

## CHAPTER – V ENERGY

### 5.1. POWER

**5.1.1.** The Twelfth Plan proposed outlay for Power Sector is ` 363500.00 Lakhs. The approved outlay for 2012-2013 is ` 51010.00.lakh and an amount of ` 53360.00 lakh is anticipated to be utilised. The Tentative proposed outlay for Power Sector during 2013-14 is ` 81600.00 lakh.

**5.1.2.** The broad break - up of the actual expenditure during 11<sup>th</sup> Plan period, the projected outlay of the 12<sup>th</sup> Plan, the approved outlay & anticipated expenditure for 2012-13 and the Proposed Outlay for the Annual Plan 2013-14 is as indicated below:-

(` . in lakh)

Sl. No	Items	11 <sup>th</sup> Plan 2007-12 Projected Outlay (at 2006-07 prices)	11 <sup>th</sup> Plan 2007-12 Actual Expenditure	Actual Expenditure 2011-12	12 <sup>th</sup> Plan 2012-17 Tentative Projected Outlay	Annual Plan 2012 – 13		Annual Plan 2013-14 Proposed Outlay
						Approved Outlay	Anticipated Expenditure	
1.	<b>Generation Scheme:</b> i) Myntdu Leshka HEP under SPA ii) Umtru HEP iii)Ganol HEP	31886.00	80376.24	7155.56	5833.00	3200.00	3200.00	-
2.	Survey & Investigation	1792.00	550.65	519.00	2144.00	622.00	622.00	600.00
3.	Wind Energy (SCA)	-	700.00	700.00	-	-	-	-
	<b>Total: Generation Scheme</b>	<b>33678.00</b>	<b>81995.89</b>	<b>8374.56</b>	<b>7977.00</b>	<b>3822.00</b>	<b>3822.00</b>	<b>600.00</b>
2.	Renovation & Modernisation Works (EAP)	21968.00	9130.80	5738.00	37668.00	100.00	2150.00	2000.00
5.	Re-Engineering Works	-	300.00	-	12585.00	840.00	840.00	925.00
6.	<b>Transmission Schemes:</b> i) State Plan ii) New Schemes iii) SPA/SCA	1000.00 - -	1743.00 - 15666.00	- - 1520.00	- 86062.00 8408.00	- - 5588.00	- - 5588.00	- 1890.00 3200.00
	<b>Total: Transmission Scheme</b>	<b>1000.00</b>	<b>17409.00</b>	<b>1520.00</b>	<b>94470.00</b>	<b>5588.00</b>	<b>5588.00</b>	<b>5090.00</b>
7.	<b>Distribution Schemes:</b> i) Accelerated Power Development & Reforms Programme (R-APDRP Part A & B) ii) Other Distribution Schemes	22688.00 -	11572.20 1200.00	- 1200.00	- 10800.00	- 660.00	- 960.00	- 985.00
	<b>Total: Distribution Schemes</b>	<b>22688.00</b>	<b>12772.20</b>	<b>1200.00</b>	<b>10800.00</b>	<b>660.00</b>	<b>960.00</b>	<b>985.00</b>
	Rural Household Electrification (RGGVY)	26454.00	-	-	-	-	-	-

Sl. No	Items	11 <sup>th</sup> Plan	11 <sup>th</sup> Plan	Actual Expenditure	12 <sup>th</sup> Plan	Annual Plan 2012 – 13		Annual Plan
		2007-12 Projected	2007-12 Actual		2012-17 Tentative			2013-14
	Loans from REC /PFC and others as MeCL's own resources	-	66459.00	27531.00	200000.00	40000.00	40000.00	72000.00
	<b>GRAND TOTAL:</b>	<b>105788.00</b>	<b>188066.89</b>	<b>44363.56</b>	<b>363500.00</b>	<b>51010.00</b>	<b>53360.00</b>	<b>81600.00</b>

The major Schemes / Projects being implemented under Power sector are as follows:-

### 5.1.3. Generation Schemes

#### (a) On- going Schemes:-

**(i) Myntdu Leshka Stage I HEP (2 x 42 + 42) MW :** This Project is located in the Jaintia Hills District of Meghalaya. The revised cost of the for the 3(Three) Units, as per the 2010 Price Level, is ` 1173.13 Crore. The financing pattern for the Project is 70% Loan and 30% Equity. The amount received as Equity till March, 2013 is ` 351.94 Crore. The 1st Unit was synchronized on the 23rd November, 2011 and formal commissioning was done on the 29<sup>th</sup> February, 2012. The 2nd Unit was synchronized on 30<sup>th</sup> March 2012 and commercially operated on 1<sup>st</sup> April, 2012. The 3<sup>rd</sup> Unit was synchronized on 8<sup>th</sup> March, 2013 and commercially operated on 1<sup>st</sup> April, 2013. Both the 2<sup>nd</sup> and 3<sup>rd</sup> Unit are awaiting formal commissioning.

