
ANNUAL YEAR BOOK

2008-09



MEGHALAYA STATE DESIGNATED AGENCY ON ENERGY CONSERVATION

C O N T E N T S

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1. PREFACE :

“Energy” means any form of energy derived from fossils fuels, nuclear substances or materials, Hydro-electricity includes electrical energy or electricity generated from renewable sources of energy or biomass connected to the grid. -Section 2(h) of the Energy Conservation Act, 2001

- **Energy Conservation**

With the dismal power scenario and energy crises that we are facing, Energy conservation turns out to be a key element in energy Policy. Energy Conservation can help reducing the demand supply gap with the demand which is always on the rise due to an advance development which has taken place. Energy Conservation if fully implemented can reduce the cost of energy, the need for new power plants and energy imports.

Energy conservation plays a crucial role in lessening climate change by reduction in atmospheric emission from power plants, industrial facilities and motor vehicles. It also reduces the numerous negative environmental and social impacts.

Energy conservation extends the life of equipment and appliances and reduces the maintenance cost by operating less hours and at less the maximum capacity.

About, 25,000 MW of capacity addition through energy efficiency only in the electricity sector has been estimated in India. 23% of the Energy Conservation potential for the economy as a whole has been assessed with minimum potential in industrial at agricultural sectors.

Recognizing the vast potential of energy saving and benefits of energy efficiency, the Govt of India enacted the Energy Conservation Act 2001 which came into force in March, 2002 for providing the legal framework, institutional arrangement and a regulatory mechanism at the central and state level for promoting efficiency in the country.

- **Bureau of Energy Efficiency (BEE)**

Bureau of Energy Efficiency (BEE) a statutory body established under Section 3(1) of the Energy Conservation Act 2001 under the Ministry of Power, Government of India was set up on the 1st March 2002 and it is headed by the Director General, at its headquarter at New Delhi . The ideal goal behind its instigation is to implement energy conservation activities at a large scale.

The mission of the BEE is to assist in developing policies and strategies with a thrust on self-regulation and market principles within the overall framework of the EC Act with the primary objective of reducing energy intensity aspect of the Indian economy. This will be achieved with active participation of all stakeholders in accelerated and sustained adoption of energy efficiency in all sectors.

- **Role of BEE**

As foreseen in the Energy Conservation Act 2001. BEE synchronizes with all stake holders and recognize, identify and utilize the existing resources and infrastructure. The role of BEE is divided into two different heads- the regulatory functions and the promotional functions :-

Regulatory Functions

The Major Regulatory Functions of BEE include:

- Develop minimum energy performance standards and labelling design for equipment and appliances
- Develop specific Energy Conservation Building Codes
- Activities focussing on designated consumers
- Develop specific energy consumption norms
- Certify Energy Managers and Energy Auditors
- Accredite Energy Auditors
- Define the manner and periodicity of mandatory energy audits
- Develop reporting formats on energy consumption and action taken on the recommendations of the energy auditors

Promotional Functions

The Major Promotional Functions of BEE include:

- Create awareness and disseminate information on energy efficiency and conservation
- Arrange and organize training of personnel and specialists in the techniques for efficient use of energy and its conservation
- Strengthen consultancy services in the field of energy conservation
- Promote research and development
- Develop testing and certification procedures and promote testing facilities
- Formulate and facilitate implementation of pilot projects and demonstration projects
- Promote use of energy efficient processes, equipment, devices and systems
- Take steps to encourage preferential treatment for use of energy efficient equipment or appliances
- Promote innovative financing of energy efficiency projects
- Give financial assistance to institutions for promoting efficient use of energy and its conservation
- Prepare educational curriculum on efficient use of energy and its conservation
- Implement international co-operation programmes relating to efficient use of energy and its conservation

Energy Conservation Measures in MeSEB

The MeSEB is engaged in the Generation, Transmission and Distribution of Electricity and caters to over 2 % lakh consumers. As on 31.03.08 its connected load is about-338 MW. Its installed capacity is just 185.2 MW.

The annual generation of energy is projected at 579.96 MU for the Year 08-09. The annual energy requirement for the same year is 1623.39 MU. An estimated 1043.43 MU is to be procured from other sources. Therefore there is acute shortage of power in MeSEB. Besides the MLHEP which is expected to add about 360 MU annually, will only be commissioned by 2009 at the earliest. It is with this in mind, that Energy Conservation becomes extremely vital for MeSEB. Demand side management has become the immediate need not only because generation of power costs, but also because there is acute shortage of power in the region.

In MeSEB, a number of measures have been taken up to conserve energy. Some of these measures can be categorized as follows:-

A. Public Awareness Campaigns


- (i) Talks on DDK, AIR, Cable news channels.
- (ii) Design and distribution of Book Marks with Energy Conservation Tips,
- (iii) Annual observance of Energy Conservation Day on 14th December through design and display of Ads in local newspaper, printing of banners and display at prominent areas of capital and district Hq.
- (iv) Design of conservation Video Clips in Local languages (Khasi) and display on Cable TV.
- (v) Participation in Govt. fair, displaying energy conservation themes,
- (vi) Coordination activities in Schools organized by TERI on behalf of BEE.
- (vii) The Energy Conservation team was started in 1996. Presently the Energy Management Cell under EE MTI is engaged in carrying out awareness activities.

B. Conservation Measures in MeSEB

- (i) A guideline has been issued in 2007 to all Sub-divisions/Estate officers to exercise energy conservation measures such as phase-wise replacement of inefficient lighting systems with energy efficient, ones such as CFLs and energy saving Sodium/Mercury Vapour street lighting systems..
- (ii) The Sub divisional officers have been instructed to check the monitor the summer /winter timings of Timer switches installed for street lighting systems so that the lights do not glow during the day..
- (iii) All MeSEB offices are to use energy efficient lamps and propose their installation for new sub station/offices.

C. Coordination with Bureau of Energy Efficiency for pamphlets, placards

D. Being part of the state designated agency on Energy Conservation.


**Public Relation Officer,
MeSEB, Shillong**

ENERGY CONSERVATION STRATEGIES OF NORTH EASTERN ELECTRIC POWER CORPORATION

North Eastern Electric Power Corporation (NEEPCO) Ltd. was established in April, 1976 under the aegis of the Ministry of Power, Govt. of India with the objective of harnessing vast hydro and thermal power potential of the region for producing pollution free and inexhaustible power through planned development of power generation projects. The Corporation, with present installed capacity of 1130 MW, has 5 (five) Nos. of power plants under operation which comprise of 2(two) Nos. of Gas Based Power Plants and the remaining 3(three) Nos. of hydro plants. Further, the Corporation has 2 (two) Nos. of Hydro Plants and 1(one) No of Gas Based Power Plants under different stages of construction. In addition to above, the Corporation is contemplating to execute number of future hydro & thermal power projects in the region.

