector lending should be increased. The Ministry should pursue this matter with the Ministry of Finance and the Reserve Bank of India.

ii) Banks should be sensitized about the importance and benefits of renewable energy so that they do not overlook this sector in their priority sector lending.

New Delhi
January 31, 2022
Magha 11, 1943 (Saka)

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

ANNEXURE - I

Details of IREDA's Non Performing Assets as on 31st March, 2021

S. No.	Name of Project	Location	Capacity	Name of Developer	Cost of the Project (Rs. Crore)	Loan Amount sanctioned (Rs. Crore)	Book Debt (outstanding as on 31.03.2021) (Rs. in Crore)	Tariff	Year of NPA	Reasons for being NPA / Stressed
1	Shalivahana Projects Ltd. - 1756	Maharashtra	10	Shalivahana Projects Ltd.	38.50	20.20	6.18	6.76 (last applicable tariff) PPA expired	2020-21	a) Rise in biomass price resulting in non viability of the project. b) PPA has expired in March 2021 and the company is pursuing with DISCOM for revival of PPA.
2	Shree Basaveshwar Sugars Ltd.-1912	Karnataka	26	Shree Basaveshwar Sugars Ltd.	128.50	89.95	87.71	3.68/ unit	2020-21	a) Delay in payment from DISCOM b) Reduction in Tariff affecting the project viability
3	Khandaleru Power Company limited (2123)	Andhra Pradesh	6	Khandaleru Power Company limited	33.02	22.00	21.53	3.73 (as per PPA)	2020-21	a) Non payment of power sale proceeds by DISCOM. b) Tariff being disputed by DISCOM and matter is subjudiced
4	Khandaleru Power Company limited (1945)	Karnataka	1.4	Khandaleru Power Company limited	7.25	5.00	2.36	2.8 (as per PPA)	2020-21	The company is paying dues on time. However, since another project of same company is NPA, this account is also classified as NPA, as per RBI guidelines.
5	Marsol Solar Private Limited - 2381	Maharashtra	576 sq. m	Marsol Solar Private Limited	1.82	1.10	0.92	5/kg (CST)	2020-21	The project could not be commissioned as the accessibility to the proposed installation site (Chatrapati Shivaji Maharaj Hospital, Thane, Maharashtra) was restricted as the said hospital was turned into a Covid Care facility during the ongoing COVID-19 pandemic.

6	NSL Renewable Power Private Limited -2039	Karnataka	83.05	NSL Renewable Power Private Limited	567.36	174.00	67.86	3.40/kWh	2020-21	a) There is not sufficient generation due to technical issues in 11 out of 59 Wind Turbine Generator (WTGs) which are ReGen make and since, the O & M contractor, i.e., M/s. ReGen Infrastructure Services Pvt. Ltd. (RISPL) is under NCLT, these are not being maintained, b) Wind Variability
7	ZR Renewable Energy Private Limited -2336	Andhra Pradesh	16	ZR Renewable Energy Private Limited	127.54	89.88	87.05	4.34/kWh	2020-21	a) Tariff related Matter is subjudiced. b) Delay in Payment from DISCOM.
8	Rishabh Energy Private Limited -2101	Rajasthan	10	Rishabh Energy Private Limited	77.70	54.80	37.26	5.45/kWh	2020-21	a) Inadequate maintenance of Assets affected the performance of the project. (18% PLF against envisaged 21%).
9	Photon Sunbeam Private Limited -2229	Punjab	40	Photon Sunbeam Private Limited	300.22	143.80	122.23	5.57/kWh-PPA	2020-21	The tariff related matter is under sub-judice and financial viability was affected. 5.08/kWh current billing
10	Enercon Wind Farms (Sai) Private Limited -1781	Maharashtra	20	Enercon Wind Farms (Sai) Private Limited	103.25	87.76	6.15	5.05/unit	2020-21	Delay in payment from DISCOM
11	Vaayu India Power Corporation Limited - 2124	Rajasthan, Gujarat, Tamil Nadu, Andhra Pradesh	202.4	Vaayu India Power Corporation Limited	1185.00	120.00	91.49	RJ (4.46),	2020-21	a) Delay in payment from Tamil Nadu and Andhra Pradesh DISCOMs. b) Further, the tariff has been reduced by Andhra Pradesh DISCOMs to Rs. 2.43 per unit.

12	Suzlon Energy Limited - 0023ST	Maharashtra	0	Suzlon Energy Limited - 0023ST	599.14	300.00	130.90	2.69/kWh	2019-2020	The loan was sanctioned towards the project specific requirement of the company against execution of a 100 MW wind project of M/s. Hero Wind Energy (P) Limited. NOC was granted by State Bank of India lead consortium towards exclusive charge of IREDA on the project receivables. Due to various reasons including delay in land acquisition, evacuation clearances, etc., the project implementation was delayed and the loan turned into NPA category
13	Warora Kurnool Transmission Limited - 2329	Maharashtra Andhra Pradesh & Telangana	0	Warora Kurnool Transmission Limited - 2329	3900.00	200.00	83.39	Annual Levelized tariff of Rs.383.40 Cr	2019-2020	The company belongs to Essel group, which is facing liquidity crisis and is not in a position to infuse further funds and project remains unimplemented. The account fell into NPA Category as on 31.03.2020.
14	Rishabh Buildwell Private Limited - 2293	Karnataka	14	Rishabh Buildwell Private Limited - 2293	91.50	68.50	61.46	4.36/kWh	2019-2020	a) Reduction in tariff b) Delay in Payment from DISCOM c) Lack of Adequate Evacuation facility.
15	Nawansha HR Power Private Limited- 2186	Punjab	15	Nawansha HR Power Private Limited - 2186	73.28	51.29	48.74	6.85/unit	2019-2020	a) Delay in payment from Discom b) Non-operation of plant in off-season, which reduced the financial viability of the project
16	Vaayu Energy Limited - 2169	Karnataka	3	Vaayu Energy Limited - 2169	292.40	100.00	82.00	NA (Manufacturing)	2019-2020	Low Volume of business in Wind Energy sector in India post 2018 leading to low visibility for establishing Green field manufacturing using old design, leading to a delay.