**(ii) New Umtru Hydro Electric Project (2 x 20) MW:** The Project is located in the Ri Bhoi District of Meghalaya. The estimated cost for the Project is ` 226.00 Crores. The project is being implemented under 70% loan and 30% equity (NLCPR funding). The target date for completion of the project is March, 2014.

**(iii) Ganol Hydro Electric Project (3 x 7.50) MW:** The Project is located in the West Garo Hills District of Meghalaya. The estimated cost for the Project is ` 177.52 Crores, which was updated to ` 192.00 Crores (at October 2010 price level). The project is being implemented under 70% loan and 30% equity (NLCPR funding).

**(b) Survey & Investigation Schemes:** Survey and Investigation works is proposed to be taken up with 90% NEC funding of the basins viz. Umngot HEP (280 MW), Myntdu Leshka Stage-II HEP (260 MW), Selim HEP(2x85 MW), Mawblei HEP (2x70 MW), Ganol HEP Stage-II (3x5 MW), Uper Khri HEP, Umlaphang HEP (2x14 MW), Sidugiri SHP (7MW), Nongkohlait HEP (2x60 MW) and Umngi Storage HEP (2x27 MW).

#### 5.1.4. Renovation And Modernisation Scheme:

**R & M of Umiam Stage III Power Station (2 x 30 MW) (EAP):** The power demand in the state is growing very rapidly. MeECL has to depend on power purchase from Regional Grid to meet the demand. To increase the generating capacity in the State, Renovation, Modernisation and Up – gradation of the old existing Hydro power stations where the life span of most of the machines have outlived, is very essential. During the 11<sup>th</sup> Plan period, 2 MW has been achieved from the Renovation, Modernisation and Up-gradation of Umiam Stage II Power Station. Another such scheme i.e. Renovation, Modernisation and Up-gradation of Umiam Stage III Power Station is being taken up during the 12<sup>th</sup> Plan period.

### **5.1.5. Transmission Schemes:**

With the increasing power demand and generating capacity in the State from both State utility and IPP, transmission system in the State needs to be strengthened at the top most priority. This will enable drawal of power not only from the State Central Share and the Grid but also for evacuation of power from the up coming new projects which will be coming up from time to time. With the open access regime it is a tough challenge to bring power stability not only to the State but also to the Region and the Nation as a whole. The State has made good progress in the transmission area during the 11<sup>th</sup> Plan period by completion of a few critical projects connecting with other NER States and weak intra – State links. Completion of a 220 kV D/C line from Misa to Byrnihat (Killing) during the 11<sup>th</sup> plan period is a boon to the State which has substantially relieved power shortage by enabling drawal of power from the NER/ER Grid. The state has also taken up setting of a 400/220 KV sub-station at Byrnihat for tapping power from the 400KV Pallatana-Bongaigoan line. Completion of this transmission scheme will further enhance drawal of power from the Grid. Besides the on-going transmission schemes, there are number of new schemes proposed to be taken up during the year 2013-14.

### **5.1.6. Distribution Schemes:**

The feasibility of power sector depends entirely on the distribution system since it is from this sector that the entire revenue for generation and transmission is dependent upon. The present situation is quite distressing due to the fact that the losses are too high. The implementation of APDRP was aimed at reducing the losses to 15% by the end of the 11<sup>th</sup> Plan but this target is yet to be achieved. In order to reduce the AT & C loss and achieve the overall consumers' satisfaction in line with the Electricity Act, 2003, implementation of Restructured Accelerated Power Development and Reforms Program (R-APDRP) is being taken up. Nine (9) towns have been identified for implementation of R-APDRP as project areas namely Shillong, Jowai, Tura, Nongstoin, Nongpoh, Williamnagar, Resubelpara, Mairang and Sohra (Cherrapunjee). A total loan amount of ` 33.97 Crores has been approved towards the project, out of which, 30% of the amount, i.e. ` 10.19 Crores has been released so far.