The operational Gas Based Power Plants of the Corporation, commissioned way back in the last decade, was designed based on the efficiency and the energy conservation parameters prevalent during that time, which definitely does not suffice to the present energy conservation norms. With widespread awareness on the energy conservation, the Corporation has taken necessary action in regard to enhancement of efficiency of machines as well as optimization of plant equipments.

In order to locate the areas of the plants where the energy conservation techniques can be applied thereby resulting in higher efficiency, the Corporation has engaged M/s CPRI, a Govt .of India Enterprise, for carrying out Energy Audit at two of its Power Plants viz. Agartala Gas Turbine Project (84 MW) and Doyang H.E. Project (75 MW). The report of the Auditing is at final stage of preparation. The Corporation will consider implementation of recommendations on Energy Audit which will assist in continual saving in energy and will have far reaching effect on Energy Conservation.

The Corporation has also taken up necessary action for conversion of mode of operation of AGTP from open cycle mode to combined cycle mode which will result in higher energy conservation and greater efficiency. The Renovation & Modernization (R&M) of Assam Gas Based Power Plant (291 MW) as well as Kopili H.E. Power Plant (275 MW) are also being contemplated by NEEPCO as a part of energy conservation measures as well as optimization of efficiency of power plant.

The Corporation contemplates to undertake various energy conservation measures like use of LDR based street light controller, minimization of boiler blow down, use of energy efficient air conditioners, regular check up of valve fittings for minimization of leakage etc. The technical specifications of all power plants which are under construction and are to be constructed in future are being framed following latest norms of the Energy Conservation as per guidelines of BEE.

The implementation of the above measures envisages retrofitting of some old systems and equipment by more energy efficient ones which is cost intensive and as such, the same will be carried out in stages.

NEEPCO has been entrusted by the Ministry of Power, Govt. of India to organize the State Level painting competition in the State of Meghalaya as a part of Energy conservation programme of the Government of India. The programme which started since 2005, is hosted by the Corporation on 14th November every year, with the assistance of the State Council of Science, Technology & Environment, Govt. of Meghalaya.



(S.R.Biswas)

**Dy.General Manager (E), NEEPCO
& Certified Energy Auditor(EA-6577)**

2. INTRODUCTION :

▪ **State Designated Agency (SDA)**

The mission of State Designated Agency (SDA) and Bureau of Energy Efficiency (BEE) is to develop policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act (EC Act), 2001 with the primary objective of reducing energy intensity of the Indian economy. This will be achieved with active participation of all stakeholders, resulting in accelerated and sustained adoption of energy efficiency in all sectors.

The Energy Conservation Act came into force in March 2002. the setting up of Bureau of Energy Efficiency (BEE) and subsequently, the State Designated Agency, Meghalaya, one of the SDA which provides a legal framework for energy efficiency initiatives in the country. The Act empowers the Central Government and in some instances the State Governments to:

Notify energy intensive industries, other establishments, and commercial buildings as designated consumers.

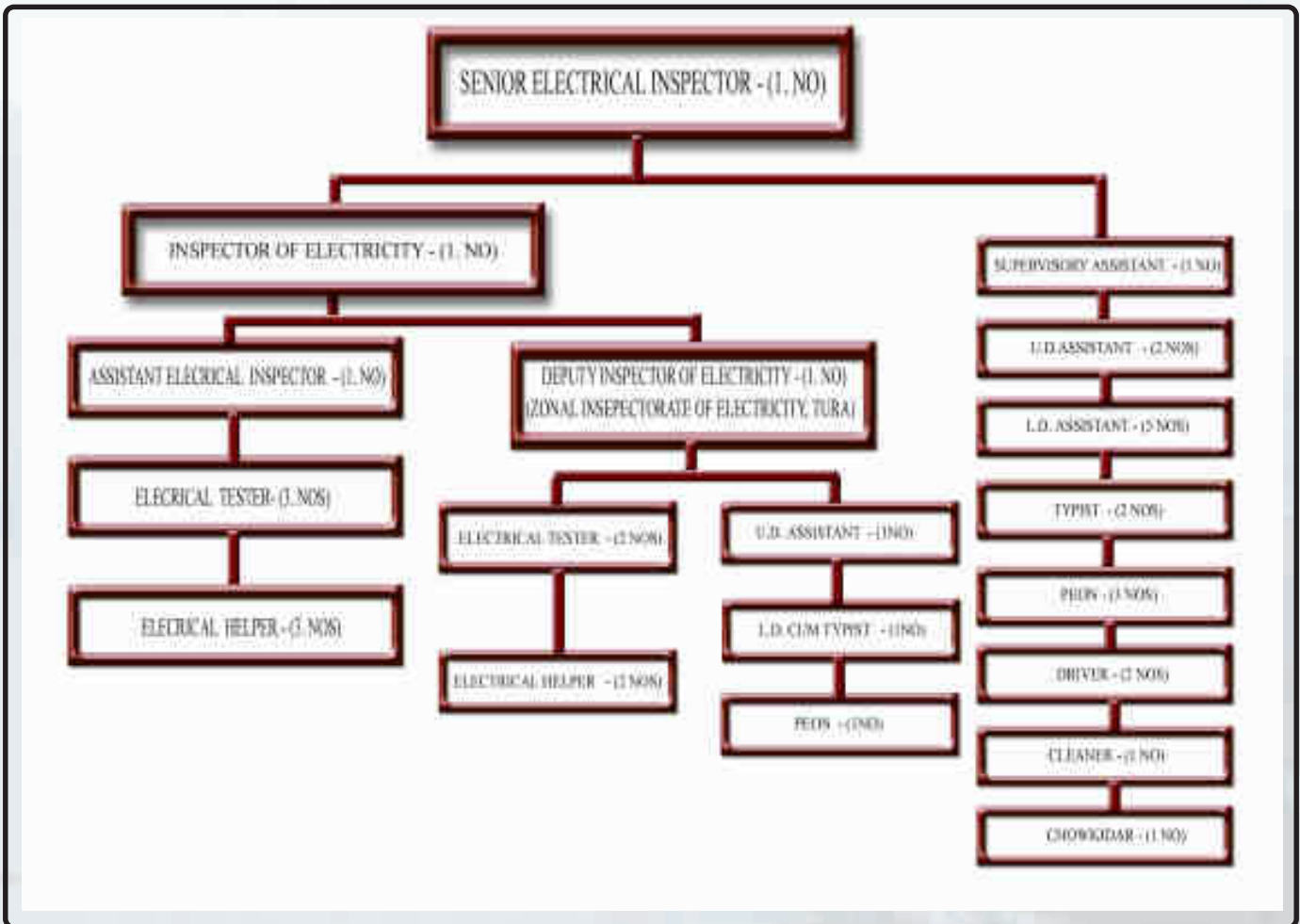
Establish and prescribe energy consumption norms and standards for designated consumers

Direct designated consumers to

- Designate or appoint certified energy manager in charge of activities for efficient use of energy and its conservation
- Get an energy audit conducted by an accredited energy auditor in the specified manner and intervals of time.
- Furnish information with regard to energy consumed and action taken on . the recommendation of the accredited energy auditor to the designated agency.
- Comply with energy consumption norms and standards, and if not so, to prepare and implement schemes for efficient use of energy and its conservation.
- Prescribe energy conservation building codes for efficient use of energy and its conservation in commercial buildings.
- Amend the energy conservation building codes to suit regional and local climatic conditions.
- Direct owners or occupiers of commercial buildings to comply with the provisions of energy conservation building codes.
- Direct mandatory display of label on notified equipment and appliances.