17	Cambridge Energy Resources (P) Ltd. - 2128	Uttar Pradesh	4.23	Cambridge Energy Resources (P) Ltd. - 2128	58.12	40.68	27.28	Rs 60207/site/month for first 7 yrs and Rs.41709/site/month for next 2 yrs	2019-2020	Off-grid solar Project. Termination of contract by the off taker.
18	Mahidad Wind Energy Pvt Ltd - 2114	Gujarat& Karnataka	84.8	Mahidad Wind Energy Pvt Ltd - 2114	555.59	150.00	69.41	4.40 /kWh with 1.27% annual escalation	2019-2020	Project owned by IL&FS Group of Companies and the entire group has been referred to NCLT for resolution by Govt. of India wherein the said account is categorized under Red Category.
19	Siddhanath Sugar Mills Ltd - 2094	Maharashtra	26	Siddhanath Sugar Mills Ltd. - 2094	102.65	38.04	30.70	6.63/ unit	2019-2020	Due to drought in the region in 2019, the plant could not start and could not generate during Crushing season 2019-20.
20	Naraingarh Sugar Mills Ltd - 2013	Haryana	25	Naraingarh Sugar Mills Ltd - 2013	115.00	103.39	99.68	6.50/ unit	2019-2020	a) Tariff Related issue with DISCOM b) Non-operation of plant in off-season, which reduced the financial viability of the project.
21	Gangakhed Sugar and Energy Ltd. - 1967	Maharashtra	30	Gangakhed Sugar and Energy Ltd - 1967	159.45	100.00	51.08	4.79/ unit	2019-2020	a) Due to drought and inadequate availability of sugar cane in the region in crushing season
22	Shri Chamundeswari Sugars Ltd - 1953	Karnataka	0	Shri Chamundeswari Sugars Ltd - 1953	15.91	11.13	9.54	3.89/ Unit	2019-2020	Due to initial delay in implementation of the Project, there was cost, and time overrun which further delayed the commissioning of the project.

23	Shri Chamundeswari Sugars Ltd -1914	Karnataka	18	Shri Chamundeswari Sugars Ltd -1914	84.60	87.00	82.65		2019-2020	Due to initial delay in implementation of the Project, there was cost, and time overrun which further delayed the commissioning of the project.
24	Gill Power Generation Co. Pvt. Ltd. - 1397	Punjab	3	Gill Power Generation Co. Pvt. Ltd. – 1397	9.25	19.58	18.09	3.66-Babehalli (1.5 MW) & 5.16-kunjur (1.5 MW)	2019-2020	Due to breakdown of machineries
25	Tissa Power Transmission Private Limited	Himachal Pradesh	0	Tissa Power Transmission Private Limited	0.00	54.97	1.39	No Tariff	2019-2020	Delay in payment from DISCOM
26	Vish Wind Infrastructure LLP - 1936	Rajasthan	16	Vish Wind Infrastructure LLP – 1936	89.06	57.88	28.45	-	2018-2019	a) Lower generation b) Delayed payment from DISCOM.
27	Taxus Infrastructure and Power Projects Pvt Ltd 1956 & 1956-1	Gujarat	5	Taxus Infrastructure and Power Projects Pvt Ltd 1956 & 1956-1	73.85	49.30	36.74	9.13/unit for first 12 yrs & 7/unit for next 13 yrs	2018-2019	a) Tariff reduction Due to delay in commissioning. b) Damage of modules due to cyclone.
28	Vish Wind Infrastructure Ltd 1954 & 1954 F1	Gujarat	50.4	Vish Wind Infrastructure Ltd 1954 & 1954 F1	283.20	198.24	138.01	3.61/unit	2018-2019	a) Lower generation b) No realization of Renewable Energy Certificate (REC) from the project revenue
29	Dharani Sugars & Chemicals Limited 1921 & 1921 FI	Tamil Nadu	22	Dharani Sugars & Chemicals Limited 1921 & 1921 FI	110.19	74.92	44.25	4.46/unit	2018-2019	Due to drought and less generation from the project