### **5.1.7. Re-Engineering/Renovation Works**

For maintaining power stability, the following re-engineering/renovation works are proposed to be taken up during 2013-14:

1. Renovation & Re-engineering Works of Umiam Stage-I Power Station, Sumer.
2. Renovation & Re-engineering Works of Stage-IV Power Station, Nongkhylllem.
3. Renovation, Modernisation & Upgradation of Umtru Power Station (2.8 MW x 4).

### **5.1.8. Rural Electrification (RGGVY):**

In line with the Central Government Policy of electricity to all by the year 2012, Meghalaya is also gearing up to achieve 100% Village Electrification and Rural Household Electrification. The scheme was targeted to be completed during the 11<sup>th</sup> Plan period. However, 100% physical achievement is spilling over to the 12<sup>th</sup> plan period. This is being pursued by the Meghalaya Energy Corporation Limited under the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY). The Scheme is being implemented in all the 7(Seven)

Districts of Meghalaya. The revised sanctioned cost for the Scheme is ` 441.998 Crores. Out of a total of 5782 villages in the State (2001 Census), 4082 villages (70.6%) have been electrified as on 31st march, 2011. The electrification of the balance 1700 villages is in progress.

## 5.2. NON CONVENTIONAL SOURCES OF ENERGY.

**5.2.1. The Twelfth Plan proposed outlay for this Sector is ` 2400.00 Lakhs. During the Annual Plan 2012 - 2013 the approved outlay is `460.00 lakh and the anticipated expenditure is `490.00 lakh. The Proposed Outlay for 2013 - 2014 is `.400.00 lakh.** All the schemes under this sector have different funding pattern between the Centre, State and Beneficiary contribution, except the Direction and Administration i.e. Administrative Expenses which has to be borne purely by the State.

**5.2.2. The main programmes and activities for the Annual Plan 2013-14 are as follows:-**

**1. Direction & Administration:** An amount of ` 150.00 lakhs is proposed for meeting the Establishment Cost during 2013-14.

**2. National Biogas & Manure Management Programme (NBMMP):-** Installation of 5000 Nos. of Biogas Plants (3 cum Family size) as an alternative to reducing firewood and gas cylinder is proposed for which an amount of ` 10.00 lakhs is proposed during the Annual Plan 2013-14..

**3. SPV Power Plant:-** An amount of ` 25.00 lakhs is proposed during 2013-14 for Installation of 1.0KW to 250 KW SPV Power Plant in the State.

**4. Windmill Programme:-** 200KW Wind Energy is proposed to be installed in the State for which an amount of ` 5.00 lakhs is proposed during the Annual Plan 2013-14.

**5. Promotion of Renewable Energy and Energy Conservation Measures** will be taken up by organizing Awareness programmes through Advertisement, organizing Exhibition and Workshops in Schools and Colleges both in rural and urban areas. Steps will be taken in rural areas to promote Solar Lighting devices by distributing it free of cost to BPL students.

**5.2.3.** The programme - wise actual expenditure during the 11<sup>th</sup> Plan, anticipated expenditure during 2012 - 2013 and the Tentative Proposed Outlay for 2013 - 2014 are indicated below:-  
(` .in Lakh)

Sl. No	Items	11 <sup>th</sup> Plan 2007-12 Projected Outlay (at 2006-07 prices)	11 <sup>th</sup> Plan 2007-12 Actual Expenditure	Actual Expenditure 2011-12	12 <sup>th</sup> Plan 2012-17 Tentative Projected Outlay	Annual Plan 2012 - 13		Annual Plan 2013-14 Proposed Outlay
						Approved Outlay	Anticipated Expenditure	
1.	Direction and Administration	240.00	461.14	130.00	950.00	140.00	140.00	150.00
2.	Bio Energy –National Project for Bio-gas Development	220.00	86.00	24.00	125.00	35.00	35.00	10.00

3.	Solar Thermal Energy	500.00	113.34	85.34	825.00	60.00	90.00	25.00
4.	Micro Hydel Project	240.00	20.50	5.00	500.00	10.00	10.00	5.00
5.	Energy for Commercial Application	-	-	-	-	5.00	5.00	-
6.	Promotion of Renewable Energy & Energy Conservation Measures	-	-	-	-	210.00	210.00	210.00
	<b>Total</b>	<b>1200.00</b>	<b>680.98</b>	<b>244.34</b>	<b>2400.00</b>	<b>460.00</b>	<b>490.00</b>	<b>400.00</b>

### 5.3. INTEGRATED RURAL ENERGY PROGRAMME.

**5.3.1. The Twelfth Plan projected outlay for I.R.E.P. is ` 2000.00 Lakhs. During the Annual Plan 2012 – 2013, the approved outlay is 250.00 lakh and the anticipated expenditure is ` 285.00 lakh. The Proposed Outlay for this Sector during 2013 -2014 is ` 350.00 lakh.** All the schemes under this sector have different funding pattern between the Centre, State and Beneficiary contribution, except Direction and Administration i.e. Administrative Expenses which has to be borne purely by the State.

