

10: SUPPORT PROGRAMMES





SUPPORT PROGRAMMES

INFORMATION AND PUBLIC AWARENESS PROGRAMME

- 10.1 The role of renewable energy has been assuming increasing significance in recent times with the growing concern for the country's energy security and environmental sustainability of energy use. In order to percolate the benefits and usage of renewable to the masses, information dissemination and publicity has to be crucial role. Information and Public Awareness (I&PA) activities has become vital for creating mass awareness. In this background, the I&PA programme for renewable are conceptualized and developed in implementation of the activities under the overall framework of the media strategy for renewable.
- 10.2 The Programme is implemented through use of existing Government channels viz. (i) Directorate of Advertising & Visual Publicity (DAVP); (ii) National Films Development Corporation (NFDC); (iii) Doordarshan; (iv) All India Radio (AIR); (v) Songs & Drama Division; (vi) State Nodal Department/Agencies for renewable; and (vii) NGOs/Academic institution etc. and participation in exhibitions of national importance by the Ministry and also through other relevant Institutions/Organization.
- 10.3 During the year, following I&PA activities were developed and implemented under the overall framework of the media strategy for renewable:-
- Radio Sponsored Programme (RSP) titles "Akshay Urja Aur Hum", having a duration of 15 minutes, on various technologies, systems and devices of renewable energy produced and broadcast in Hindi and 19 regional languages (Assamese, Bengali, Gujarati, Konkani, Kannada, Kashmiri, Khasi, Malyalam, Manipuri, Tamil, Marathi, Mizo, Nagamese, Nepali, Oriya, Pobjabi, Telugu, Urdu and Garo) from 94 Radio Stations (37 Vivid Bharati, 20 FM Rainbow, 4 FM Gold and 33 Primary Channels/Local Stations) of All India Radio through National Film Development Corporation.
 - Publicity campaign with video spot of 30 second duration " On Screen Digital Cinema Advertising Media" in 1500 cinema halls through NFDC in 33 States/UTs for two times of each spot in each show for four shows in a day for a period of 30 days.
 - Publicity campaign with video spots of 30 seconds duration each on renewable energy systems and devices has been done through different channels of Doordarshan.
 - Publishing of the Ministry's bi-monthly newsletter "Akshay Urja" continued in English and Hindi.
 - Advertisement on Solar Rooftop Systems for Delhi released in the newspapers through DAVP dated 28.01.2018.
 - In order to develop a Creative Vision and Strategy for taking forward the "Renewable Energy" campaigns of the Ministry to a new height, the Ministry has invited Request for Proposal (RFP) to appoint a Creative Agency for designing and production of the required creative and publicity material of the Ministry for the year 2017-18 to 2019-20.

PLANNING AND COORDINATION

- 10.4 The Planning and Coordination Division is responsible for overall planning and Coordination, plan & annual budgeting of schemes/programmes of the Ministry and matters related to





reforms, policy measures, fiscal concessions, etc. Its work also involves maintaining a close liaison with different Programme Divisions of the Ministry and with other concerned Ministries/ Departments/ State Nodal Agencies, etc. on a regular basis.

- 10.5 Major activities handled by the Division during 2017-18 includes preparation of background notes/write ups for Standing Committee on Energy related to the Ministry's Demand for Grants and other specific subjects selected for examination, preparation of reports/database on major achievements/ new initiatives for PMO and Cabinet Secretariat/Press Information Bureau (PIB)/ NITI Aayog, preparation of multi-sectoral inputs/state briefs for various meetings, speeches of Minister/ Secretary, replies to VIP references and other RTIs/ questionnaires and Parliament Questions involving multiple schemes/ programmes/policy issues, conveying of regular review meetings/conference with state governments/ implementing agencies, comments of the ministry on draft cabinet notes, preparation of Outcome Budget for 2017-18, Economic Survey, Action taken reports, etc.

HUMAN RESOURCES DEVELOPMENT

- 10.6 Human Resource Development (HRD) scheme of MNRE supports trainings manpower at all levels including promoting higher studies/research courses in R&D/academic institutions in renewable energy by providing fellowships to students/scholars. Support is also provided to R&D/academic institutes for up-gradation of their libraries and labs for conducting higher degree courses such as M.Sc, M.Tech, and Ph.D in new and renewable energy. A Suryamitras Training Programme was introduced in 2015 as Skill Development Programme to create trained workforce for installation, commissioning and operation and maintenance of solar projects.
- 10.7 The following are various components of HRD scheme:
- i) Support to educational and other organizations for conducting short-term trainings on various aspects of renewable energy with focus on skill development at all levels.
 - ii) Fellowships
 - a. National Renewable Energy Fellowship Scheme for pursuing M.Sc./M.Tech/ Ph.D/ PDF degree courses.
 - b. National Solar Science Fellowship Scheme for eminent scientists working in research institutes with an innovative idea in solar energy.
 - iii) Support to higher educational institutions for lab and library upgradation.
 - iv) Suryamitra Skill development Programme
 - v) Development of course/ study materials through experts/expert institutions

National Renewable Energy Fellowship Programme

- 10.8 Ministry continued its support to students/scholars for pursuing higher studies such as M.Sc, M.Tech, Ph.D, PDF courses in renewable energy in 16 no. of select educational institutions by way of providing fellowships/stipend under National Renewable Energy Fellowship Scheme. National Solar Science Fellowship is awarded to eminent scientists working in research institutes with an innovative idea in solar energy. So far out of 140 fellowships awarded by MNRE for Ph.D, 80 fellows have been awarded Ph.D degree, which includes 18 fellows who got Ph.D degree in 2017-18, 11 students got M.Tech degree, 10 students got M.Sc degree in 2017-18. These fellows/students have published 540 research papers in the national and international journals





of repute, besides presenting 156 papers in seminars. Three patents were also filed. The list of supported institutes are given in Table below: -

Institutions Allotted

Sl. No.	Institutions allotted Fellowships for M. Sc, M.Tech, Ph.D, PDF and NSSF.
1	Indian Institute of Technology, Delhi
2	Indian Institute of Technology, Roorkee
3	Indian Institute of Technology, Delhi
4	Malaviya National Institute of Technology, Jaipur
5	Anna University, Tamilnadu
6.	Indian Institute of Technology, Roorkee
7.	Pune University, Pune, Maharashtra.
8.	Pondicherry University, Pondicherry.
9.	Tamil Nadu Agriculture University, Tamilnadu.
10.	Shri Mata Vaishno Devi University Katra, J&K.
11.	Jadavpur University, Kolkata
12.	Cochin University of Science and Technology, Cochin
13.	Indian Institute of Engineering Science & Technology, Shipbur , West Bengal.
14.	Gandhigram Rural Institute deemed University, Tamilnadu
15.	University of Lucknow, Lucknow.
16.	National Physical Laboratory(NPL), CSIR, New Delhi

- 10.9 As part of the National Solar Science Fellows (NSSF), Dr.Aldrin Antony, fellow completed the fellowship tenure in the current year. His work is mainly focussed on the thin film silicon solar cells and a new task of silicon hetero junction solar cells has been introduced and fabricated a novel PECVD -Sputter system for the fabrication of silicon hetero junction solar cells. Three Solar Science fellows who were awarded National Solar Science Fellowship have filed four patents and one is under process for filing.

Enhancement of Library and Labs

- 10.10 The Ministry supported two institutions, namely, Pandit Deendayal Petroleum University, Gandhi Nagar and Tejpur University, Assam in the current year for up-gradation of their laboratory and library facilities.

Trainings

- 10.11 The Ministry continued supported five institutes for conducting short term training programmes with varied levels and target groups. Training of Women for Solar Systems (10 courses covering 233 women) was done by Barefoot College, Tilonia, Solar energy technicians program and RE Law & Management programmes at Centre for Sustainable Development (CSD), Bangalore, Solar energy technicians as well as RE awareness programmes (80 training programmes under 6 training courses MLAs, MLCs, CEOs, Engineers, ZP, TP, GP elected representatives)





at Mahatma Gandhi Institute of Rural Energy Development(MGIRED), Bangalore, Certificate Course on Solar Energy at The Gandhi Gram Rural Institute of Higher education , Tamil Nadu and Operators Training programme (53 no.) at Cogeneration Association of India, Pune. In the current Year, Central Electronics Limited, Ghaziabad completed its 6th six month training programme in solar PV Installation in the present year supported by the Ministry.



Solar Mama' repairing a controller trained by Barefoot College



Rural women busy with circuits during training programme conducted by Barefoot college.

Suryamitra Training

- 10.12 Suryamitra Training are being organized through 177 training centres \ organisation in different states across the country. 11,013 no. of Suryamitras have been trained up to 31st March, 2017. During the current year, 2208 Suramitras are trained and 2974 Nos. are undergoing training by 31.12.2017 against the 10000 target of 2017-18. 2208 Suramitras are trained and 2974 Nos. are undergoing training by 31.12.2017 against the 10000 target of 2017-18.