30	Dharani Sugars and Chemicals Limited 2030	Tamil Nadu	30	Dharani Sugars and Chemicals Limited 2030	156.48	109.00	13.52	3.70/ unit	2018-2019	Project unimplemented due to less cash flows available with the company for equity infusion.
31	Manali Sugars Ltd 1915 & 1915 F1	Karnataka	15	Manali Sugars Ltd 1915 & 1915 F1	44.30	31.00	26.79	3.68/ unit	2018-2019	Due to drought and inadequate availability of sugarcane in the region in 2019 crushing season
32	Ind-Barath Energies Ltd. 1655	Andhra Pradesh	20	Ind-Barath Energies Ltd. 1655	65.10	16.94	1.78	No applicable tariff	2018-2019	The company had paid the Principal Portion, however defaulted in payment of Interest Subsidy portion.
33	Gau Samridhi 2108	Haryana	0	Gau Samridhi 2108	1.70	1.18	1.08	Rs. 42 /kg of CNG	2017-2018	Less realization of sale revenues due to working capital issues.
34	Wind World India Infrastructure Pvt. Ltd 2055	Gujarat& Karnataka	663 MVA	Wind World India Infrastructure Pvt. Ltd 2055	160.75	90.00	75.88	Not applicable, sub-station loan	2017-2018	The parent company M/s. Wind World India Ltd. who is also an O&M Contractor for the project is in NCLT & the revenue generated from the project have been kept on hold by RP of the promoter company.
35	Green Elephant India Pvt. Ltd. 2028	Maharashtra	0	Green Elephant India Pvt. Ltd. 2028	16.10	8.10	5.96	Rs.42/ Nm^3	2017-2018	Bio Gas Price was not competitive leading to financial stress.
36	Lok shakti 2024	Maharashtra	14	Lok shakti 2024	56.84	39.78	39.06	No applicable tariff	2017-2018	Delay in Implementation of the project
37	Enercon India Infrastructure Pvt. Ltd. 2005	Gujarat, Andhra Pradesh & Karnataka	363 MVA	Enercon India Infrastructure Pvt. Ltd. 2005	135.96	90.00	40.42	Not applicable, sub-station loan	2017-2018	The parent company M/s. Wind World India Ltd. who is also an O&M Contractor for the project is in NCLT & the revenue generated from the project have been kept on hold by RP of the promoter company.

38	Green Elephant India Pvt. Ltd. 1910	Maharashtra	0	Green Elephant India Pvt. Ltd. 1910	10.82	5.41	1.95	Rs.42/ Nm^3	2017-2018	Biogas Price was not competitive leading to financial stress.
39	Poweronicks 1471	Karnataka	6	Poweronicks 1471	24.29	15.24	1.77	4.36/ unit	2017-2018	a) Rise in biomass price resulting in non-viability of the project. b) Low Tariff issue
40	Siva Renewable Power & Energy Ltd.-1987	Maharashtra	19	Siva Renewable Power & Energy Ltd.-1987	157.03	100.00	59.50	5.64/ unit (for 10MW) Rs. 5.70 (for 4 MW)	2016-2017	a) Delay in payment from DISCOM b) Right of Way (ROW) issue.
41	JHV Sugars Ltd 1947	Uttar Pradesh	20	JHV Sugars Ltd 1947	87.83	57.11	16.93	No applicable tariff (project abandoned	2016-2017	Delay in Implementation of the project due to promoters' financial stress.
42	Venika Hydro Projects Pvt. Ltd. 1922	Chhattisgarh	24.75	Venika Hydro Projects Pvt. Ltd. 1922	660.38	243.68	234.68	5.96/ unit	2016-2017	Delay in implementation of project due to delay in equity infusion.
43	Saroj Energy Company Pvt Ltd 1877 and 1877C	Karnataka	1.5	Saroj Energy Company Pvt Ltd 1877 and 1877C	15.66	6.40	9.84	5.25/ unit	2016-2017	Due to drought in the project catchment area (Igglur Barrage, Ramnagar, Karnataka) from 2016 to 2018
44	NCML-1940	Tamil Nadu	2	NCML-1940	12.50	8.75	4.85	No applicable tariff	2015-2016	The Main business of the company i.e. Edible Oil deteriorated leading to less revenue realization.
45	SKJ Power 844	Andhra Pradesh	1.5	SKJ Power 844	7.25	6.32	2.01	3.32/ unit	2015-2016	a) Due to drought in the project catchment area (Right bank canal of Nagarjuna Sagar Dam). b) No/Less Generation due to controlled water release by Irrigation department.

46	SLS Hydro power - 1858 and 1858C	Andhra Pradesh	24	SLS Hydro power - 1858 and 1858C	232.12	151.50	151.50	4.00/ unit	2014-2015	a) Silt problem leading to less generation b) Tariff related issue
47	South West Hydro -1824 & 1824-1	Karnataka	5	South West Hydro -1824 & 1824-1	35.45	20.29	22.44	3.40/ unit	2014-2015	Low Generation due to diversion of water for irrigation purpose.
48	Sai Kripa Sugars-1978	Maharashtra	40	Sai Kripa Sugars-1978	153.73	121.03	90.72	4.79/ unit	2013-2014	Due to drought which led to inadequate availability of sugar cane
49	Saradambika Power Plant Pvt Ltd.-1743	Maharashtra	10	Saradambika Power Plant Pvt Ltd.-1743	42.35	39.63	21.26	5.35/ unit	2013-2014	a) Rise in biomass price resulting in non viability of the project. b) Low Tariff issue
50	Rayapati power Generation Pvt ltd-1732	Andhra Pradesh	7.5	Rayapati power Generation pvt ltd-1732	28.78	20.14	20.14	5.03/ unit	2013-2014	a) Rise in biomass price resulting in non viability of the project. b) Low Tariff issue
51	Konark Power Ltd-1577	Karnataka	6	Konark Power Ltd-1577	23.76	16.63	8.84	3.42/ unit	2013-2014	a) Rise in biomass price resulting in non viability of the project. b) Low Tariff issue
52	Koganti Power ltd -1472	Karnataka	6	Koganti Power ltd -1472	24.29	16.95	15.43	Short Term PPA with 3rd Party	2013-2014	a) Rise in biomass price resulting in non viability of the project. b) Low Tariff issue
53	Ganga Pressing 1535	Maharashtra	1.05	Ganga Pressing 1535	5.33	3.53	0.69	No applicable tariff	2011-12	The main business of the company got affected adversely. The power from the project could not be consumed for captive use for which the plant was set up.
54	Nido Energy 1935	Arunachal Pradesh	10	Nido Energy 1935	79.61	55.00	0.001	3.90/ unit	2012-13	Dispute among the promoters of the company leading to abandoning of the project.
55	Bhadragiri Power 1823	Karnataka	3	Bhadragiri Power 1823	19.82	13.88	0.001	2.80/ unit	2011-12	Dispute among the promoters of the company leading to abandoning of the project midway