- Specify energy consumption standards for notified equipment and appliance. Prohibit manufacture, sale, purchase and import of notified equipment and appliances not conforming to standards.
- The Energy Conservation Act, 2001 defines the powers of the State Government to facilitate and enforce efficient use of energy and its conservation. The State Governments have to designate State Designated Agencies in consultation with the Bureau of Energy Efficiency to coordinate, regulate and enforce the provisions of the Act in the State. Thus the State Designated Agencies are the strategic partners for promotion of energy efficiency and its conservation in the country.

Organizational Structure



• About MSDA (role and Responsibilities)

The three major roles envisaged for Meghalaya State Designated Agency in implementing EC Act are:

- *As a Development Agency*
- *As a Facilitator*
- *As a Regulatory / Enforcing Body*

DEVELOPMENTAL ROLE:

Meghalaya State Designated Agency would provide a platform for local policy development and implementation of the provisions of the EC act. Key ingredients of its developmental role include governance, compliance and advocacy of the EC act. In the absence or failure to discharge its responsibilities, the danger exists that the provisions under the act will not be enforced, that the laws will be by-passed and become ineffective, and that law reform opportunities in the future will not be identified and pursued.

Key elements related to the developmental role of Meghalaya State Designated Agency include the following:

- a) organization design
- b) capacity building for regulatory and facilitation functions
- c) program monitoring & interactive feedback

To start with, Meghalaya State Designated Agency is expected to take the stipulated tasks under the EC Act and generate feedback on the response from the designated consumers and other entities. Based on the experience gained and response, the program development process is reoriented for a result oriented path. A good deal of understanding between Meghalaya State Designated Agency and Bureau of Energy Efficiency and Energy Conservation program participants would be the basic pre-requisite for the success of this mission.

ORGANIZATIONAL ISSUES :

Governance is related to an effective organ-gram; existing agencies may be suitably restructured (through a review of job contents, qualification / experience of the staff, training / re-training needs, out-sourcing). Watch words reflecting an organization design catering to an effective developmental role focus on : efficiency, consistency, transparency & practicability in the style of functioning

EXPECTATIONS FROM AN EFFECTIVE MEGHALAYA STATE DESIGNATED AGENCY

EFFICIENCY: lean & flexible set up geared to discharge responsibilities with limited physical & fiscal resources, internal management information system and reporting

CONSISTENCY: emphasis on retention of key functionaries and their development, need based practices/standards, system of monitoring & evaluation

TRANSPARENCY: exchange of information with Stake holders, publicity-media

PRACTICABILITY: respectability --+ responsiveness to customer complaints, initiatives over and above stipulated under the Act. useful suggestions for re-design of the Act.

REGULATOR FUNCTIONS

Meghalaya State Designated Agency is expected to boost the tempo of the energy conservation drive by tapping the latent potential for opportunities by activating not so responsive consumers to such efforts through market friendly interventions. The success of new legislation will also depend on the appropriateness and effectiveness of the compliance mechanisms. If, for example with inappropriate set up depicting inadequacies in respect of practical means of verification and inspection, the act is likely to be ignored by the stakeholders. It is the duty of the respective Meghalaya State Designated Agency to exercise particular care and attention to deploy a suitable cadre of specialists to cater to the provisions of the Act before national legislation can fulfill its full potential.

- Profile and Energy Scenario of Meghalaya :**

The generation, transmission and distribution of electrical power is being looked after by the Meghalaya State Electricity Board.

Generation capacity (Hydel Generation) No thermal generation

Myntdu Leskar H.E. Project of 84 mw is under construction. The Range of average annual energy consumption are around 459 mw.

Sl. No.	Name of power station	Capacity	Total installed capacity (mw)
1	Umtru Power Station	11.2	185.2
2	Umiam Stage - I	36	
3	Umiam Stage-II	18	
4	Umiam Stage –III	60	
5	Umiam Stage -IV	60	

The State as of now is facing an acute shortage of Power Supply and the State Government feels that the vast hydel potential of 3000 mw needs to be harnessed at the earliest. Efforts are also been made on the development of transmission line so that the State can evacuate its future generation and also to enable to draw its share of power from the Central Power Sector in the North Eastern Region.

During non- monsoon period, the availability of power is very low and even the restricted demand of power in the State has to be met through import of power from the North East Grid. This is due to the new liberalized industrial policy of Meghalaya that has triggered an unprecedented load growth in the industrial sector of Meghalaya, coupled with the identical growth in other sectors due to accelerated power development and reform process.

Year	Unrestricted Peak Demand (MW)	POWER AVAILABILITY			Total Availability (MW)
		Power Availability (MW) (Annual Average)			
		State Generation	Central Sector Share		
			Total Share	Actual drawal	
2004-05	220	67.75	78.91	66.39	146.66
2005-06	280	58.76	82.70	78.07	141.46
2006-07	350	44.60	73.60	94.70	118.20
2007-08	385	75.60	85.35	82.79	160.95
2008-09	425	64.40	98.90	91.60	163.20

This has affected the power demand and the unrestricted peak load for the year 2007-08 is projected at 610 MW

Due to transmission constrain, MeSEB can draw only 120-140 MW and 60-80 MW during off-peak and peak hours.

Present Power Demand Position in the State

- a. industrial release load 260 MW***
- b. pending industrial load assured 220 MW***
- c. domestic and commercial load 130 MW***

Total unrestricted Demand 610 MW (a+b+c)

Demand forecast

- a. At the end of 11th Plan (2012) = 796 MW
- b. At the end of 12th (2017) = 1281 MW

Present status of village electrification in the state of Meghalaya is shown in the table below

Sl. NO.	DISTRICT	TOTAL NO. OF VILLAGES	VILLAGES ELECTRIFIED UPTO 31.03.2009
1	<i>East Khasi Hills</i>	<i>920</i>	<i>805</i>
2	<i>West Khasi Hills</i>	<i>924</i>	<i>360</i>
3	<i>Ri Bhoi</i>	<i>543</i>	<i>427</i>
4	<i>Jaintia Hills</i>	<i>467</i>	<i>493</i>
5	<i>East Garo Hills</i>	<i>864</i>	<i>359</i>
6	<i>West Garo Hills</i>	<i>1469</i>	<i>762</i>
7	<i>South Garo Hills</i>	<i>595</i>	<i>222</i>
TOTAL		5782	3428

3. ENERGY CONSERVATION PLAN IN THE STATE

- **Formation of ECAT**

The Meghalaya State Designated Agency has officially written to different Government Departments for nominating officers from their respective departments to be members of the ECAT. Some departments have officially responded by nominating one or two officers to be included in this team while others are yet to be officially give their nominations. The Meghalaya State Designated Agency will work on this and it will then send the proposal to the Government for constitution of ECAT