ADMINISTRATION – e-Governance, Vigilance, Library, Right to Information

E-GOVERNANCE

- 10.13 National Informatics Centre (NIC) is a premier S&T institute of the Government of India, working as an active catalyst and facilitator in "Informatics-led-development" programme of the government for providing e-Government / e-Government Solutions adopting best practices, integrated services and Global solutions in Government sector.





Mobile App – ARUN – Atal Rooftop solar User Navigator

- 10.14 National Informatics Centre has developed a mobile application namely ARUN, “ARUN - Atal Rooftop solar User Navigator” for promoting Solar Rooftop installations among the general public.
- 10.15 ARUN will enable residential and non – residential consumers to understand the basics, state specific framework & knowhow of the Rooftop Solar implementation.
- 10.16 It brings all Rooftop Solar Information, Schemes and Policies of MNRE and States at a simple readily accessible platform where the user can also place the installation request to cater his requirement. It will also provide up to date circulars / notifications published by MNRE related to solar rooftop.

Highlights of the “ARUN”

- 10.17 The following are highlights of mobile application ARUN :
- Provides basic knowledge and guidelines on how to install Rooftop Solar System;
 - Enables user to carry-out preliminary assessment using basic details like available rooftop area, capacity required or budget available, using the Rooftop Solar Calculator;
 - Accepts online interest application through a simple Installation Request Form;
 - Summary of Schemes, Regulations & Policies applicable in each State/UT;
 - One tap voice call feature for contact numbers of State Nodal Agencies & Channel Partners;
 - Frequently Asked Questions clear almost all doubts about solar rooftop installation;
 - Circulars / notifications issued from MNRE will be viewed instantly.

Provision to submit feedback & suggestions to MNRE.

- 10.18 The Android version of the mobile application was launched on 24th January 2017.
- 10.19 In-order to create awareness and provide easy access to information for the installation of Rooftop Solar Systems in the country, Ministry of New and Renewable Energy, has introduced a mobile application “ARUN - Atal Rooftop solar User Navigator”, developed by the National Informatics Centre. The mobile application was launched on 24th January 2017.
- 10.20 iOS version of the ARUN was launched on 24/03/2017. Now the ARUN is available both in English and Hindi languages in both platform. It can be downloaded from the corresponding stores or by clicking the links, Android <https://goo.gl/hX3Xxj> and for iOS <https://goo.gl/zHKydB>.

On Line Application for Small Hydro Project

- 10.21 An online application for monitoring Small Hydro Projects is under implementation. Through this application developer can register the in MNRE and submit the DPR (Detailed Project Report). This application will monitor right from submission of DPR to the completion of projects. There are different schemes and each scheme is to be completed before 4 years. There can be delay in the completion of projects. This portal will monitor the status of all projects and





the disbursement of subsidy to the developers. It is also integrated with NGO DARPAN portal in the sense that before disbursement of subsidy it will ensure that the NGO should register in the Darpan Portal. Once this portal become live then MNRE is able to monitor each and every project through the application and easy to answer different queries from Parliament, RTI etc. As the project completion period is 4 years it will be easy for MNRE to find the exact status of each projects at any point of time

Ministry Website: (<http://mnre.gov.in>)

(G-2-C) Application

- 10.22 Ministry of New and Renewable Energy (MNRE) website was designed in-house using latest ICT tools. Website contains the information such as, Schemes/Programmes of the ministry, List of manufacturers/industries of Solar Water Heater System, SPV, Major achievements, Grid interactive & off grid / distributed renewable power project, Research, Design and Technology development (R&D) notifications, Results framework Documents, Citizen Charter , List of MOUs signed between India and other countries for cooperation in New and Renewable Energy Press releases, Tenders & Advertisements, Akshay Urja bimonthly newsletter, Solar Thermal Newsletter, important events/developments etc. Website is regularly enriched by adding the new features and is being maintained by NIC.

Expenditure Management System

- 10.23 An online application for monitoring the progressive financial concurrences and the expenditure by all the divisions has been designed, developed and implemented. The digitization of the concurrence data along-with other relevant information cater to the needs of the divisions by way of keeping tab on financial sanctions /Releases in a quick and efficient manner. It also simplifies the process of retrieval of data pertaining to financial issues.
- 10.24 This application helps in monitoring the pace of expenditure of all the division.
- Division can view the concurrence on a real-time basis.
 - Substitute as central repository for expenditure register maintained by each division individually.
 - Provides online access to concurrence/expenditure summary report.
 - Pinpoints the Division/Schemes/Files where releases are not affected despite concurrence by IFD.

E-office:

- 10.25 It is a web-based system implemented and maintained for effective online monitoring of movement of files and receipt in the ministry. NIC's e-Office product is based on an Open Architecture Framework that contains the required flexibility for scaling and meeting the dynamic needs of the Government. Features such as the workflow and rule based file routing, role based access mechanism, central repository of documents, electronic file movement and online forms helps to create a near-paperless office. Information sharing between systems leads to effective decision making. In-house training has been provided to ministry officials time to time as per their requirement. E-office is fully implemented in the ministry.





Project Monitoring Through Video Conferencing Facility

- 10.26 A studio based video conferencing (VC) system has been implemented in the ministry. VC is actively used in the ministry for monitoring different renewable programmes of the ministry with all State Nodal Agencies, Developers and Manufactures by Secretary, Joint Secretary, Advisor and Directors of the ministry. This year we have conducted many national and international video conferences.

PRAGATI (Pro-Active Governance And Timely Implementation):

- 10.27 Prime Minister is reviewing the projects through video conferencing on every 4th Wednesday. Ministry participated all the programmes through video conferencing. It is being attended by the Secretary, Additional Secretary, Joint Secretaries and other Senior Officers of the Ministry.

VIGILANCE

- 10.28 The Vigilance Division of the Ministry of New and Renewable Energy (MNRE) is entrusted with taking anti-corruption measures in accordance with various rules, guidelines and instructions issued by the Government of India and the Central Vigilance Commission. The Vigilance wing of the Ministry looks after such activities within the Ministry and its three autonomous bodies, namely National Institute of Solar Energy (NISE), National Institute of Wind Energy (NIWE) and National Institute of Bio Energy (NIBE) as also for the Board Level Officers of its two Public Sector Undertakings namely Solar Energy Corporation of India (SECI) and Indian Renewable Energy Development Agency (IREDA) in its functioning. The Division is entrusted with upkeep of Annual Performance Appraisal Reports (APARs) and Immovable Property Returns (IPRs) of officials of the Ministry.
- 10.29 During the year 2017, 22 complaints were received out of which 8 are pending for which action is being taken
- 10.30 The Vigilance Awareness Week was observed in the Ministry from 30th October, 2017 to 4th November, 2017. Following activities were undertaken as part of Vigilance Awareness Week:
- Administering the Integrity Pledge to all the staff and officers by the Additional Secretary in MNRE on 30.11.2017 at 11AM.
 - Expert lecture by Ex Faculty member of ISTM on vigilance matters and importance of FR 56 (j) for the Ministry officials.
 - Essay competition for the officials of the Ministry was organized on “**Corruption in India-whom to Blame**”.
 - Slogans on curbing corruption and preventive vigilance with banners were placed in premises of the Ministry.
- 10.31 As part of preventive vigilance, a list of sensitive and non-sensitive posts of the Ministry has been prepared and Administration Division of the Ministry has been requested to follow the rotation policy in postings. In addition, e-tendering and developing standards for procurements were also emphasized.





- 10.32 Probity related matters on e-portal was uploaded in respect of this Ministry and its Autonomous Organisations and vigilance related information in respect of Board Level Officers is being updated monthly on e-portal SOLVE.

LIBRARY

- 10.33 The Library of the Ministry of New and Renewable Energy acts as a reference centre and knowledge house in the field of renewable energy. At present about 15230 books (including gifted books) are available in the library covering very diverse areas including the subjects such as Renewable Energy, Climate Change, Natural Sciences, Sustainable Development, History, Sociology, Indian Literature, Computer Science, etc. In addition to these books, about 17 Administrative books have been added in the Library. The collection in the library also includes books of general interest like food, cookery, sculpture, painting, mountaineering etc.
- 10.34 The Library Committee constituted in the Ministry scrutinizes and recommends the books for procurement by the library.
- 10.35 The library is currently subscribing to 41 periodicals in Hindi and English languages. Besides, as per requirement, a total number of 24 newspapers in Hindi and English languages are also being subscribed by the library.

RIGHT TO INFORMATION ACT

- 10.36 The Ministry is implementing the Right to Information (RTI) Act, 2005 as per the laid down guidelines of Department of Personnel and Training (DoPT), Central Information Commission and Ministry of Home Affairs. The Procedure / other details regarding seeking information under RTI Act 2005 are available at the MNRE website www.mnre.gov.in.
- 10.37 The Ministry has designated Central Public Information Officer (CPIO) and First Appellate Authorities (FAA) to respond the RTI applications and first Appeals in accordance with subjects assigned to them.
- 10.38 The progress report in terms of RTI applications/First Appeals received, disposed-off as well as pendency during the period (01.01.2017 – 31.12.2017) is given below.