56	Shree Kedarnath Sugars 1803	Maharashtra	18	Shree Kedarnath Sugars 1803	54.50	24.50	0.001	2.80/ unit with 2% escalation every year	2011-12	The sugar factory could not operate due to shortage of working capital funds leading to non-operation of the Cogeneration plant
57	Noble Distelleries 1802	Karnataka	8	Noble Distelleries 1802	30.44	21.30	0.001	No Tariff	2011-12	Project abandoned as the main business of the company failed.
58	Suchand Power 1365	Andhra Pradesh	6	Suchand Power 1365	24.26	16.68	0.001	5.5/unit	2011-12	High biomass price due to which viability of the project affected and operation of plant stopped.
59	Ramsarup 1726	Maharashtra	3.75	Ramsarup 1726	17.84	12.48	0.001	No applicable tariff	2010-11	Decrease in PLF due to wake losses and issues related to maintenance. Failure of the main business i.e., sponge iron of the company.
60	Bonal Hydro 1616	Karnataka	1	Bonal Hydro 1616	5.67	3.90	0.001	3.32/ unit	2010-11	Low Generation due to drought condition and diversion of water.
61	SreeRayalaseema Green 1189	Andhra Pradesh	5.5	SreeRayalaseema Green 1189	20.30	15.00	0.001	3.32/ unit	2009-10	High biomass price due to which viability of the project affected and operation of plant stopped.
62	Fund Point 1076	Karnataka	0	Fund Point 1076	0.16	0.14	0.001	No Tariff	2009-10	Due to insufficient funds, company could not pay last installment of loan.
63	Chizami Village Council -1505	Nagaland	0.2	Chizami Village Council - 1505	11.75	0.82	0.001	2.00/ unit	2007-08	Project shut down due to differences between two villages with respect to sharing of water and power from the plant.
64	Shriram Energy 1506	Andhra Pradesh	6	Shriram Energy 1506	25.60	7.45	0.001	No applicable tariff	2006-07	Low quality and lack of segregation of waste by the Municipality leading to non-operation of the project.

65	BhagyaNagar Solvent 1469	Karnataka	6	BhagyaNagar Solvent 1469	24.29	16.95	0.001	4.27/ unit	2006-07	High biomass price due to which viability of the project affected and operation of plant stopped.
66	Vamshi Industries 1090	Andhra Pradesh	4	Vamshi Industries 1090	16.55	11.50	0.001	5.50/ unit	2006-07	High biomass price due to which viability of the project affected and operation of plant stopped.
67	Sree Suryachandra 1092	Andhra Pradesh	1.7	Sree Suryachandra 1092	8.40	6.30	0.001	No Tariff (not commission ed)	2005-06	The project couldn't be completed due to promoters' inability to infuse further equity.
68	Sree Suryachandra 1083	Andhra Pradesh	1.7	Sree Suryachandra 1083	8.55	6.40	0.001		2005-06	
69	Sri Satyanarayana Power 1381	Andhra Pradesh	4	Sri Satyanarayana Power 1381	16.48	11.50	0.001	No Tariff (Not commiss ioned)	2004-05	Dispute among the promoters of the company leading to abandoning of the project midway
70	B L Fuse Gear 721	Gujarat	0.006	B L Fuse Gear 721	0.04	0.04	0.001	No Tariff	2004-05	Last installment could not be paid by the company.
71	Arunachalam Sugar 1155 & 1155-1	Tamil Nadu	--	Arunachlem Sugar 1155 & 1155-1	10.36	7.61	0.002	2.50/ unit	2003-04	The sugar factory could not operate due to shortage of working capital funds leading to non-operation of the Cogeneration plant
72	New Horizon Sugar 1154 & 1154-1	Tamil Nadu	--	New Horizon Sugar 1154 & 1154-1	18.00	15.54	0.002	No tariff	2003-04	
73	Arunachalam Sugar 968 & 968-1	Tamil Nadu	14	Arunachlem Sugar 968 & 968-1	55.40	31.50	0.002	2.50/ unit	2003-04	
74	Surya Tech System P Ltd 1393	Karnataka	--	Surya Tech System P Ltd 1393	0.18	0.15	0.001	No Tariff	2002-03	The said loan was sanctioned for manufacturing of solar water heating systems. The Main business of the company was affected which resulted in default.
75	Sujas Energy 1280	Gujarat	1.5	Sujas Energy 1280	0.48	0.34	0.001	No applica ble tariff	2002-03	Mismatch of technology vis-à-vis the quality of biomass/agro residue available.