- **Activities as per energy conservation plan for 2007-08**

D. PUBLICITY / AWARENESS

- 6.1 Annual State level conference of energy intensive industry, as well as certified energy managers and energy auditors with award for all categories
- 6.2 Constitution of EC Awards
- 9.0 Design and printing of promotional material to be distributed to all four stakeholders: certified energy managers, accredited energy auditors, designated consumers and general public

E. TECHNICAL ASSISTANCE

- 15.2 Conduct demo projects (Govt. buildings, water pumping station, sewage pumping station, Municipality, Street lighting system, traffic lighting system, etc.)
- 15.3 DSM demo projects (CFL, peak load management programs, etc.)
- 15.4 CDM projects
- 15.5 Dissemination of the demon project results
- 15.6 Development of SMEs Clusters
- 15.7 EE in Agricultural Pumping System.
- 16.0 Preparation and publishing of annual year book of energy conservation measures at State level
- 17.0 Survey of buildings at state level which fall under the Energy Conservation Act.
- 17.1 Amend ECBC
- 17.2 Prepare commercial buildings list as designated consumers.
- 18.0 Preparation of report and analysis of state level incentive as well as disincentive policies concerning energy conservation measures in energy intensive industries including power sector.
- 18.1 Publication of State Level Annual Book of Energy Conservation Measures
- 19.0 Preparation of recommendation for streamlining state level policies concerning energy conservation
- 19.1 Formulation of state policy and action plan / operational plan

• Funding status

The funding pattern out of the budget estimate for five years energy conservation Action Plan prepared by the Meghalaya State Designated Agency is as indicated below:-

For the year 2007-2008 the fund released is Rs. 18,73,000 only

For the year 2008-2009 the fund released is Rs. 22,16,900 only

- Selected Activities as per the energy conservation Plan

A. INFRASTRUCTURE / AIDS	Establishment of Internet Platform for Communication with SDA (software Components) <i>i) Office Software</i> <i>ii) Window Operating System</i> <i>iii) Web Designing</i> <i>iv) Other Requirements</i>	
B. TECHNICAL ASSISTANCE / CONSULTANCY	1	Establishment of Internet Platform for Communication with SDA (Consultancy Components)
	2	Preparation of list of certified energy managers and accredited energy auditors which work or reside in the State
	3	Preparation of list of designated consumers and their energy consumption
	13	Collection of data concerning manufacturing as well as sales of household appliances and other equipment at state level falling under the Energy Conservation Act
C. WORKSHOP / TRAINING PROGRAMMES / MANUALS	10	Conduct mandatory refresher course for certified energy auditors and Energy Managers
	12.2	Training of SDA personnel as trainers (through TOT)
D. PUBLICITY / AWARENESS	9	Design and printing of promotional material to be distributed to all four stakeholders: certified energy managers, accredited energy auditors, designated consumers and general public
E. TECHNICAL ASSISTANCE	15.2	Conduct demo projects (Govt. buildings, water pumping station, sewage pumping station, Municipality, Street lighting system, traffic lighting system, etc.)

4. ACTIVITIES UNDERTAKEN BY THE STATE IN 2008-09

● **Activities initiated as per the energy conservation Plan during 2007-2008**

The Inspectorate of Electricity being the State Designated Agency in its initial step have undertaken the works as per the activities-wise shown in the analysis of funds 2007-08 as follows

- I. Establishment of Internet platform for communication with Meghalaya State Designated Agency. The job have been entrusted to the National Informatic Centre, Shillong and the State's Website by the address of : www.msda.nic.in was launched on the 18th November, 2008. The expenditure for purchasing the computer hardware i.e. Monitor, UPS, Laptop, LCD Multimedia Projector, Document Scanner, Lazer Printer and Tripod Screen for LCD Projector comes to Rs. 1,63, 027/- only
- II. The General Activities for hiring of consultants for the preparation of the list of designated consumers and the energy consumption, collection of data concerning manufacturing as well as sale of household appliances and other equipments at State Level falling under the Energy Conservation Act and conduct demo projects (Government Buildings, Water Pumping System, Traffic Lighting System etc.) have been entrusted to the National Productivity Council, Guwahati to complete at the cost of Rs. 7,75,284/- inclusive of taxes @ 12.36 %. Final report has been submitted by NPC, Guwahati.
- III. Hiring of Media Consultant for preparation of media Plan to examine the replicability of the media plan to cover all stakeholders through media, to strategically and productively develop the theme / concept for press meets, news release, articles and other promotional initiatives targeting local and national media; to prepare a Media Scheduling Plan; to prepare media feedback plan; design and printing of Promotional materials to be distributed to all stakeholders, certified Energy Managers; accredited Energy Auditors, designated consumer and general public. The job have been entrusted to M/s, Silicon Infocom, Guwahati at the total cost of Rs. 69,500/-only. Final report has been submitted by M/s. Silicon Infocom, Guwahati
- IV. Design, Printing of Posters, stickers, pamphlets, leaflets, Promotional materials\ have been entrusted to Kharbuli Enterprises for printing of more numbers of copies for wide circulation to the public. The total cost of expenditure is Rs. 1,19,950/-.
- V. Till date only **3(three)** number of Energy Auditor(s)/Energy Manager either residing or working in Shillong have been recorded so far: -

DETAILS OF ENERGY MANAGER(S) / ENERGY AUDITOR(S) RESIDING IN SHILLO

1. Name:	<i>SHRI SAMAR RANJAN BISWAS</i>	<i>SHRI ARVIND RAI</i>	<i>SHRI AKSHAYA KUM</i>
2. Permanent Address along with Mobile No., Fax No. and E-mail ID:	<i>House No. F-7, Bishnu Rava Path, Odalbakra, Guwahati 781 034. Mobile No. 098630 21834. E-mail: biswassr@yahoo.com</i>	<i>Vill- Londhawan, P.O. Jamalpur, (U.P.)Mirzapur District. Pin – 231302 Mobile No. – 9436160410 Email:- arvindrai_cmcl@yahoo.co.in</i>	<i>Banibihar Aska, Dist:- Ganjam, Orissa, Pin-761110 Mobile No:- 9856052503 Email:- akshayarath@yahoo.c</i>
3. Present name of the Employer with Address: (Tel. No., Fax No. & E-mail ID:	<i>North Eastern Electric Power Corporation, Lower New Colony, Shillong 793 003. Ph (0364)2229778, Mobile 09863021834. E-mail biswassr@yahoo.com</i>	<i>Cement Manufacturing Co. Ltd. Lumshnong, Jaintia Hills District, Mobile No. – 9862571299 Email :- arvindrai@cmcl.co.in</i>	<i>M/s EAGA Energy India Pvt. L</i>
4. Designation:	<i>Deputy General Manager (EI)</i>	<i>Asstt. General Manager – Electrical</i>	<i>Consultant Energy Conservat</i>
5. Duties and responsibilities in the organization:	<i>Presently posted in the office of the Director (Technical) looking after all technical works of the Corporation.</i>	<i>Working as HOD and also as head of Energy Conservation Cell of the Company (Cement Plants & Power Plants)</i>	<i>Presently deputed by BEE to p consultancy service in regard Conservation to Meghalaya Si Agency on Energy Conservat</i>
6. Energy Efficiency or Auditing activities:	<i>Looks after general areas of Energy Management.</i>	<i>We have formed Energy Conservation cell and meet every fortnightly to review the energy monitoring and conservation activities</i>	<i>Providing Consultancy suppo participating in formulation o Conservation Policy with Gov</i>
7. Training programme Conducted in energy efficiency:	<i>Nil</i>	<i>In house and also by external agency – M/s Confederation of Indian Industries (CII)</i>	<i>Conduct Awareness Program Energy Conservation to Silico Industries in Byrnihat on 27th awareness programme on S & dealers & distributors in Shill September , 2009</i>
8. Area of Specialization/ Expertise:	<i>Electrical Engineering.</i>	<i>Specialization in energy management. Also working as Energy manager our Companies/ Groups</i>	<i>BEE Certified Energy Auditor Graduate Diploma in Energy M</i>