(Figures in Numbers)

Item	Received	Disposed off	Pending as on 31.12.2017
RTI Applications	1054	1027	27
First Appeals	252	249	03





List of Designated Central Public Information Officers (CPIOs) and First Appellate Authorities based on re-allocation of Work (As on 11/01/2018)

Sl. No.	Subject	CPIO	First Appellate Authority
1	Climate Change related initiatives including Clean Development Mechanism (CDM), Renewable Purchase Obligations (RPO) related issues, REC Policy, INSPA, NCEF, Hydrogen, Fuel Cell and IREP, Electrical Vehicle and National Board of Electric Mobility, New Technology, Specific references of Information & Public Awareness and Renewable Energy Policy and Regulations.	Shri Dipesh Pherwani, Scientist 'B'	Dr. P.C. Maithani, Scientist 'G'
2	Planning and Coordination, IREDA	Shri Anubhav Uppal Scientist 'B'	Dr. Pankaj Saxena, Scientist 'F'
3	Setting up of New Institutions of RE University RE Museum & National New Energy Centre, EAP for women's sustainable Energy Entrepreneurship with UN women and UNEP, Gridinteractive policy UNDP/GEF project on barriers to Biomass powergeneration , Grid Interactive Policy	Shri Vijay Kumar Bharti, Scientist 'B'	Shri. V. K. Jain, Scientist 'G'
4	Waste to Energy	ShriVijay Kumar Bharti, Scientist 'B'	Dr. D. K Khare, Scientist 'F'
5	Greening of Islands, Swedish Energy Agency, Andaman Projects	Shri Vijay Kumar Bharti, Scientist 'B'	Shri Ruchin Gupta, DS
6	Solar Scheme for Farmers, Green Energy Corridor , Geothermal, Ocean /Tidal,	Shri Rohit Thakwani, Scientist 'B'	Shri Girish Kumar, Scientist 'E'
7	Solar Thermal Group- Solar Concentrator and Solar Cookers	Shri Aravindh MA, Scientist 'B'	Dr. R.P. Goswami, Scientist 'F'
8	Biogas Power , National Biogas Programme, Biogas Training Centres and Biogas R&D	Shri S.R. Meena, Scientist 'C'	Shri G. L. Meena, Scientist 'G'
9	HRD & Training including ITEC Innovation Centre, R& D Coordination ,Lab Policy, Standards & Quality Control	Ms.Vasantha V. Thakur, Scientist 'D'	Dr. B. S. Negi, Scientist 'G'
10	Off-Grid Solar, Agri Pump Scheme, Street Light , Home Light	Shri Shobhit Srivastava, Scientist 'C'	Shri Jeevan Kumar Jethani, Scientist 'E'
11	Small Hydro Projects (Private Sector) Watermills, Small Hydro Projects (Government Sector) of Uttarakhand, North East Watermills, Mini -Micro Hydel	Shri S. K Shahi, Scientist 'C'	Dr. P. C. Pant, Scientist 'F'





12	VGF Scheme, GBI	Shri Neeraj Kumar, Scientist 'C'	Shri B.L Ram, Scientist "G"
13	Energy Storage, E-Mobility and International Solar Alliance and Specific references of Renewable Energy Policy and Regulations	Shri Tarun Singh Scientist 'C'	Dr. P.C. Maithani, Scientist "G"
14	Solar Rooftop	Shri Hiren Borah, Scientist 'C'	Shri Jeevan Kumar Jethani, Scientist 'E'
15	Small Wind Energy, Off – Shore Wind, Wind Resources Assessment, Fiscal Incentive (CCDC and EDEC) (Concessional Custom Duty Certificate, Excise Duty Exemption Certificate) in respect of Wind Energy	Shri P.K Dash Scientist 'C'	Shri G Upadhyay Scientist 'F'
16	Wind Energy, Wind RPO (Renewable Purchase Obligations), REC (Renewable Energy Certificate), NIWE	Shri A. Hari Bhaskaran, Scientist 'C'	Shri G Upadhyay Scientist 'F'
17	Solar (R&D), (ST&SPV), Solar Water Heater, Solar Thermal Group – Flat Plate/ Evacuated Tube Collector / Non concentrating Collector Systems – Air Heaters, driers, direct cooking system and All issues relating to Application relating to Regional Testing Centre,	Shri Anil Kumar, Scientist 'C'	Shri I.P Singh, Scientist 'F'
18	NTPC Building Scheme, Solar Manufacturing Scheme , Nodal Officer to handle areas like Industrial Cluster, Industrial Diesel Replacement, Installations, along with the R.E Coordination Work with Ministry of Railways, Food Processing and Petroleum,	Shri Sanjay Karandhar, Scientist 'C'	Shri B.K. Bhatt, Scientist 'G'
19	CCDC Solar Power	Shri Arun Kumar, Scientist "C"	Shri Anand Narvane, Scientist 'E'
20	Solar City Programme Green Building	Shri Arun Kumar, Scientist "C"	Shri B.K Bhatt, Scientist 'G'
21	Biomass Cookstove, SSS-NIBE,	Dr. Preeti Kaur, Scientist 'D'	Dr. D.K. Khare, Scientist 'F'
22	Organization of RE – Invest	Dr. P.C. Pant, Scientist 'F'	Shri Bhanu Pratap Yadav, JS
23	Biomass gasifier based Energy Projects for rural area, industry including grid connected,	Dr. D.K. Khare, Scientist 'F'	Shri A.N Sharan, JS
24	DBT Cell	Shri Sohail Akhtar, Scientist 'G'	Shri Bhanu Pratap Yadav, JS





25	NIC Matters, Work related to Dashboard and E-office.	Shri S.K Jagawani Scientist 'F'	Shri Bhanu Pratap Yadav, JS
26	GST related to Biogas	Shri S.R Meena, Scientist 'C'	Shri Ruchin Gupta, DS
27	GST related to Wind CDC/EDE	Shri P.K Dash, Scientist 'C'	Shri Ruchin Gupta, DS
28	GST related to Soldar CDC/EDE	Shri Arun Kumar, Scientist 'C'	Shri Ruchin Gupta, DS
29	GST related to Grid Silar	Shri Sanjay Karandhar, Scientist 'C'	Shri Ruchin Gupta, DS
30	GST related to Off Grid Solar	Shri Shobhit Srivastava, Scientist 'C'	Shri Ruchin Gupta, DS
31	GST related to Biomass	Ms.Priya, Scientist 'B'	Shri Ruchin Gupta, DS
32	Biomass Power Schemes and Policies, Bio Energy Mission	Shri S. K Khurana, US	Dr. G. Prasad, Scientist 'F'
33	Seminar & Symposia	Raghunath, US	Ms.Alka Joshi, DS
34	I & PA	Raghunath, US	Dr. P.C. Maithani, Scientist 'G'
35	Vigilance	Ms. Sunita Dhewal, US	Shri Ruchin Gupta, DS
36	National Solar Mission, , Solar RPO (Renewable Purchase Obligations), REC (Renewable Energy Certificate), Solar Park, Defence Schemes,	Shri Devendra Singh, US	Shri Dilip Nigam, Scientist 'G'
37	Guidelines & SBDs, CPSU Scheme, Grid Connected PV & ST-1 Canal Top Solar Project, NISE, SECI	Shri Devendra Singh, USUS	Shri Ruchin Gupta, DS
38	International Relations (IR)	Shri Sachin Tulsi, US	Dr. D.K Khare, Scientist 'F'
39	O/o Minister of State (IC), NRE	Shri Sachin Tulsi, US	Shri A.N Sharan, JS
40	Parliament Work,	Shri A.K. Singh, US	Dr.Pankaj Saxena, Scientist 'F'
41	Public Grievances	Shri A.K. Singh, US	Ms. Alka Joshi, DS
42	Administration	Shri Arvind Pokhriyal, US	Dr. G Prasad, Scientist 'F'
43	Integrated Finance Division (IFD)	Shri K.G Suresh Kumar, US	Ms. Gargi Kaul JS & FA
44	SADP, AkshayUrja Shop, RTI, Hindi, Library	Ms.Alka Joshi, DS	Ms. Sutapa Majumdar, EA
45	PAO, Budget	Shri Kedar Nath Sr. AO	Shri Sanjay Pandey, Controller of Accounts



11: INTERNATIONAL RENEWABLE ENERGY CO-OPERATION





INTERNATIONAL RENEWABLE ENERGY CO-OPERATION

- 11.1 The Ministry of New and Renewable Energy has been interacting with both developed and developing countries for cooperation in the field of Renewable Energy with the following objectives:
- Learn and adapt technological advancements and best practices in policy and implementation from advanced countries; and
 - Share and exchange knowledge and expertise of Indian Policy Planners, scientists, Implementers and Business community in the renewable energy with counterparts in foreign countries and establishing institutional linkages between institutions of India and other countries through bilateral/multilateral cooperation framework.
- 11.2 During the year 2017-18, the Ministry took various initiatives to promote cooperation with other countries in the field of renewable energy. Memoranda of Understanding (MoUs)/Programme of Cooperation (POC) / Agreements / Letter of Intent (LoI) etc. were signed and Bilateral / Multilateral Meetings / Joint Working Group Meetings were convened and participated by MNRE. Visits at the level of Hon'ble Minister and senior officers were undertaken for the purpose of Bilateral/Multilateral meetings, signing of MoUs etc. as per following details:

Signing of Memorandum of Understanding / Letter of Intent / Agreements etc.