76	Ocha Pine Fuels 1178	Himachal Pradesh	1.5	Ocha Pine Fuels 1178	0.50	0.37	0.001	No applicable Tariff	2002-03	Mismatch of technology vis-à-vis the quality of biomass/agro residue available
77	Enbee Infrastructure Ltd 1146	Maharashtra	5.4	Enbee Infrastructure Ltd 1146	43.95	8.45	0.001	No applicable tariff	2002-03	Project Abandoned due to lack of interest by the promoters at a later stage.
78	Karnataka Fin. Services -809	Karnataka	--	Karnataka Fin. Services -809	1.33	1.00	0.001	No Tariff	2002-03	Failure of main business
79	Viney Bio Fuels 1177	Andhra Pradesh	0	Viney Bio Fuels 1177	0.47	0.30	0.001	No Tariff	2001-02	Mismatch of technology vis-à-vis the quality of biomass/agro residue available
80	Andhra Pradesh Power Projects-910	Andhra Pradesh	2	Andhra Pradesh Power Projects-910	9.00	6.75	0.001	3.00/unit	2001-02	Project was abandoned midway due to lack of equity infusion by promoters.
81	SPV Power 525	Tamil Nadu	0	SPV Power 525	1.18	0.74	0.001	No Tariff	2001-02	Loan was given for manufacturing SPV module. Factory has been closed due to lack of market.
82	Ahmadabad Mahila Nagrik 1013	Gujarat	--	Ahmadabad Mahila Nagrik 1013	1.67	1.50	0.001	No Applicable Tariff	2000-01	Closure of business
83	Vitara Chemicals 811	Maharashtra	--	Vitara Chemicals 811	0.26	0.22	0.001	No Tariff	1999-00	Loan was given for solar street lighting system and power plant in the factory premises. The main business operations of the company have been closed.
84	Raunaq Finance 733	Madhaya Pradesh	0.45	Raunaq Finance 733	1.64	1.07	0.001	3.32/unit	1997-98	Closure of business
85	Mahakrishna Financial 543	Tamil Nadu	0.25	Mahakrishna Financial 543	0.82	0.66	0.001	2.70/unit	1997-98	Closure of business

86	Zen Global III 529	Tamil Nadu	1.98	Zen Global III 529	6.60	5.94	0.001	No Applicable Tariff	1997-98	Closure of business
87	NEPC Agro 462	Madhya Pradesh	1	NEPC Agro 462	2.98	2.68	0.001	2.70/ unit	1997-98	Closure of business
88	Zen Global III 427	Tamil Nadu	0.41	Zen Global III 427	1.45	1.26	0.001	2.70/ unit	1997-98	Closure of business
89	Zen Global I 426	Tamil Nadu	0.41	Zen Global I 426	1.45	1.26	0.001	2.70/ unit	1997-98	Closure of business
90	Newam Power Co Ltd 404	Tamil Nadu	5	Newam Power Co Ltd 404	19.00	3.00	0.001	No Tariff (Not commissioned)	1996-97	Project abandoned due to non infusion of equity by promoters
91	Silical Metallergic 485	Kerala	16	Silical Metallergic 485	47.26	24.85	0.001	No Tariff (Not commissioned)	1995-96	Project Abandoned
92	GSL (INDIA) 265	Gujarat	2	GSL (INDIA) 265	8.59	6.44	0.001	3.32/ unit	1995-96	Project damaged due to Cyclone.
93	Vijayashree Chemicals 256	Uttar Pradesh	550 Cu m	Vijayashree Chemicals 256	6.16	1.50	0.001	3.32/ unit	1995-96	Main business failed and company went into liquidation.
94	A D Bio Fuels 152	Uttar Pradesh	1.5	A D Bio Fuels 152	0.53	0.37	0.001	No Tariff	1994-95	Mismatch of technology vis-à-vis the quality of biomass/agro residue available
Total							**2441.55**			

ANNEXURE-II

Details of PFC's Non Performing Assets related to Renewable Energy Sector as on 31st March, 2021

S. N.	Name of the Project/ Borrower Name	Location	Capa city	Name of the Developer (Contractor)	Cost of the project	Debt (loan o/s as on 31.3.21) (Rs. Crs)	Tariff	Name of the Lending Institutions	Reason for being NPA/Stressed
1	Astonfield Solar (Gujarat) Pvt. Ltd	Taluka Sami, District Patan, Gujarat	11.5 MW	M/s Schneider Electric India Pvt. Ltd	Rs 139.83 Crore	25.85	Rs 9.98/Unit till 2024 and Rs. 7/Unit after 2024 till 2037	1. PFC 2. Exim Bank	Series of Floods have damaged plant and reduced generation capacity
2	Empee Power Company Ltd	Naidupet, Andhra Pradesh	20 MW	TG: M/s Quingdao Jiening Power Engineering Co. Ltd. & Associated Power Team (P) Ltd. Boiler: M/s Cethar Vessels Pvt. Ltd	Rs 76.06 Crore	24.88	First FY tariff- Fixed cost: Rs.1.56/unit & Variable cost: Rs.1.10 /unit (As per PPA)	1. PFC 2. IOB	1. Bagasse insufficiency 2. Lack of approval to use coal as alternate fuel
3	Narsimha swamy Solar Generations (P) Ltd	Anantpur District, AP	5 MW	Sterling & Wilson	Rs 43.34 Crore	16.63	Rs 5.86/Unit	1. PFC 2. Indian Overseas Bank	1. Insufficient project cash flows 2. Low tariff recovery under PPA vis-à-vis cost of generation (project cost)
4	SwarnajyothiAgrotech (Octant)	Sambalpur, Odisha	10 MW	Cheema Boilers Limited	Rs 57.51 Crore	24.55	Rs. 5.89/unit	1. PFC 2. REC	1. Inability of equity infusion 2. Debt tie-up issues
5	Om Shakti Renergies Ltd	Chittoor, Andhra Pradesh	6 MW	ISGEC John Thomson (Boiler & auxiliaries supplier)	Rs 21.28 Crore	8.92	Rs 2.25/Unit for first year (Rs. 2.25 per unit with escalation of 5% p.a. with 1994-95 as base year and to be revised on	1. PFC- Lead Bank 2. SBI- Exited through OTS	1. Biomass unavailability & price increase 2. Tariff and arrears issues wrt