• **Other activities undertaken by the MSDA during the year 2007-08:**

1. Materials in English Language concerning 'Energy Conservation and Efficient use of Energy' as supplied by Bureau of Energy Efficiency, New Delhi has been translated into Khasi and Garo Languages by hiring competent persons to do the job. The total expenditure come to Rs 3,600/-.
2. Design, Printing of Posters, stickers, pamphlets, leaflets, Promotional materials\ have been entrusted to Kharbuli Enterprises for printing of more numbers of copies for wide circulation to the public. The total cost of expenditure is Rs. 1,19,950/-.
3. Cost for the development of advertisement on Video Graphics Advertisement (Entry Level Voice) on Energy Conservation have been entrusted to Shri Conrad Syiem at the total expenditure of Rs. 8,500/- only.

Live Telecast of Video Graphics advertisement have been entrusted to Peitngor Cable News in 4 insertions in one month's period i.e. from 19th & 26th October, 2008 and 2nd & 9th November, 2008 at the total cost of Rs. 5,000/- only.

4. Production cost of audible spots on Energy Conservation at the time span of one month have been entrusted to Prasar Bharati Broadcasting Corporation of India, All India Radio, Shillong at the total expenditure of Rs. 24,720/- only.

The charge for 30 Seconds broadcast of audible spot on Energy Conservation as per the Scheduled Time arranged commencing from 1st August, 2008 to 30th August, 2008 have been entrusted to Prasar Bharati Broadcasting Corporation of India, All India Radio, Shillong at the total expenditure of Rs. 45,126 only.

5. The Meghalaya State Designated Agency hosted the 2 (two) days training programme on General Awareness of Energy Conservation Act, 2001 on 12th & 13th August 2008, State Level Essay Writing Competition on the 14th November, 2008 and Energy Conservation Day on 15th December, 2008.
6. The SDA has been able to distribute around 80 % of printing materials in the for of pamphlets, leaflets, Stickers, brochures etc. during the 96th Indian Science Congress which was held at North Eastern Hills University on 3rd-7th January. 2009 Some materials have also been issued to the MeSEB Engineers at Field Level and also to the BDOs of different jurisdiction after getting the permission from the concerned DCs
7. A separate funding of was sanctioned by BEE for conducting State Level Essay Writing competition. An amount of Rs. 1,16,016 has been incurred.

- **Activities initiated during the year 2008-09**

1. The State Designated Agency in collaboration with the Petroleum Conservation research Association (PCRA) Kolkata organized a one day training programme for Industrial Consumers and Govt. Officials on the 27-05-09 at Pinewood Hotel, Shillong in which representatives from different Industrial units and Govt. Officials participated in the training. The training programme stressed on creating awareness on every potential that can be achieved in the Industrial sector with the implementation of many energy efficiency measures.
2. Demonstration Project:- The State Designated Agency has written a letter to the MeSEB and PHE Deptt. seeking their consent for demonstration projects for street lighting systems and water pumping system. The consent from MeSEB have been received and the same have already been forwarded to Bureau of Energy Efficiency. Some steps have been initiated in this regard The consent from PHE Deptt is still awaiting. In response to MeSEB consent, BEE has offered the job for the conduction of Energy Audit and to prepare DPR in this regard to M/s TUV Sud South Asia/ TUV Sud Group Delhi.
3. IGEA of Govt. Buildings: Based on the nine (9) numbers Govt. Buildings which have been identified, the SDA has also issued a letter to different departments concern of State Govt. seeking their consent. In this connection, Director Printing Press, C.E. – PWD and Manager, Pinewood Hotel have offered their consent. CE PWD and Raj Bhawan are yet to give their consent.
4. The SDA has identified M/s Shyam Century Ferro Alloys (P) Ltd., Byrnihat as a Designated Consumer on the basis of data collected by the Consultant ie. NPC, Guwahati but notification from the Central Govt. is required in this respect
5. State Energy Conservation Fund: The SDA has suggested the State Govt. for the creation of State Conservation fund vide letter No. IEL.IX/124/2006/118, dated 13th October, 2006 but instead the State Govt. in Finance Budget Deptt. has already created a sub-head (04) under the major head 2045.

5. PROFILE OF ENERGY INTENSIVE SECTORS IN THE STATE AND ENERGY SAVED

• Profile of Maithan Ferro-Alloys Pvt Ltd:

We would like to introduce ourselves as one of the reputed Ferro-Alloys producer in the country and having a Captive power plant of 15 MW capacity at Byrnihat, Meghalaya. The power plant is running to meet the requirement of our own 2x9 MVA Arc Furnaces.

The Power Plant is commissioned in April 2009. The power plant consists of the following the following major equipments-

- a) **One no 65 TPH AFBC Boiler (Make- Cethar Vessels P. Limited, Trichy), single drum, natural circulation, having radiant and convection superheaters, Bed coils. Pressure and temperature of outlet steam is 66 Kg/cm² and 490+ 5 Deg C respectively.**
- b) **One no 15 MW capacity Bleed cum condensing Steam Turbine (Make- Triveni Engineering and Industries Limited, Bangalore). It is single cylinder, multi stage, Impulse Turbine. Intel steam pressure and temperature is 66 Kg/cm² and 485 +_5 deg C.**
- c) **One nos 15 MW capacity Alternator (Make: TD Power System Pvt Ltd, Bangalore).**
- d) **4200 CMH .capacity crossed flow, induced draft type Cooling Tower (Make- Paharpur Cooling Tower)**
- e) **40 TPH Raw material handling system, 4 CMH UF and RO based DM plant, 2.5 TPH Pneumatic conveying ash Handling system etc.**

The Plant has been designed by M/s AKB Power Consultant Pvt Limited with all possible energy efficient equipments. However further discussion on improvement in plant efficiency, reduction of plant heat rate issues are on discussion.