- 11.3 Presently, there are 53 Memoranda of Understanding (MoUs)/Agreements /Letter of Intent (LoI) in Renewable Energy Sector with 38 countries. The Joint Working Groups (JWG) were set up to oversee identification, selection and formulation of joint activities for implementation. Interaction with such other countries is also done through Joint Commissions / Joint Committees / Joint Working Groups of other Ministries like Ministry of External Affairs, Ministry of Environment & Forests, Ministry of Commerce & Industry and Ministry of Power etc. Mutually agreed projects and activities for cooperation are also established with many countries at bilateral level even though no specific MoU has been signed with them. In addition, India has been collaborating under various multilateral / trilateral cooperation frameworks like South Asian Association for Regional Cooperation (SAARC), Association of South-East Asian Nations (ASEAN), Brazil-Russia-India-China-South Africa (BRICS), India-Brazil-South Africa (IBSA) etc.
- 11.4 The Ministry gets support from various international / multinational funding agencies, like World Bank, New Development Bank, KfW, African Development Bank (AfDB), United Nations Development Programme (UNDP), Asian Development Bank (ADB), United Nations Industrial Development Organization (UNIDO), GIZ and Global Environment Facility (GEF), who are providing project based assistance for renewable energy projects in India.
- 11.5 The Ministry also provides support for specialized training programmes in African and other developing countries involving National Institute of Solar Energy (NISE). International Training programmes are conducted in the fields of Solar Energy, Wind Energy, Small Hydro Power & Biomass at Indian apex institutes, viz., National Institute of Solar Energy (NISE), Gurgaon, National Institute of Wind Energy, Chennai, Alternative Hydro Electric Centre (AHEC), IIT, Roorkee and Indian Institute of Science (IISc), Bangalore under ITEC programme of Government of India.





- 11.6 During the year, 5 Memoranda of Understandings (MoUs) were signed. The details are as under:
- A Memorandum of Understanding (MoU) was signed between the Ministry of New and Renewable Energy, Government of Republic of India and the Ministry of Economy of the Portuguese Republic on 6th January, 2017 at New Delhi, India.
 - A Memorandum of Understanding (MoU) was signed between the Ministry of New and Renewable Energy of the Republic of India and the Ministry of Energy, Tourism and Digital Agenda of the Kingdom of Spain in the field of Renewable Energy signed at Madrid on 30th May, 2017.
 - A Memorandum of Understanding (MoU) was signed between the Ministry of New and Renewable Energy, Government of Republic of India and the Ministry of Environment of the Italian Republic on 30th October, 2017.
 - A Memorandum of Understanding (MoU) was signed between the Ministry of New and Renewable Energy, Government of Republic of India and Ministry of Infrastructure and transport of the Government of the republic of Fiji on 24th May, 2017.
 - A Memorandum of Understanding (MoU) was signed between the Ministry of New and Renewable Energy, Government of Republic of India and Ministry of Environment and Energy of the Hellenic Republic on 27th Nov, 2017.
- 11.7 During 2017-18, following meetings were held as a part of bilateral/multilateral cooperation, in the Renewable Energy sector:
- (i) India – UK Joint Working Group Meeting held on 8th February, 2017 in New Delhi via Video Conference.
 - (ii) 1st Joint Working Group (JWG) meeting between India and Myanmar was held on 21st March, 2017 in Ministry of New and Renewable Energy, New Delhi.
 - (iii) US-India energy Dialogue-New Technology and Renewable Working Group (NTRE) Meeting held on 18th April, 2017 through DVC in Ministry of New and Renewable, New Delhi.
 - (iv) 1st Joint Working Group (JWG) meeting between India and Indonesia was held on 20th April, 2017 in Ministry of New and Renewable Energy, New Delhi.
 - (v) Project Steering Committee meeting for EU – India “Energy” and “Ecocities” projects meeting held on 20th April, 2017 in Ministry of New and Renewable Energy, New Delhi.
 - (vi) 2nd Joint Working Group (JWG) Meeting between India and Belgium through digital video conference (DVC) in the field of Renewable Energy on 22nd June 2017 in New Delhi.
 - (vii) India and Belarus JWG meeting held through DVC on 24th August, 2017, in MNRE, New Delhi.
 - (viii) Technical Assistance (TA) programmes/projects of UNDP meeting held on 2nd May, 2017 in Ministry of New and Renewable Energy, New Delhi.
 - (ix) Meeting of Mr. Nick Bridge, UK Foreign Minister’s Climate Envoy with Secretary MNRE on 1st September, 2017, New Delhi.
 - (x) India-Indonesia Parliamentary Friendship Group meeting with the Hon’ble Minister, for Power and NRE on 26th September, 2017 New Delhi.





- 11.8 In order to keep the Ministry abreast of the latest developments, bilateral discussions in the Renewable Energy sector Ministry officials participated in the following events :-
- (i) 18th Session of India- Finland JEC and the 9th Session of India-Slovak JEC in Slovak from 19-21 April, 2017. During the meeting, discussions were held on the further development of bilateral economic and business cooperation, especially in the auto, energy and tourism sectors.
 - (ii) 46th Session of the Subsidiary Body for Implementation (SBI 46) and subsidiary body for scientific and technology Advice (SBSTA 46) and 3rd part of the first session of the Ad-hoc working Group on the Paris Agreement (APA 1-3) in Bonn, Germany as a part of delegation from Ministry of Environment Forests & Climate Change from 8-18 May, 2017.
 - (iii) 73rd Annual Session of UN Economic and Social Commission for Asia and the Pacific (UNESCAP) from 15-19 May, 2017, as a part of delegation led by Hon'ble Minister of State (I/C), Ministry of Commerce & Industry on Regional cooperation for sustainable energy.
 - (iv) 13th International Renewable Energy Agency (IRENA) Council meeting and other related meetings in Abu Dhabi, UAE from 22-25 May, 2017..
 - (v) 4th India-Germany Inter-Governmental Consultations (IGC) from 31st May-1st June, 2017 wherein 12 cooperation documents in various sectors were signed.
 - (vi) 10th meeting of Asia Solar Energy Forum (ASEF) and Asia Clean Energy Forum (ACEF) from 5-8 June 2017 .
 - (vii) Meeting of Mission Innovation, Clean energy Mission-8 and BRICS in Beijing, China from 5th-9th June, 2017 as part of delegation led by Hon'ble Minister of Science and Technology and Earth Sciences, Govt. of India.
 - (viii) 1st Joint Steering Committee in Naypyitaw, Myanmar on 16th June, 2017.
 - (ix) Study Mission organized under the aegis of the European Union (EU) Technical Cooperation for Environment in India Project, to Sweden and Germany from 17th to 24th June, 2017.
 - (x) Study of the Energy needs of Mauritius by a technical team including MNRE representative from 26-28th July, 2017.
 - (xi) SPI Expo, NREL and High Level India-US Clean Energy Finance Task Force Meeting and other related events in USA from 12-15 September 2017.
 - (xii) Market Opening Ceremony of Masala Green bonds in London Stock Exchange, London, United Kingdom and discussion with potential investors in RE Sector like Light House & with Energy Efficiency Services Ltd. On 29th September, 2017.
 - (xiii) India-UK Steering Committee meeting and Indo-UK Energy Dialogue and other related visits/meetings to London, UK from 25-27 October, 2017.
 - (xiv) 23rd Session of the Conference of the Parties (COP-23) under United Nations framework Convention on Climate Change (UNFCCC) from 13-16 November, 2017 in Germany.
- 11.9 Following International events were organized by Ministry of New and Renewable Energy during 2017-18:
- (i) Signing of agreement between Ministry of New and Renewable Energy (MNRE) and Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ), on Indo German Energy





An Agreement was signed between India-Germany on Indo German Energy Program-Green Energy Corridors (IGEN-GEC)

Program-Green Energy Corridors (IGEN-GEC) on 28th August, 2017 in Shram Shakti Bhawan, New Delhi.

- (ii) Signing of agreement on the US-India Clean Energy Finance Facility (USICEF) between Shri K.S.Popli, Chairman & MD, Indian Renewable Energy Development Agency (IREDA) and Shri Gireesh Shrimali, Director, Climate Policy Initiative (CPI) on 15th September, 2017.