							1st April of every year up to the year 2003-04. Beyond year 2003-04, the purchase price by APTRNSCO will be decided by APERC)		PPA with APTRANSCO & Promoter inability to raise funds. 3. Heavy rains and cyclones also impacted post implementation operations.
6	R S India Wind Energy Private Ltd	TalukaPatan, Satara District, Maharashtra	41.25 MW	M/S Vestas Wind Technology (I) Pvt Ltd	Rs 293.34 Crore	223.77	Rs. 5.07/Unit	PFC	1. Delay in receipt of payment of power generation from Maharashtra State Electricity Distribution Co Ltd 2. Annual generation was lower on account of technical problem with wind turbine
7	Vyshaka Solar Energy Systems Private Limited	Chittoor District, Andhra Pradesh	2 MW	M/s Sesola Power Projects Pvt. Ltd. (Contractor)	Rs 13.68 Crore	8.86	Rs.7.9/unit with 5% escalation after every two years (As per PPA)	PFC	Delay in payment of banked energy charges (30%of total energy charges) from AP DISCOM.
Total						**333.46**			

ANNEXURE-III

Details of REC's Non Performing Assets related to Renewable Energy Sector

S. No.	Name of Project	Location	Capacity	Name of Developer	Cost of Project (Rs Cr)	Debt (Rs Cr)	Tariff	Reasons for being NPA/Stressed
1	1 MW Solar Power Plant, Andhra Pradesh	Andhra Pradesh	1MW	Amrit Jal Ventures Ltd	17.8	12.42	Rs 17.91 p.u.	Delay in receivables from AP Discom
2	10 MW Wind Project in Washan Distt. Sangli, Maharashtra	Maharashtra	10MW	Global Metal & Energy Pvt. Ltd.	67.27	47.09	Rs 5.56 p.u.	Delay in receivables from MSEDCL

In addition the details of four Projects where 100% provisioning has been made in the REC books are as follows:

S.No.	Name of Project	Location	Capacity	Name of Developer	Cost of Project (Rs Cr)	Debt (Rs Cr)	Tariff	Reasons for being NPA/Stressed
1	ATN Interenational Limited	Kayathar, Tirunelveli District, Tamil Nadu	5 MW	ATN Arihant International Ltd.	NA	NA	NA	NA
2	Classic Global Ltd	Kayathar, Tirunelveli District, Tamil Nadu	2.5 MW	Classic Global Securities Ltd.	NA	NA	NA	NA
3	Lynx India Limited	Kayathar, Tirunelveli District, Tamil Nadu	2.5 MW	Lynx India Ltd.	NA	NA	NA	NA
4	Sillicon Valley Infotech Limited	Kayathar, Tirunelveli District, Tamil Nadu	2.5 MW	Silicon Valley Infotech Ltd.	NA	NA	NA	NA

ANNEXURE - IV

STANDING COMMITTEE ON ENERGY

MINUTES OF NINTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2020-21) HELD ON 9th APRIL, 2021, IN COMMITTEE ROOM 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 1500 hrs to 1630 hrs.

LOK SABHA

Shri Rajiv Ranjan Singh alias Lalan Singh - Chairperson

2. Shri Chandra Sekhar Bellana
3. Shri A. Chellakumar
4. Shri Kishan Kapoor
5. Shri Ramesh Chander Kaushik
6. Shri Ashok Mahadeorao Nete
7. Shri Praveen Kumar Nishad
8. Smt. Anupriya Patel
9. Shri Dipsinh Shankarsinh Rathod
10. Shri Shivkumar Chanabasappa Udasi

RAJYA SABHA

11. Shri T.K.S. Elangovan
12. Shri Muzibulla Khan
13. Dr. Sudhanshu Trivedi

SECRETARIAT

1. Shri R.C. Tiwari - Joint Secretary
2. Shri R.K. Suryanarayanan - Director
3. Shri Kulmohan Singh Arora - Additional Director

WITNESSES

MINISTRY OF NEW AND RENEWABLE ENERGY

1.	Shri Indu Shekhar Chaturvedi	Secretary
2.	Shri Aniruddha Kumar	Additional Secretary
3.	Shri Bhanu Pratap Yadav	Joint Secretary
4.	Shri Amitesh Kumar Sinha	Joint Secretary
5.	Shri Dinesh Dayanand Jagdale	Joint Secretary
6.	Dr. P.C. Maithani	Scientist – G

PUBLIC SECTOR UNDERTAKINGS/AUTONOMOUS BODIES

7.	Shri Jatindra Nath Swain	CMD, SECI
8.	Shri Pradip Kumar Das	CMD, IREDA

2. ** ** ** ** ** ** ** ** ** ** ** ** *

Then the witnesses were called in

3. Thereafter, the Hon'ble Chairperson welcomed the representatives of the Ministry of New and Renewable Energy to the sitting and informed that the sitting had been called for briefing on the subject 'Financial constraints in Renewable Energy Sector'. The Chairperson also apprised them about the provisions of Directions 55(1) and 58 of the Directions by the Speaker.

4. During the discussion, a power-point presentation was made on the subject which, *inter-alia,* covered Landscape of Renewable Energy Financing, Sources of Debt Capital, Sources of Equity Capital, Regulatory Framework, Investment and FDI, Stages of funding a commercial Renewable Energy Project, Policy tools available to facilitate finances for Renewable Energy, Role of IREDA to catalyze financing in Renewable Energy Sector, Risks and Financial constraints in the Renewable Sector, Government Measures to boost Investment in Renewable Energy, etc.