5.3.2. The main programmes and activities for the Annual Plan 2013 – 14 are as follows: -

1. **Direction and administration:** - An amount of ` . 160.00 lakh is proposed for meeting establishment cost during 2013 – 14.
2. **Solar Thermal:** - During 2013 – 14, 1500 sq. m. collector area is projected to be covered by Solar Water Heating System for which an amount of ` . 40.00 lakh is proposed.
3. **Biomass gasification:** - During the year 2013 – 14, an amount of ` 10.00 lakh is proposed as State Share for installation of 50 KW capacity of 5 KW to 20 KW in the State.
4. Under **Field Projects** the following works are proposed to be taken up
  - i) **Wind Solar Hybrid System:** - 200 KW Wind Solar Hybrid System is projected to be installed in different parts of the State in places which are suitable for this project.
  - ii) **Solar Water Pumping System:** - Average 50KW on Solar Water Pumping System is proposed to be installed and a survey for the 11 (eleven) Districts on energy is proposed during the Annual Plan 2013 – 14.
  - iii) **Rural Energy Mission:** - An amount of ` 100.00 lakh is proposed for the implementation of Rural energy Mission.

An amount of ` 140.00 lakh is proposed during the Annual Plan 2013-14 for implementation of the above schemes under Field Projects.

**5.3.3.** The broad break-up of the actual expenditure during the the 11<sup>th</sup> Plan, anticipated expenditure during 2012 - 2013 and the Tentative Budgeted Outlay for 2013 - 2014 is indicated below:-

(` .in Lakh)

Sl. No	Items	11 <sup>th</sup> Plan 2007-12 Projected Outlay (at 2006-07 prices)	11 <sup>th</sup> Plan 2007-12 Actual Expenditure	Actual Expenditure 2011-12	12 <sup>th</sup> Plan 2012-17 Projected Outlay	Annual Plan 2012 – 13		Annual Plan 2013-14 Budgeted Outlay
						Approved Outlay	Anticipated Expenditure	
1.	Regional Institute for Integrated Rural Energy Planning & Development	40.00	55.00	30.00	-	25.00	30.00	-
2.	Direction and Administration	400.00	519.88	130.00	850.00	130.00	150.00	160.00
3.	Solar Thermal Programme	100.00	18.22	18.22	350.00	50.00	60.00	40.00
4.	Biomass Gasification	100.00	10.31	-	200.00	20.00	20.00	10.00
5.	Field Projects	240.00	59.44	42.70	600.00	25.00	25.00	140.00
6.	Preparation of DPR for cluster of villages	20.00	8.00	-	-	-	-	-
	<b>Total</b>	<b>900.00</b>	<b>670.85</b>	<b>220.92</b>	<b>2000.00</b>	<b>250.00</b>	<b>285.00</b>	<b>350.00</b>

#### 5.4. VILLAGE ELECTRIFICATION (MNES SPECIAL SCHEME)

5.4.1. The State Govt. with the approval of the Govt. of India has identified 158 Nos. of villages in the State as remote villages and these villages are to be electrified through renewable sources of energy. Out of these 158 Nos., 7 Nos. of villages are already connected through Grid power and out of 151 villages, 79 villages are already completed up to 2009-2010 and for the remaining 72 Nos. works are under progress.

5.4.2. The approved outlay for the 11<sup>th</sup> Plan for this sector is ` .600.00 lakh and the actual expenditure during the Plan period is ` 120.68 lakh. The approved outlay for 2012 - 2013 is ` .60.00 lakh which is expected to be utilized in full. The Proposed Outlay for 2013 - 2014 is ` .60.00 lakh.

5.4.3. During the year 2013 – 14, implementation of 106 Nos. of remote un-electrified villages is proposed to be electrified by SPV Home Lighting System with integration of SPV Street Lighting System.