Agreement Signing of US-India Clean Energy Finance Facility (USICEF) between IREDA & CPI





- (iii) Signing of 4th Addendum to the Implementation Agreement between Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ) and Ministry of New and Renewable Energy (MNRE) on Commercialization of Solar Energy in Urban and Industrial Areas (ComSolar) on 21.11.2017.
- (iv) Signing of Supplementary Agreement on Indo-German Energy Programme-Access to Energy in Rural Areas (IGEN-ACCESS) on 21st November, 2017.

EXTERNALLY AIDED PROJECTS

11.10 Following Externally Aided Projects are being implemented in the Ministry:

- a) UNDP/GEF assisted Project on “Scale Up of Access to Clean Energy for Rural Productive Uses”;
- b) DFID assisted Project on Energy Access Policy Fund (EAPF);
- c) GIZ assisted Project on “Green Energy Corridor (GEC), Integration of Renewable Energies (I-RE) and Access to Energy in Rural Areas (ACCESS);
- d) US assisted project on “Promoting Energy Access through Clean Energy” (“PEACE”), Partnership to Advance Clean Energy (PACE) and US India Clean Energy Finance (USICEF)

11.11 A brief write up on each Project is as under:-

- A) **UNDP/GEF assisted Project on “Scale up of Access to Clean Energy for Rural Productive Uses”:**

Project Brief

11.12 The key objective of the Project is to enhance the use of clean energy for rural productive uses/livelihoods in un-served and under-served areas in the selected districts of the three states Assam, Madhya Pradesh and Odisha for strengthening livelihoods, improving income generation and reducing usage of fossil fuel. The major deliverables of the Project are (i) Development and Deployment of key Renewable Energy Technology Packages for Rural Livelihoods (RETPRLs), (ii) Development of the Supply Chain for RE Technology and Service Providers to enhance Rural Livelihoods, (iii) Providing Support in development of Policy and Regulatory Support for RE - Rural Livelihoods Applications, and (iv) Assessing and Improving effectiveness of Financial Support Models for Decentralised RE – Rural Livelihoods Applications. The livelihood sectors identified for support under the Project are - horticulture, dairy, poultry, fisheries, handicrafts (bamboo/weaving) and other rural micro enterprises. The UNDP/GEF contribution for the project is USD 4.80 million whereas GOI/MNRE contribution is USD 10.0 million and the duration of the Project is 5 years with effect from August, 2015.

11.13 Physical Progress during 2017-18

- a. The workshops were organized to create awareness about the Project and the RETPRLs and also to develop proposals which were to be received against RFP which were later uploaded on MNRE and SNAs’ website. About 800 Stakeholders including Prospective Beneficiaries, NGOs, State Govt. Officials, and Academicians etc. participated in the workshops.
- b. Technical Specifications and Benchmark Costs for 10 RETPRLs were finalized and approved through a Secretary approved committee.





- c. Proposals for implementation of Solar Micro Pumps in Assam and MP have been received from AEDA & MPUVN respectively whereas proposal from OREDA for implementation solar pumps projects is expected to be received soon.
- d. RFP was floated inviting proposals from Rural Entrepreneurs. A total of 22 proposals were received out of which 5 proposals (3 from Odisha, 1 each in Assam and MP) were shortlisted after initial screening. The Proposals are not processed further as the agencies who were shortlisted are found to be not capable of delivering on deliverables after further inspection.
- e. Workshops have been organized to create awareness about RETPRLs amongst Officials of State Govt./RRBs/ Academicians etc. Also Compendium, Audio-Visuals on RETPRLs are being developed and are under Final Stages of Completion and actions on developing a Project website is also under process.

B) DFID Assisted Project on Energy Access Policy Fund (EAPF):

Project Brief

11.14 The key objective of the project is to support development of Energy Access Policy Framework and Financing Instruments for Off-grid solutions. As per DPR approved by DEA, 50% of the total DFID technical assistance is to be utilized for setting up pilot projects or for supplying of RE products in rural areas of 2 States – Odisha and Jharkhand. GoI/MNRE's contribution is for implementation of pilot projects in the field.

C) GIZ assisted Project on "Green Energy Corridor (GEC), Integration of Renewable Energies (I-RE) and Access to Energy in Rural Areas (ACCESS);

Indo-German Energy Programme - Green Energy Corridor (GEC) Project

Project Brief

11.15 The main objective of this programme component is to improve the sector framework and conditions for grid integration of renewable energies. The programme component supports directly the implementation of the Green Energy Corridors scheme of the Government of India, which is a prerequisite for large scale integration of renewable energy to achieve the 175 GW target of the Government of India for renewable energy generation capacity by 2022.

Indo-German Energy Programme- Access to Energy in Rural Areas (ACCESS) Project

Project Brief

11.16 The main objective of this Project is to improve the sector environment for Rural Energy Enterprises. Other project objectives are;

- a. At least 75% of rural energy enterprises supported by the project directly or indirectly confirm that the business conditions (e.g. business models, training programmes, financing, public support programmes, market intelligence) have improved significantly during the programme period.





- b. Twenty rural energy enterprises – 6 of which are managed by women – have been trained by programme partners and have developed business plans which addresses 25,000 households.
- c. Two additional financial instruments which provide loans to 10,000 rural households are available on National or State level.
- d. Four National or State level programmes or regulations to support access to energy whose development has been supported by the programme are adopted.

Indo-German Energy Programme- Integration of Renewable Energies (I-RE) Project

Project Brief

- 11.17 The objective of the project is to support the Government of India in achieving its objectives of promoting renewable energy with focus on achieving the target of 175 GW of installed renewable energy capacity by 2022. Specifically, the project will attempt to:
- a.) Support the Ministry of New and Renewable Energy (MNRE) in developing a long-term renewable energy based electricity sector “vision” for India.
 - b.) Support integration of renewable energies and, specifically, rooftop photovoltaic plants into the distribution grid at low and medium voltage levels.
 - D) **US assisted project on Promoting Energy Access through Clean Energy (PEACE), Partnership to Advance Clean Energy (PACE), PACEsetter and US India Clean Energy Finance (USICEF).**

Project Brief- PEACE

- 11.18 In September 2013, the Governments of the United States (USG) and India (GOI) announced the launch of a new initiative “Promoting Energy Access through Clean Energy (PEACE)”. The objective of PEACE is to support four key elements to improve energy access: 1) sharing best practices; 2) developing new approaches to increase financing for clean energy access; 3) technology innovation; and 4) building technical capacity of stakeholders.

Project Brief- PACE

- 11.19 Launched in 2009, it combines the effort of several government and nongovernment stakeholders on both the US and Indian side and includes three key components i.e. research (PACE-R), deployment (PACE-D) and off-grid energy access (PEACE), to work on range of issues related to energy security, clean energy and climate change by supporting research and deployment of clean energy technologies and policies. Seven US government agencies in PACE are , department of energy, department of state, department of commerce, USAID, overseas private investment corporation, export-import bank of the united states, US trade and development agencies.





Project Brief- PAC Esetter

- 11.20 This was launched as per the approval of Cabinet. It supports accelerating commercialization of innovative off grid clean energy access solutions by providing early stage grant funding. India and United States have each committed to contribute approx. Rs. 25 crores to improve the viability of Off-Grid RE businesses. Steering Committee is co-chaired by Secretary, MNRE and Ambassador of USA to India.

Project Brief- USICEF

- 11.21 The objective of USICEF is to address the early-stage project preparation needs of distributed clean energy projects. USICEF will target mini-grid, distributed rooftop and off-grid solar projects, as well as smaller-scale grid connected solar projects throughout India. USICEF will support project preparation activities, which may include engineering costs, feasibility studies, legal costs for due diligence and finance documentation, transaction advisory services, customer evaluation, internal controls and payment mechanisms.

Engagement with the International Renewable Energy Agency (IRENA)

- 11.22 India is one of the Founder Members of the International Renewable Energy Agency (IRENA) which is an intergovernmental organization that supports countries in their transition to a sustainable energy future, and serves as the principal platform for international cooperation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. IRENA promotes the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.
- 11.23 With a mandate from countries around the world, IRENA encourages governments to adopt enabling policies for renewable energy investments, provides practical tools and policy advice to accelerate renewable energy deployment, and facilitates knowledge sharing and technology transfer to provide clean, sustainable energy for the world's growing population.
- 11.24 India served as a Member of the IRENA Council and also Chaired the IRENA Council Meetings in 2015 which is accountable to the Assembly and facilitates consultations and cooperation among Members and considers the draft work programme, draft budget and annual report.
- 11.25 IRENA is actively associated with MNRE and provides policy suggestions for scaling up of Renewable Energy target of 175 GW set by India. IRENA has already prepared "REmap 2030 – India Country Report". MNRE is collaborating with IRENA on Global Atlas for Renewable Energy. IRENA has also helped in establishing the International Solar Alliance (ISA).