5. The Committee, *inter-alia,* deliberated upon the following points with representatives of the Ministry of New and Renewable Energy:

a) Quantum of actual investment in the renewable energy sector vis-à-vis required investment;

b) Roadmap of the Ministry to facilitate mobilization of the requisite quantum of investment for the renewable energy sector;

c) Issues related to cancellation/renegotiation of PPAs;

d) Steps taken by the Ministry and IREDA to ensure timely payment of dues to renewable energy developers;

e) Issues related to long delays in execution of PPAs;

f) Issues related to creditworthiness of Discoms;

g) Stressed/Non-Performing Assets in the renewable energy sector;

h) Issues related to NPAs in the books of IREDA;

i) Need to pursue the States to reduce their thermal power generation and resort to renewable power;

j) Need to ensure compliance of Renewable Purchase Obligation;

k) Issues related to unwillingness of banks to lend to developers;

l) Need to frame a transparent and practical policy regarding acquisition of land for installation of solar projects.

6. The Members also sought clarifications on various other issues relating to the subject and the representatives of the Ministry responded to the same. The Committee directed the representatives of Ministry of New and Renewable Energy to furnish written replies to those queries which could not be readily responded to by them within ten days.

The Committee then adjourned.

** *Not related to this Report*

ANNEXURE - V

STANDING COMMITTEE ON ENERGY

MINUTES OF ELEVENTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2020-21) HELD ON 27th JULY, 2021, IN COMMITTEE ROOM 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 1545 hrs to 1700 hrs.

LOK SABHA

Shri Rajiv Ranjan Singh alias Lalan Singh - Chairperson

2. Smt. Sajda Ahmed
3. Shri Gurjeet Singh Aujla
4. Shri Chandra Sekhar Bellana
5. Shri Harish Dwivedi
6. Shri Kishan Kapoor
7. Shri Ramesh Chander Kaushik
8. Shri Ashok Mahadeorao Nete
9. Shri Prabatbhai Savabhai Patel
10. Shri N. Uttam Kumar Reddy
11. Shri Shivkumar Chanabasappa Udasi
12. Shri P. Velusamy

RAJYA SABHA

13. Shri T.K.S. Elangovan
14. Shri Muzibulla Khan
15. Shri Maharaja Sanajaoba Leishemba
16. Shri Jugalsinh Mathurji Lokhandwala
17. Dr. Sudhanshu Trivedi

SECRETARIAT

1. Shri R.C. Tiwari - Joint Secretary
2. Shri R.K. Suryanarayanan - Director
3. Shri Kulmohan Singh Arora - Additional Director

WITNESSES

MINISTRY OF NEW AND RENEWABLE ENERGY

1.	Shri Indu Shekhar Chaturvedi	Secretary
2.	Shri Aniruddha Kumar	Additional Secretary
3.	Shri V. A. Patwardhan	Joint Secretary & Financial Adviser
4.	Shri Amitesh Kumar Sinha	Joint Secretary
5.	Shri Dinesh Dayanand Jagdale	Joint Secretary

PUBLIC SECTOR UNDERTAKINGS/AUTONOMOUS BODIES

6.	Shri Pradip Kumar Das	CMD, IREDA
7.	Shri Jatindra Nath Swain	CMD, SECI

2. ** ** ** ** ** ** ** ** ** ** ** ** *

Then the witnesses were called in.

3. Thereafter, the Hon'ble Chairperson welcomed the representatives of the Ministry of New and Renewable Energy and Indian Renewable Energy Development Agency (IREDA) to the sitting and informed that the sitting had been called for evidence on the subject 'Financial constraints in Renewable Energy Sector'. He also informed the Committee that since CMD, PFC and CMD, REC have been granted exemption from personal appearance in the Sitting on their request, the Committee will take their evidence on the subject in the next Sitting. The Chairperson also apprised them about the provisions of Directions 55(1) and 58 of the Directions by the Speaker.

4. The Committee, *inter-alia,* deliberated upon the following points with representatives of the Ministry of New and Renewable Energy:

a) Reasons for reluctance and lack of confidence amongst the financial institutions to fund renewable energy projects;

b) Need to increase the limit of Rs. 30 crores for Renewable Power Projects under priority sector lending;

c) Issues related to heightened risk of renewable energy projects becoming NPAs in compliance of RBI's notification related to NPA and Asset Categorization;

d) Issues related to NPAs in the books of IREDA;

e) Issues related to delay in payment of dues to renewable energy developers by Discoms.

5. The Members also sought clarifications on various other issues relating to the subject and the representatives of the Ministry responded to the same. The Committee directed the representatives of Ministry of New and Renewable Energy and IREDA to furnish written replies to those queries which could not be readily responded to by them within seven days.

6. The Committee decided to take evidence of representatives of Power Finance Corporation (PFC) and Rural Electrification Corporation (REC) along with representatives of Indian Renewable Energy Development Agency (IREDA) on the subject 'Financial Constraints in Renewable Energy Sector' on 5th August, 2021.

The Committee then adjourned.

** *Not related to this Report*

ANNEXURE - VI

STANDING COMMITTEE ON ENERGY

MINUTES OF THIRTEENTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2020-21) HELD ON 5th AUGUST, 2021, IN COMMITTEE ROOM 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 1500 hrs to 1700 hrs.