After having a discussion with Mr. Akshay Kumar Rath (Consultant-Energy Conservation) in our company premises and attending the awareness program on energy conservation conducted by Inspectorate of Electricity, Meghalaya, we have taken the following steps to reduce our auxiliary power consumptions -

1. Suggested management to conduct an energy audit of our power plant to find out all the possible areas where the energy can be saved.

2. In our Power plant we have 2 nos ID fans (1W+ 1S) each of 135 KW, 2 nos FD fans(1W + 1 S) each of 310 KW and 2 nos PA fans (1W+1 S)each of 45 KW. All these fans are of damper controlled (IGV).We are planning to operate these fans with VFD such that power consumption in fans can be brought down. The study of the same is under progress. We are expecting that the auxiliary consumption of our power plant which is presently 10 % will come down to 9% .
3. We have also built a team in our power plant which is regularly monitoring the operational activities and analysis the operational records, trends etc .

This team consists with the following members-

- a) ***Operational head of O & M team.***
- b) ***4 nos Shift Incharge of O&M team.***
- c) ***H O D in Electrical.***
- d) ***H O D in Mechanical.***
- e) ***H O D in Instrumentation.***
- f) ***H O D in Quality Control.***

The responsibilities of the team is as follows-

- i) Provide appropriate awareness/training to employees on the energy conservation and importance of good operating practices.
- ii) Create awareness on energy conservation amongst our associates ie. Contractors, sub contractors, suppliers, transporters etc.
- iii) Conduct daily meeting to review the operation of the power plant.
- iv) Shear ideas on efficient operation, reduction of down time, regular preventative maintenance of machineries etc.
- v) Continually shear new ideas on power conservation, maximising the generation, minimising the auxiliary consumption,minimising the fuel consumption etc.
- vi) Discussion-on reduction of unburnt carbon in fly ash, reduction on fuel consumption by reduction in various losses etc.

**Thanks & regards
For Maithan Alloys Limited
Dinesh Agarwala
(Dy. Manager Mechanical)**

Profile of Cement Manufacturing Company Limited Lumshnong, Distt. : - Jaintia Hills (Meghalaya)

COMPANY PROFILE

Cement Manufacturing Company Limited (CMCL) is a member of well known CENTURY PLY group. It was commissioned in February'2005 with initial cement production capacity of 1000 TPD. The plant consists of one Clinckerisation and two Grinding Units. Recently one Thermal captive power plant (Meghalaya Power Limited) of 8-MW capacity has been commissioned in April, 2009 within the same premises. The plant capacity has been upgraded from 1000 TPD to 2000 TPD through major modification and implementation of most advance technologies. Today CMCL is largest & leading cement manufacturing company in North- East.



CMCL has a full fledged Energy Conservation Cell headed by the competent Energy Manager duly certified by the Bureau of Energy Efficiency for identification and implementation of energy conservation activities in the company.

Specific Energy Consumption in 2008- 09 is 102.80 KWh/ Ton of cement as against 113.94 KWh/ Ton of cement in 2007- 08.

The following energy conservation activities have been adapted in the plant –

a. Energy Conservation Measures Taken:

1. Installation of VFD in all cooler fans, coal mill vent fan, cement mill vent fan etc. and controlling the air flow by varying the motor RPM instead of dampers operation.
2. Power factor improvement at various stages of electrical distribution system by the addition of capacitor banks.
3. Installation of coal stacker & reclaimer.
4. In Raw Mill & Cement Mill main drive HT motors external cooling blowers have been installed and shaft mounted impellers have been removed resulting reduction of down time as well as power consumption.
5. Replacement of conventional Fluorescent lamps by energy efficient T5 lamps and CFL in colony and plant.
6. Plant & colony power consumption reduced by various activities like automatic switching off-on power supply through the timer, optimization of street lighting, optimization of lamp/light fittings capacity etc.
7. For Kiln firing circuit roots blower 110 KW motors are replaced by 90 KW and 90 KW motor are replaced by 75 KW motor for optimization of load.

b. Additional investment and further proposals:

Recently we have called the team from **Confederation of Indian Industry** for Energy Audit. **CMCL** team & **CII** team have jointly conducted detailed energy audit at CMCL and identified Energy Saving Potential of 13.5 Units per ton of Cement estimating to monetary saving of 395.61 Lakhs per annum.

I. Energy Audit findings are summarized as below :-

II. Status of Implementation:

Energy savings proposals implemented & result achieved:

Details	No. of Projects	Investment (Rs. in Lakh.)	Benefit achieved (Rs. in Lakh)	Pay Back period (Months)
<i>Project Without Investment</i>	8	Nil	32.64	
<i>Project with Investment</i>	4	17.2	44.36	5
TOTAL	12	17.2	77.00	

We have successfully implemented 12 energy saving projects and achieved saving of 270 units per hour which equals to annual saving of Rs. 77 Lakhs. Per annum.

III. Action Plan for future:

After Implementation of Energy saving proposals identified by the joint exercise of CMCL & Confederation of Indian Industry, the Energy Consumption per Ton of PPC will reduce down to around 82- 85 KWh.

IV. SL NO.	Form for Disclosures of particulars with respect to conversation of energy:	2008 – 2009	2007 – 2008
A.	Power & Fuel Consumption		
	ELECTRICITY		
	A Purchased		
	<i>Unit (Lakhs. KWH)</i>	726.43	590.71
	<i>Total Amount (Rs. in Lakhs.)</i>	3864.22	1953.52
	<i>Rate/ Unit (Rs.)</i>	5.32	3.31
	B Own Generation		
	<i>Through Diesel Generator</i>	Nil	Nil
	<i>Unit (Lakhs. KWh)</i>	Nil	Nil
	<i>Units/ Ltr of HSD</i>	Nil	Nil
	<i>Total Amount (Rs. in Lakhs.)</i>	Nil	Nil
	<i>HSD const./ Unit Generated (Rs./ Unit)</i>	Nil	Nil
B.	Consumption per unit of Production		
	Electricity (KWh/ Ton of Cement)	102.80	113.94

NOTE ON MSDA MATERIALS ON ENERGY CONSERVATION *(Comments and Remarks)*

The MSDA Material on Energy Conservation was distributed to all the Schools in Meghalaya. For the 1st Phase Schools in West Khasi Hills District, Jaintia Hills District and Ri-Bhoi District were covered.

The Field Report analysis comes out with a good response and appreciation from both the School authorities, the general public and the Govt. Officials.

The Rangbah Shnong of one of the locality of Umsning Area in Ri-Bhoi District concluded by saying that it is truly that Energy is the fourth basic needs of Human being after Food, Clothing and Shelter.

The Deputy Commissioner of Jaintia Hills District lauded the effort of Inspectorate of Electricity also the State Designated Agency on Energy Conservation in bringing awareness on Energy Conservation. He even invited the office to participate in the Discovery Jaintia Festival on November this year so that the impact will be more. He mentioned that all will be benefited from the Handbooks and Broachers that was distributed.