Training Programme for SAARC Member Countries

SAARC-(SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION-12th September to 29th September, 2017)

- 11.26 The National Institute of Solar Energy (NISE), Gurugram had successfully completed International Training programme for SAARC member countries, which was held from 12th September to 29th September, 2017 with financial support from Ministry of New and Renewable Energy. The programme was organised to enhance the capacity of Solar Technologies. During the programme, NISE took the International participants to Jaipur city for showing them solar water pump and other solar equipment.
- 11.27 The participants also visited all the labs and other facilities at NISE. Internal and external speakers delivered lectures in different fields of solar energy. 16 participants attended the programme from 5 different countries viz. Nepal, Bhutan, Sri-Lanka, Bangladesh and Afghanistan.



Skill Development Programme on Solar Technologies for SAARC member states (12th – 29th September, 2017)





12: PROMOTION OF OFFICIAL LANGUAGE- HINDI



First meeting of the reconstituted Hindi Advisory Committee held on 1st November, 2017 under the Chairmanship of Shri R.K. Singh, Hon'ble Minister of State (I/C) for Power and New & Renewable Energy.

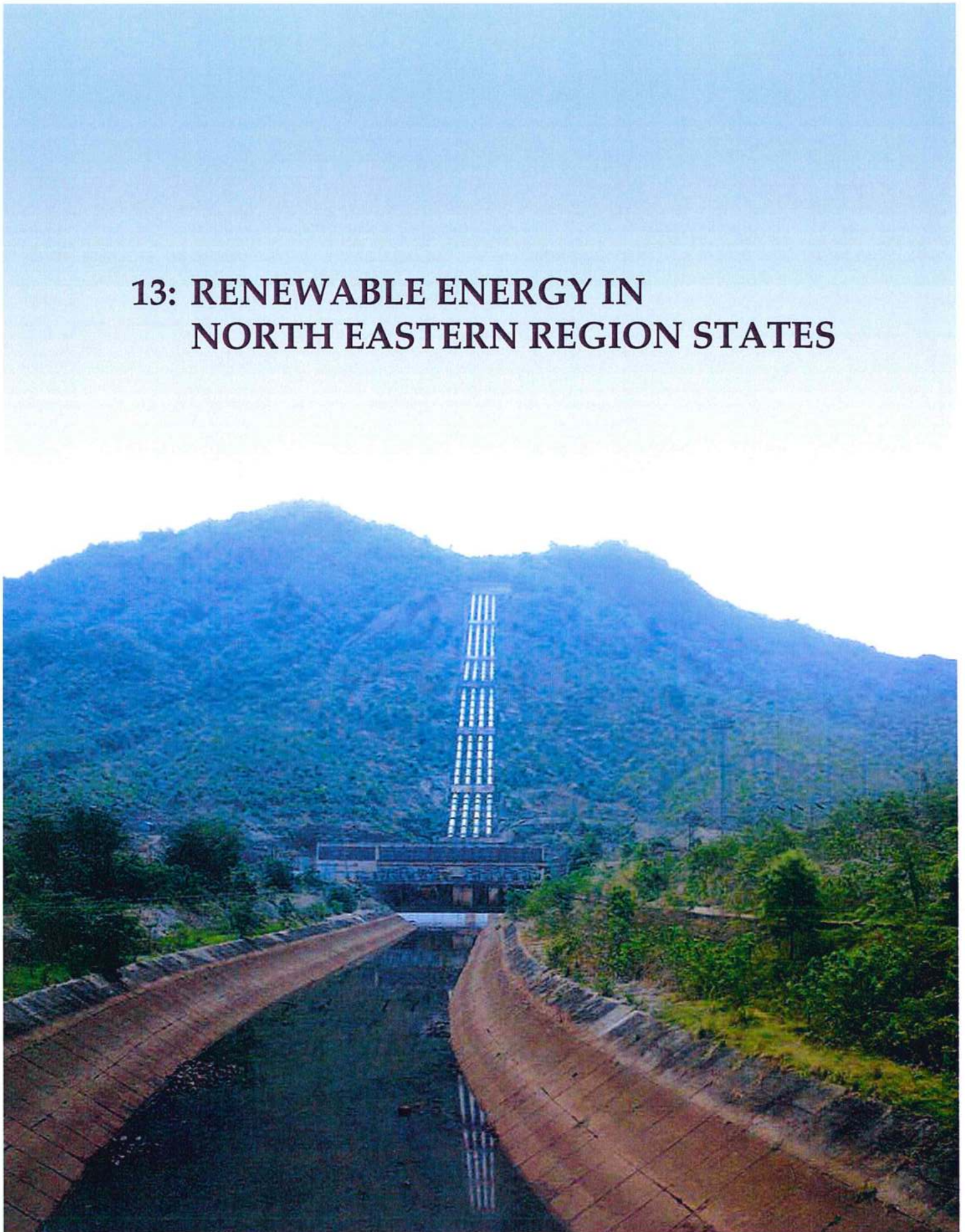


PROMOTION OF OFFICIAL LANGUAGE - HINDI

- 12.1 With a view to implement the Official Language Policy of the Government of India, a Hindi Section has been set up in the Ministry. Its functions are as under :-
- i. Implementation of the Official Language Policy of the Govt. of India.
 - ii. Translation work.
- 12.2 During the year 2017-18 concerted efforts were made to ensure proper compliance of the provisions of Official Language Act 1963 and Rules framed thereunder. For promotion of Official Language Policy and to create more conducive environment for the officials to do more work in Hindi, various programmes/schemes are being undertaken which include the following :
- (i). Website of the Ministry is being redesigned. Efforts are being made to make the website completely bilingual.
 - (ii). Notings of day to day nature are being printed on file covers bilingually.
 - (iii). A digital board has been installed at the entrance of the Ministry and a new Hindi word is demonstrated daily. Inspirational quotes are also displayed.
 - (iv). Standard Drafts and Standard Forms have been prepared in Hindi and placed on the Website of the Ministry for convenience of officers/staff.
 - (v). All documents coming under section 3(3) of the O.L. Act 1963, eg. Press Release, Tender Notices, Rules, General Orders, Notification, Cabinet Notes, Parliament Questions and other Documents to be laid in the Parliament are presented bilingually.
 - (vi). Letters received in Hindi are invariably replied in Hindi and Rule (5) of the Official Language Rules 1976 was fully complied with.
 - (vii). First working day of every month is celebrated as Hindi Divas in the Ministry. On this day the work is done mostly in Hindi.
- 12.3 During the year 2017-18, various measures were taken for effective implementation of Official Language Policy in the Ministry. As per the Quarterly Progress Report for the quarter ended on 30th September, 2017, the percentage of Hindi correspondence with offices in Regions 'A' 'B' and 'C' was 70%, 57% and 59% respectively.
- 12.4 With a view to create awareness and to increase the use of Hindi in official work, a 'Hindi Fortnight' was observed in the Ministry during 14th to 28th September, 2017. A number of competitions were held and there was good participation by officers and staff of the Ministry. Officers and staff members belonging to Hindi and non-Hindi speaking categories were given cash awards and certificates based on their performances. Hindi Fortnight was also observed in various offices and Undertakings of the Ministry.
- 12.5 Hindi Advisory Committee of the Ministry was reconstituted vide resolution, dated 11th September, 2017. First meeting of the reconstituted committee was held on 1st November, 2017 under the Chairmanship of Hon'ble Minister of State (I/C) for Power and New & Renewable Energy.



13: RENEWABLE ENERGY IN NORTH EASTERN REGION STATES





RENEWABLE ENERGY IN NORTH EASTERN REGION

- 13.1 Special attention is being given to the development of the eight States in the North Eastern Region of the country through a separate budget allocation under various renewable energy programmes. Accordingly, the Ministry has allocated 10 per cent of the budgetary support for the deployment of biogas plants, solar systems, remote village electrification, small hydro projects, wind energy systems and energy parks. Against the Revised Estimate of Rs. 394.00 crore from Gross Budgetary Support towards NE Region, an amount of Rs. 68.09 crore was released during the year upto 31.01.2018.

GRID SOLAR POWER PROGRAMME

- 13.2 National Solar Mission aims for achieving significantly higher scales of targets of 100 GW. Hence, Ministry has contemplated all possible options for implementation of the Mission. Selection of capacity for Phase-II, grid connected projects is being done via different schemes such as Bundling, Generation Based Incentive (GBI), Viability Gap Funding (VGF). This allocation of target capacity may be altered depending upon the availability of resources. The state-wise Solar Energy Potential and Solar Capacity installed in the North Eastern Region States is given in Table 13.1.