LOK SABHA

Shri Rajiv Ranjan Singh alias Lalan Singh - Chairperson

2. Smt. Sajda Ahmed
3. Shri Chandra Sekhar Bellana
4. Shri Harish Dwivedi
5. Shri S. Gnanathiraviam
6. Shri Sanjay Haribhau Jadhav
7. Shri Kishan Kapoor
8. Shri Ramesh Chander Kaushik
9. Shri Prabatbhai Savabhai Patel
10. Shri N. Uttam Kumar Reddy
11. Shri Shivkumar Chanabasappa Udasi

RAJYA SABHA

12. Shri T.K.S. Elangovan
13. Shri Maharaja Sanajaoba Leishemba
14. Shri Jugalsinh Lokhandwala

SECRETARIAT

1. Shri R.C. Tiwari - Joint Secretary
2. Shri Kulmohan Singh Arora - Additional Director

WITNESSES

PUBLIC SECTOR UNDERTAKINGS

1.	Shri Pradip Kumar Das	CMD, IREDA
2.	Shri Ravinder Singh Dhillon	CMD, PFC
3.	Shri Sanjay Malhotra	CMD, REC

MINISTRY OF NEW AND RENEWABLE ENERGY

4.	Shri Dinesh Dayanand Jagdale	Joint Secretary

MINISTRY OF POWER

5.	Shri Tanmay Kumar	Joint Secretary

2. At the outset, the Hon'ble Chairperson welcomed representatives of the Indian Renewable Energy Development Agency (IREDA), Power Finance Corporation (PFC), Rural Electrification Corporation (REC), Ministry of New and Renewable Energy and Ministry of Power to the sitting and informed that the sitting had been called for evidence of IREDA, PFC and REC on the subject 'Financial constraints in Renewable Energy Sector'. The Chairperson also apprised them about the provisions of Directions 55(1) and 58 of the Directions by the Speaker.

3. During the discussion, a power-point presentation was made by CMD, IREDA on the subject which, *inter-alia,* covered NPA Status as on 31.03.2021, Reasons of NPA, Sector-wise Break-up of NPAs for last 3 financial years, Break-up of Recovery Actions for NPA Portfolio, Current Status of NCLT Cases, Movement of NPA as on 30.06.2021 (provisional), etc.

4. Another power-point presentation was made by CMD, PFC on the subject which, *inter-alia,* covered Energy Transition in last 5 years, India's Renewable Energy Mix, Loan Book, Sanctions, Non-Performing Assets, Interest Rates, Initiatives to Lower Renewable Energy Interest Rate, Renewable Energy Funding at a Glance, Recent Renewable Energy Funding, Targets for Renewable Energy Sector, Recent steps to promote Renewable Energy by REC, Measures taken by Government to Promote Renewable Energy, Constraints for Renewable Energy Development, Support required in reducing Cost of Funds, etc.

5. The Committee, *inter-alia,* deliberated upon the following points with representatives of IREDA, PFC and REC:

a) Issues related to NPAs in the books of IREDA;

b) Extent of exposure of PFC and REC to Renewable Energy Sector;

c) Extent of loan write offs made and hair-cut taken by PFC and REC in the last three years and its impact on their respective balance sheets;

d) Issues related to delay in payment of dues to renewable energy developers by Discoms;

e) Need to enforce late payment surcharge in order to solve the problem of delay in payment of dues;

f) Issues related to cancellation/renegotiation of PPAs;

g) Issues related to delay in adoption of tariffs;

h) Issues related to non-compliance of payment security instruments like Letter of Credit by Discoms;

i) Need for mechanism regarding dispute resolution between the lenders, developers and Discoms;

j) Possibility regarding implementation of renewable finance obligation on the lines of renewable purchase obligation in order to make banks and financial institutions invest a specific percentage of amount in renewable/clean energy sector.

6. Hon'ble Members also sought clarifications on various other issues relating to the subject and the representatives of IREDA, PFC and REC responded to the same. The Committee directed the representatives of all the three CPSUs to furnish written replies to those queries which could not be readily responded to by them within fifteen days.

The Committee then adjourned.

ANNEXURE – VII

STANDING COMMITTEE ON ENERGY

MINUTES OF THE SIXTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2021-22) HELD ON 22nd DECEMBER, 2021 IN ROOM No. '111', PARLIAMENT HOUSE ANNEXE EXTENSION, NEW DELHI

The Committee met from 1030 hours to 1100 hours

LOK SABHA

Shri Rajiv Ranjan Singh alias Lalan Singh - Chairperson

2. Shri Harish Dwivedi
3. Shri Kishan Kapoor
4. Shri Ramesh Chander Kaushik
5. Dr. A. Chellakumar
6. Shri Sunil Kumar Mondal
7. Shri Uttam Kumar Reddy Nalamada
8. Shri Parbatbhai Savabhai Patel
9. Shri Jai Prakash
10. Shri Dipsinh Shankarsinh Rathod
11. Shri Gnanathiraviam S.
12. Shri Shivkumar C. Udasi

RAJYA SABHA

13. Shri T.K.S. Elangovan
14. Shri Rajendra Gehlot
15. Shri Muzibulla Khan
16. Shri S. Selvaganabathy
17. Shri Sanjay Seth
18. Dr. Sudhanshu Trivedi
19. Shri K.T.S. Tulsi

SECRETARIAT

1. Shri R.C. Tiwari - Additional Secretary
2. Shri R.K. Suryanarayanan - Director
3. Shri Kulmohan Singh Arora - Additional Director

2. At the outset, the Chairperson welcomed the Members and apprised them about the agenda of the sitting. The Committee then took up for consideration and adoption the draft Report on the subject 'Financial Constraints in Renewable Energy Sector'.

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

The Committee then adjourned.