The SDO of Khliehriat Civil Sub-Division suggested that if possible that the MSDA materials on Energy Conservation be extended to Colleges and Universities in Meghalaya.

The Principal of St. Peter's Higher Secondary School Pyndengrei, Nongstoin extend his thanks and gratitude to Inspectorate of Electricity also the State Designated Agency on Energy Conservation for dedicated and commendable service. He was of the opinion that the Handbook is best suited for school library.

The Principal of Mynken Christian Secondary School, Bhoilymbong says that the Handbook will really helps the students for their Project Work on Energy Conservation and Assignment on Science and Technology.

The Principal of Rymbai Christian Higher Secondary School advised that if possible the Handbook be distributed to each students of his school from Class VIII onwards or to be provided at least 10 nos. to each school.

The Principal of Oesis School, Nongpoh invited the Office for Awareness on Energy Conservation for the better knowledge and understanding of school children.

The Headmaster of Seng Khasi School, Mairang also invited the office for demonstration and for more materials on Energy Conservation.

The Headmistress of St. Mary's Marian Hills, Jowai were of the opinion that if possible the Handbook be published also on local language for the benefit of the students in rural area and the general public.

6. OTHER INITIATIVES

A survey for ascertaining the penetration of efficient equipments/appliances in the market of Shillong areas was conducted by Shri Akshaya Kumar Rath, Consultant and Shri B.D. Nengnong, Senior Electrical Inspector. A format to be filled by the Electrical Dealers and Distributors have been designed and distributed to some Dealers and Distributors. Some of these dealers and distributors have complied and sent back the filled-up format.

During the course of our interactions with many electrical dealers and distributors, it was found out that most of them are ignorant about the existence of star equipments / appliances with BEE logo. All the dealers and distributors are also not keeping record of the total numbers of Star and Non Star being sold on the market.

On the average it was found that only the sale of star related 'Direct Cool Refrigerators and Frost Free Refrigerators are on the higher side which has touched 90% to 92%.

In view of the above, the MSDA is contemplating of having an awareness programme. The same was then conducted on 8/9/2009

7. ANY OTHER INITIATIVES RELATED TO ENERGY EFFICIENCY

- **Essay writing competition held on the 2007-08 :**

Essays in order of merit which was held on the 14th November, 2008 at Government Boys Higher Secondary School, Shillong.



RIBHALINA LYNGDOH PALE
PINE MOUNT SCHOOL
CLASS - VIII

SAVE ENERGY, THE WORLD IS IN YOUR HAND

“The Earth Has Enough For Everyone’s Need But Not Enough For Anyone’s Greed”- Mahatma Gandhi.

The above live appropriately sum up the status of earth’s resources vis-à-vis human need. Ever since civilization began, mankind with its intellect has only shown vertical progress. We have crated machines which have only added to our quality of life, all of which has taken its toll on what earth had to offer to us.

Energy is defined as the ability of a body to do work. In present context its implies the various resources which contribute towards energy generation. There are tow types of energy reserves- exhaustible and inexhaustible reserves. All of these are utilized for power generation which is what drives the machines that do our work for us. This sums up the importance of energy reserves. Without energy, the driving force behind our machines would be finished. And, without our machines to help us, civilization would come to a standstill. That would be the start of decadence.

Exhaustible reserve mainly consists of fossil fuels like coal and petroleum. These fossil fuels where built up over millions of years ago of the slow sedimentation of fossils. They contain a very high percentage of carbon and thus burning them stars exothermic reaction leading to the evolution of heat. Although the overall reserves of fossil fuels is quite high, the proportional use of them is even more high, leading to their fast depletion. A decade ago, based on usage patterns, it was estimated that petroleum reserves would last for around eighty more years and coal reserves of a century or so. Now the prediction has become rather gloomy. It looks like the oil reserves would last for another thirty more years and the coal reserves of another seventy more years. However, these figures are just indicative since usage is showing an upward trend, it is apparent that these reserves would deplete much more earlier than expected.

Oil, as petroleum is commonly known, is the most precious resources ever known to mankind. It is the fuel that drives the automobiles, ship, aircrafts such is the importance of oil on the world that global markets go into an uprising or downswing depending on the oil prices as economies develop and more and more people attain upward mobility, it is but natural that the automobile industry will only move forward, which will mean more an more dependence on petroleum.

Coal, on the other hand, is essential for electric power generation. Though technology has made it possible to generate electric power from other resources, yet more than sixty percent of electric power is produced from coal. Coal's importance is also seen in the iron industry, steel industry and cement industry where it is the primary source of thermal energy. Like automobiles, iron, steel and cement industry are crucial to infrastructure development and are invariably linked to economic progress.

Having realized the importance of these energy reserves, the need is to understand how to manage these resources so as not to hamper their growth while ensuring that their are backup options available to us in the event of non-availability of such resources. One option is to deviate more towards renewable sources of energy like the sun, wind, water which are virtually inexhaustible and clean. Having said that, we need to understand that technology is still nascent and the inexhaustible reserves are even now not a viable option for energy generation. Solar cells and solar powered cars have been developed, but making them operational on a large scale needs cost cutting which is still being worked on. So is the case with wind energy. Though hydel energy is becoming popular, the resultant environmental degradation associated with dams makes public sentiment go against them. If technology can develop further then nuclear energy is the ultimate source of energy for power generation. A new breed of hybrid cars are slowly entering the markets which run on a rechargeable battery and makes as negligible use of oil. The only setback is the price however, this will no doubt be resolved through future mass production.

Ultimately, it is only efforts at the macro-level which can really boost energy conservation measures. Everyone, by making little efforts of our own can help in saving energy. By using carpools in place of our own cars, wherever such options are available. By reducing dependence on air conditioners and refrigerators. All such small efforts which go towards saving energy also go towards global warming, thereby, benefiting us in more ways than one. The power to save energy is in our hand so we must conserve it now or it will be too late to quote a passage from the Upanishads, the famous Hindu text –

“Oh lord, help us give back to mother earth what we have taken from her. Give us the understanding not to strike her with our vitals and entails”

Like they say, THE CHOICE IS OURS





GABRIELLA Z NONGRUM
MIZO MODERN HIGHER SECONDARY SCHOOL
CLASS – VIII

SAVE ENERGY, THE WORLD IS IN YOUR HAND

Each and every human being on this planet know the ‘dos’ and ‘don’t’s’, yet we would rather do more of the “don’t’s” and less of the “dos”, when in reality it should be the other way around. The fact is, the world we live in is full of devices which are both eco-friendly and harmful to the environment. Most of us cannot live without the many things that have harmful effects on this planet. Televisions, vehicles, computers, planes etc consumes a lot of energy and emit harmful chemicals, gases and pollutant which create havoc to the world we live in..

We could always do our bit to conserve the planet. For starters, we could switch off our electrical appliances when not in use. We could also start the habit of walking instead of driving or taking a taxi, on the plus side we will be getting a certain quota of exercise we so desperately require.