Table 13.1 State-wise Solar Energy Potential vs. Installed Solar Capacity in NE Region as on 31.12.2017

Sr. No.	State/UT	Solar Potential (GWp)	Installed Capacity (MW) as on 31.01.2018
1	Arunachal Pradesh	9	4.39
2	Assam	14	12.45
3	Manipur	11	1.33
4	Meghalaya	6	0.06
5	Mizoram	9	0.20
6	Nagaland	7	0.50
7	Sikkim	5	0.01
8	Tripura	2	5.09
	TOTAL	43	24.03





SOLAR PARKS

13.3 The following solar parks have been approved in the under mentioned States of NE region as given in Table 13.2.

Table 13.2 Details of Solar Parks sanctioned in NE Region States				
Sl. No.	State	Capacity (MW)	Name of the Solar Power Parks Developer (SPPD)	Land identified at
1	Assam	80	APGCL	Amguri in Sibsagar district
2	Meghalaya	20	Meghalaya Power Generation Corporation Ltd (MePGCL)	Thamar, West Jaintia Hills & Suchen, East Jaintia Hills districts
3	Nagaland	23	Directorate of New & Renewable Energy, Nagaland	Ganeshnagar (12 MW) of Dimapur and Jalukie (11 MW) of Parem districts
4	Arunachal Pradesh	30	Arunachal Pradesh Energy Development Agency (APEDA)	Tezu township in lohit district
5	Manipur	20	Manipur Tribal Development Corporation Ltd	Bukpi village, Pherzawl District
6	Mizoram	20	Zoram Energy Development Agency (ZEDA)	Vankal, Mizoram

GRID CONNECTED ROOFTOP AND SMALL SOLAR POWER PLANTS PROGRAMME IN NORTH EASTERN STATES

13.4 Government of India has setup an ambitious target of installing 100 GW of Solar Power by 2022 out of which 40 GW of solar power has to be achieved through rooftop solar (RTS) power plants. In order to achieve this task, MNRE is implementing Grid Connected rooftop and small solar power plants programme for installation of 4.2 GW of RTS power by 2019-20 with a financial outlay of Rs. 5000 Crore.

13.5 The scheme provides central financial assistance to residential, institutional and social sectors to the tune of 30% of benchmark cost/project cost



Solar Photovoltaic Power plant and Solar Water Heating Systems at District hospital in Arunachal Pradesh

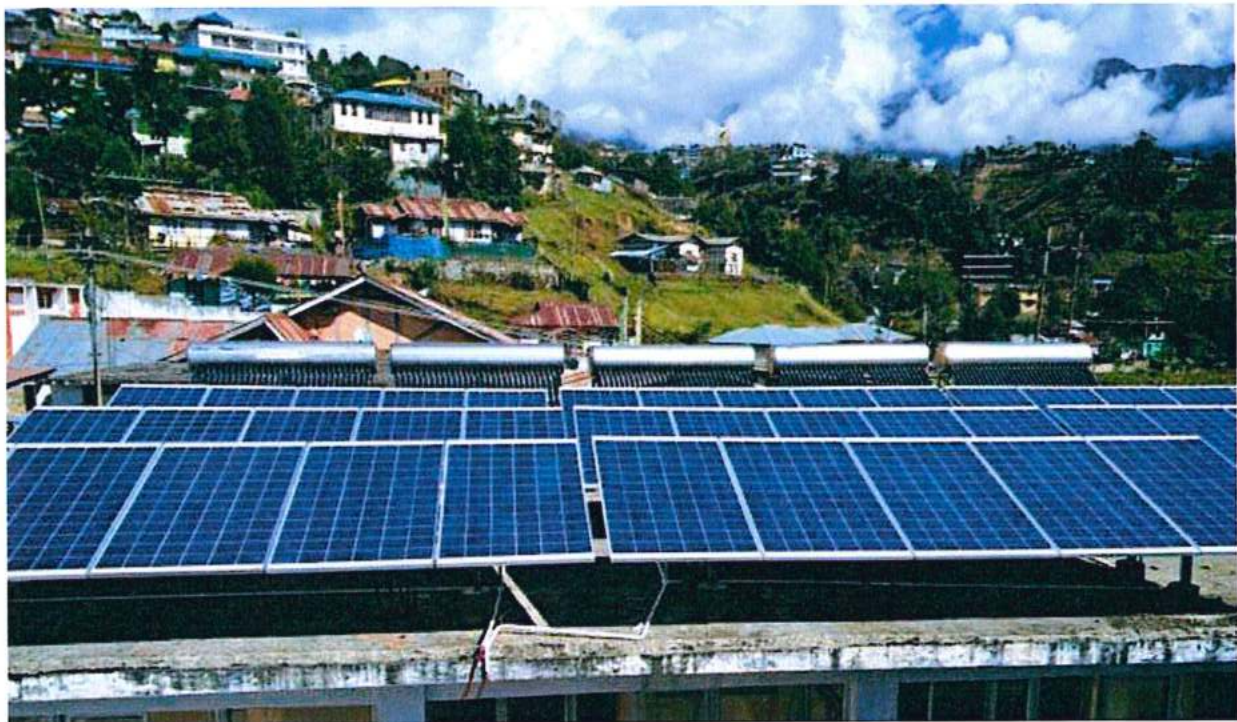




(whichever is lower) for general category States/UTs and 70% of benchmark cost/project cost for Special category States/UTs including North Eastern States and Andaman Nicobar and Lakshadweep island. The benchmark cost of the system varies from Rs. 60,000 to Rs. 70,000 per kWp. For government sector achievement linked incentives are being provided.

- 13.6 As on 31st December 2017, Ministry has sanctioned RTS projects of 59.58 MWp capacities to different North-Eastern States of which 29.865 MWp have been sanctioned in FY 2017-18 (Table No-13.3). So far, aggregate 6.73 MWp capacities have been reported as installed in these States. In addition, net-metering regulations have been notified by respective state regulatory commissions of these States. Rooftop solar policies have also been notified by Manipur State.

Table 13.3- Sanctioned RTS projects in North Eastern States		
Sr. No.	State/UT	Installed Capacity (MW) as on 31.01.2018
1.	Assam	24
2.	Arunachal Pradesh	10
3.	Manipur	5.715
4.	Mizoram	3.855
5.	Tripura	0.5
	Total	44.07



Solar Photovoltaic Power plant and Solar Water Heating Systems at District hospital in Arunachal Pradesh





OFF GRID SOLAR PV PROGRAMME

- 13.7 During 2017-18, the Ministry has sanctioned a 'SOLAR STUDY LAMP SCHEME' where 70 lakh solar study lamps will be distributed to school going children across the selected states including Assam, where SC population and Kerosene consumption is more than 50% as per census 2011, by December 2018.
- 13.8 Under the ATAL JYOTI YOJANA programme, Solar LED Street Lights in rural, semi-urban and urban areas will be installed across the state of Assam, where the household electrification is less than 50% as per 2011 census by March 2018.
- 13.9 Details of all SPV systems and standalone SPV power plants in the North Eastern region states as on 31.12.2017 is given in Table 13.4

Table 13.4 Details of SPV systems and standalone SPV power plants in the North Eastern region states as on 31.12.2017						
S.no	State/UT	Lanterns & Lamps Nos.	Home Lights Nos.	Street Lights Nos.	Pumps Nos.	Stand Alone Power Plants (KWp)
1	Arunachal Pradesh	14433	18945	1671	22	650.1
2	Assam	13379	6926	318	45	1605
3	Manipur	4787	3900	1888	40	1241
4	Meghalaya	24875	7844	4900	19	1084.5
5	Mizoram	9589	6801	5056	37	2019
6	Nagaland	6766	1045	6235	3	1506
7	Sikkim	23300	15059	504	0	850
8	Tripura	64282	32723	1199	151	667
	Total	1,61,411	93,243	21,771	317	9622.6

Wind Resource Assessment Programme

- 13.10 The Wind Resource Assessment (WRA) Programme is an ongoing activity and is being coordinated by the National Institute of Wind Energy (NIWE), Chennai (erstwhile Centre for Wind Energy Technology (C-WET)) in association with State Nodal Agencies. So far, 72 Wind monitoring stations have been established in North Eastern region at 20 m, 25 m & 50 m level to carry out Wind Resource Assessment.
- 13.11 With the objective to assess the realistic potential, the Ministry had taken the initiative to carry out extensive wind resource assessment studies at North-Eastern Region by installing 50 wind monitoring stations at 50 m level with a cost sharing ratio of 90:10 among MNRE and concerned State Nodal Agency.



Small Wind Energy Hybrid Systems (SWES) Programme

- 13.12 Till date, a cumulative capacity of 413 kW Small Wind Energy Hybrid Systems had been installed in NE Regions including Sikkim. The State-Wise break-up are as shown in **Table 13.5**.

Table 13.5 Cumulative Installed Capacity of Small Wind Energy Hybrid Systems in NE Region		
Sl. No.	Name of State	Cumulative Installed Capacity upto 31.12.2017 (in KW)
1	Assam	6
2	Meghalaya	201
3	Mizoram	21
4	Nagaland	20
5	Sikkim	16
6	Tripura	2
7	Arunachal Pradesh	7
8	Manipur	140

Small Hydro Power Programme

- 13.13 North Eastern States have a fairly good potential to develop small hydro power projects. Among the NE States, Arunachal Pradesh has the highest potential followed by Sikkim, Meghalaya and Mizoram. MNRE has been giving special emphasis for the development of small hydro projects in the NE region and a higher level of financial support has been provided under the SHP schemes. The State wise installed capacity vis-a-vis potential in North Eastern States & Sikkim is given in **Table 13.6**.

Electrification/illumination of un-electrified border villages of Arunachal Pradesh under PM Package.

- 13.14 The Hon'ble Prime Minister had announced a package of Rs.550.00 crore to electrify/ illuminate border villages of Arunachal Pradesh. Accordingly, a plan was made to electrify / illuminate 1053 un-electrified villages of all international border districts of Arunachal Pradesh through Solar photovoltaic (SPV) lighting systems and Micro/Small Hydro Power projects. The project is now in the final stages of implementation. Out of 1053 villages, 1022 villages have been illuminated / electrified. These include, 523 villages, where all households have been provided with solar home lighting systems. 11 nos. of Micro/Small Hydro Projects remains to be completed, for which the Government of Arunachal Pradesh has requested to provide a Gap funding of Rs. 32.2641 crore to complete the remaining 11 nos. of projects. The Ministry is in the process of considering the request of providing the Gap funding.





13.6 Small Hydro Power Plants installation status as on 31.12.2017							
S.no	State/UT	Potential		Projects Installed		Projects under Implementation	
		Nos.	Total Capacity (MW)	Nos.	Capacity (MW)	Nos.	Capacity (MW)
1	Arunachal Pradesh	800	2064.92	152	104.605	16	41.05
2	Assam	106	201.99	6	34.11	1	2
3	Manipur	110	99.95	8	5.45	0	0
4	Meghalaya	97	230.05	4	31.03	2	24
5	Mizoram	72	168.9	18	36.47	4	8.7
6	Nagaland	98	182.18	12	30.67	2	1.15
7	Tripura	13	46.86	3	16.01	0	0
8	Sikkim	88	266.64	17	52.11	0	0

BIOGAS PROGRAMME

13.15 The National Biogas and Manure Management Programme (NBMMP) is being implemented in the North Eastern Region States through State Government Nodal Departments/ State Nodal Agencies. The Khadi and Village Industries Commission (KVIC), Mumbai was further allocated targets for implementing the programme in the States of Assam, Nagaland, Meghalaya, Arunachal Pradesh, Tripura and Sikkim during the year. The State-wise family type biogas plants installed in the NE Region during the year is given in **Table: 13.7**. A Biogas Development and Training Centre for all the NER States for providing training and technical support under the NBMM Programme is functioning at Department of Mechanical Engineering, Indian Institute of Technology, Guwahati, Assam.



Deenabandhu Biogas Plant (capacity m³) installed at Vill. Gobinpur, P.O-Laholial, Dist-Lakhimpur, Assam



Table 13.7: Family Type Biogas Plants installed in North Eastern Region States under NBMMP

Sl. No.	Name of State	Plants installed up to 31.12.2017
1	Assam	4200
2	Meghalaya	0
3	Mizoram	146
4	Nagaland	0
5	Sikkim	0
6	Tripura	33
7	Arunachal Pradesh	0

Development of Solar Cities

- 13.16 Eight cities are being developed as Solar Cities from North-Eastern States.
- 13.17 Master plans have been prepared for all the 8 cities. In addition, Aizawl and Agartala cities are being developed as pilot solar cities, for which allocation have been made for Rs. 2.50 crore for installation of renewable energy projects.





**14: GREENING OF ISLANDS OF
ANDAMAN & NICOBAR AND
LAKSHDWEEP**





GREENING OF ISLANDS OF ANDAMAN & NICOBAR AND LAKSHDWEEP

- 14.1 MNRE, on 05.04.2016 has issued the Administrative Approval for Implementation of a scheme for setting up distributed Grid-Connected Solar PV Power Projects of an aggregate capacity of 40 MW in Andaman & Nicobar and Lakshadweep Islands with an estimated Central Financial Assistance (CFA) of Rs. 192.20 crore. The objective of the scheme is to develop carbon free islands by phasing out use of diesel for generation of electricity and to contribute to the National Action Plan on Climate Change. The initiative will also help in reduction in cost of electricity generation.

Status of Projects under Implementation:

- 14.2 A brief status of the projects being implemented by different agencies in Andaman & Nicobar Islands, is as follows:

Sl. No.	Implementing Agency	Project Capacity (MW) & location	Status as on 31.12.2017
1.	Rajasthan Electronics & Instruments Ltd. (REIL)	1 MW SPV Plant with Battery Energy Storage System (BESS) at Havelock Island	Notice Inviting Tender (NIT) for selection of EPC Contractor has been issued
		1 MW SPV Plant with Battery Energy Storage System (BESS) at Neil Island	Notice Inviting Tender (NIT) for selection of EPC Contractor has been issued
2.	Solar Energy Corporation of India (SECI)	1 MW Solar PV rooftop Projects in Port Blair at Government Buildings	The Project has been completed and commissioned in March 2017.
3.	NLC India Limited (NLC)		CEA in October, 2017, has submitted a Report regarding the optimal energy mix for Port Blair (South Andaman) in Andaman & Nicobar Islands. The Report has, inter-alia, suggested a mix of LNG based power plants, Solar PV Power Plants and Battery Energy Storage Systems (BESS) for South Andaman. Accordingly, efforts are being made for expeditious implementation of clean, non-polluting power projects including solar projects through NLC Limited and NTPC Limited.
4.	NTPC Limited (NTPC)		



The background of the page is a vibrant orange color. Overlaid on this are several large, flowing, wavy shapes in a lighter yellow-orange hue. These shapes are composed of numerous thin, parallel lines that create a sense of movement and depth. In the center of the page, there is a faint, light-colored grid pattern that is partially obscured by the wavy shapes.

ANNEXURES

ANNEXURE I

Strength of Staff in Ministry of New and Renewable Energy for the year 2017-18 are as under :

GROUP	A	B	C	TOTAL
SANCTIONED	124	87	85	296
IN POSITION	78	58	77	213
SC	9	15	27	51
ST	2	2	4	8
OBC	6	9	10	25
PH	-	1	-	1

Pay and Account Office, Ministry of New and Renewable Energy

Sanctioned strength and in-position in respect of Pay & Accounts Office, Ministry of New & Renewable Energy as on 31.12.2017 are as under:-

Group	A	B	C	D	Total
Sanctioned	1	6	9	-	16
In Position	1	5	9	-	15
SC	-	1	1	-	2
ST	-	-	1	-	1
OBC	-	-	2	-	2
PH	-	-	-	-	-

SSS-NIBE

Information pertaining to the staff of Sardar Swaran Singh National Institute of Bio-Energy (SSS-NIBE), an autonomous institute functioning under the Administrative Control of Ministry of New & Renewable energy as on 31.12.2017

Group	Board Level	A	B	C	D	Total
Sanctioned	26	21*	1	4	-	26
In-Position	8	3	1	4	-	8
SC	-	-	-	-	-	-
ST	-	-	-	-	-	-
OBC	-	-	-	-	-	-
PH	-	-	-	-	-	-

*The recruitment of 16 posts of Scientist of Group 'A' is under process.

NISE

Information pertaining to the staff of National Institute of Solar Energy (NISE), an autonomous institute functioning under the administrative control of Ministry of New and Renewable Energy.

Group	A	B	C	D	Total
Sanctioned	25	16	0	0	41
In Position	3	0	0	0	3
SC	0	0	0	0	0
ST	0	0	0	0	0
PH	0	0	0	0	0
PH	-	-	-	-	-

Note : The posts are sanctioned for the institute have all been advertised and the process for recruitment is on.

NIWE

Group -wise details of Posts in National Institute of Wind Energy (NIWE) as on 31.12.2017 are as follows:-

Group	Group			Total
	A	B	C	
Sanctioned	18	13	17	48
In Position	17	9	15	41
SC	3	2	5	10
ST	1	-	-	1
OBC	7	4	10	21
PH	-	-	-	-





IREDA

The Indian Renewable Energy Development Agency Limited (IREDA) a public sector undertaking under the Ministry provides loans for setting up projects relating to renewable energy and energy efficiency. The staff strength of IREDA as on 31.12.2017 are as under:-

Classification	Board Level	Group				Total
		A	B	C	D	
Sanctioned	3	90	64	59	-	216
In-Position	1	108	19	24	-	152
SC	-	19	1	7	-	27
ST	-	6	2	1	-	9
OBC	-	17	3	3	-	23
PH	-	1	-	1	-	2

SECI

Strength of staff in Solar Energy Corporation of India (SECI) as on 31.12.2017 are as under:-

Group	Board Level	A	B	C	D	Total
In-Position	3	59	7	0	0	69
SC	0	03	02	0	0	5
ST	0	02	0	0	0	2
OBC	0	08	01	0	0	9
PH	0	0	1	0	0	1

ANNEXURE II

Ministry of New and Renewable Energy Statement showing the pendency position of Audit Paras of C&AG Reports as on 31.12.2017:-

- i. 12 of 2015- Financing of Renewable Energy Projects by Indian Renewable Energy Development Agency Limited; and
- ii. PA 34 of 2015 Performance Audit of Renewable Energy Sector In India.