Some people turn on their television while they are busy in the kitchen, with the microwave or dishwasher. With the radio or computer turned on in the other room, blissfully unaware of the huge amounts of energy going to waste. Some feel that just because they are paying out of their own pockets, they somehow have a right to waste as much energy as they desire. What we need is a wake up call because we certainly lack the sense of moral rectitude

It would be unfair to blame technology for causing this huge energy depletion as it is the same technology which helps us in our everyday lives. For example, finding an antidote for rare disease going half way around the world in less than a day and so much more.

Let us take a look at some forms of sustainable forms of energy:

- Solar Energy
- Wind Energy
- Hydro Energy
- Thermal Energy
- Geo-thermal Energy
- Biomass Energy

these forms of energy are sustainable and are ever present. They cannot be exhausted. If coupled with technology so as to be optimally exploited, we may find that the answer to our energy crises may be solved.

This is not to say that these forms do not have disadvantages. They are pretty expensive which means we do not use them much. However, therefore confining the use of conventional forms of energy.

Governments, head of industries and factories and the common mass must be made aware of the threats we are facing. Those with the power to make laws and enforce them need to evaluate of finding a way to keep a check on what we use. Money is important, but not at the cause of the buffering of future generations.

We would not be facing this problem if we had been careful right from the start, but what we can do now is learn from it. Keeping in mind, the three "R's" REDUCING, REUSING and RECYCLING. We need to use what nature has given us in a controlled, well - calculated manner.

So, be environmentally aware. Use your knowledge to save the planet, Its the only home we have.



SIDDHART JHA
ST ANTHONY'S HIGHER SECONDARY SCHOOL
CLASS – VIII (B)

SAVE ENERGY, THE WORLD IS IN YOUR HAND

Life cannot be imagined without the machines running around us. Human life is comfortable through the household electrical appliance like television, light, fans, telephone, etc. Energy is also consumed in transportation, running industries and even for the agricultural purposes. Almost the entire amount of energy that is consumed, at present, is observed from the natural resources like coal, natural gas, mineral oil and nuclear fuel, which are gradually becoming exhausted. We have yet not prepared ourselves ready with alternate fuels and supply sources of energy so that the human comfort may not decrease, if in case the natural resources become exhausted in the near future.

Energy is not being used in a proper manner in the urban centres. However, there are a few concepts of saving energy in the urban areas. Most of us have observed something as basic as switching of a light as switching of a light or fan not to speak of an air conditioner, it is a simple drill that most offices and establishments refuse to put into practice. Most residents blame the local power utility in the time of crises. However, they are reluctant to limit the

amount of consumption of energy. Though the increasing rate of consumption of energy, carbon dioxide levels are increasing and if this will go on, life will be almost impossible on this planet.

Most Indians taken pleasure in blaming the system responsible for the 'ills'. Blame game will lead us nowhere. What needed, is the willingness to come to grips with the problem and put forward the correctives. I personally feel that by the judicious use of energy, about forty percent of energy can be saved in India, which is remarkable.

India's consumption rate of energy is very low as compared to other, developed countries. However, regarding to its Gross Domestic production, it's relative consumption rate is very high. Even the cost of commercial energy produced in India is consumed by the industrial sector. India's break-down of consumption rate is

1) 38 % of electricity consumed by Industrial motors

2) 23% by electrical pump sets

3) 11% - 17 % by lighting.

One watt saved at consumption rate is more than one and a half watts generated (this difference is not during transmission). It costs of about rupees four hundred crores to create one mega watt of electricity in present generation capacity. The consultancy Development Centre, introduce the use of compressed natural Gas in Delhi to be saving rupees thee thousand and forty crores over the last five years.

There is a saying that "Charity begins at home" so what better place is there to trying the new maseim than a house? Building planners should build the cross ventilators in right directions to reduce energy requirements for cooling and heating. The interaction between the natural resources and the human population should be maintained at a balance to ensure the survival of the human race. We can also follow the formula of the three R's – "REDUCE, REUSE, RECYCLE". There are many energy conservation techniques and tips in our reach if we are ready to take advantage of them. It is a duty for everyone, whether living in a village oar a town, to sit and ponder of how to Recourse, Reduce, Reuse, Recycle". By conserving energy, we are reducing the number of pollutant mixed in the air and at the same time can also lessen the green house effect which is leading to global warming. In addition to this former President of India, Dr. A.P.J Abdul Kalam launched a National Campaign on the energy conservation, on occasion of the 'Energy Conservation Day' observed on 14th December, 2005 to spread awareness about energy conservation. Many school children joined this campaign through their painting for this was meant to motivate them towards saving energy. Energy conservation has now become an absolute necessity. It is our duty to preserve and conserve energy for the world's survival is in our hands.

8. SNAP SHOTS OF WORKSHOPS / SEMINARS ORGANIZED DURING THE YEAR 2008-09

ESSAY WRITING COMPETITION 2008



SEI and Chief Guests along with the First Three Winners and the ten consolation winners.



Welcome speech by Shri B.D. Nengnong, Senior Electrical Inspector & State Designated Agency on EC



Winner of the Essay Writing Competition 2008, Cash prize and Certificate distributed by Shri Conrad Sangma, Power Minister



First runners-up of the Essay Writing Competition 2008 alongwith Shri Conrad Sangma, Power Minister



(L) Second runners-up of the Essay Writing Competition 2008,
(R) Shri Conrad Sangma, Power Minister



Chief Guests presented on the prize distribution ceremony of Essay Writing Competition, 2008 held at Govt. Boys Higher Sec. School, Shillong.

ENERGY CONSERVATION DAY 2008



Shri A. Shome, (Commissioner & Secy, Power Deptt) during the inaugural address



Welcome Speech given by Shri B.D. Nengnong on Energy Conservation Day



Banner displayed on Energy Conservation Day



Participants from different departments who took part on Energy Conservation Day

96TH INDIAN SCIENCE CONGRESS



Prime Minister, Manmohan Singh delivering speech at the 96th Indian Science Congress held in NEHU, Shillong



Mani Shankar Aiyar, Union Cabinet Minister for Petroleum & Natural Gas during the opening ceremony



Registrar giving away mementos to the Senior Electrical Inspector on behalf of BEE, New Delhi



Banner concerning different star labeled appliances displayed at the 96th Science Congress



Distribution of energy conservation materials to the visitors at a BEE Stall at the 96th Indian Science Congress

SEMINAR ON EC FOR INDUSTRIAL SECTORS AND GOVT. OFFICIALS



Mr. Bhutia, PCRA giving away presentation speech during the technical session.



Senior Electrical Inspector giving a welcome speech on the Energy Conservation Seminar.



Resistration of participants on the Seminar on Energy Conservation.



Speech by P. Chattoraj, Additonal Director, PCRA on the Energy Conservtion Seminar



Officials and guests presented on the seminar held in Pinewood Hotel, Shillong



Participants who took active part on the seminar

STANDARD AND LABELLING PROGRAMME



Mr A.K. Rath answering queries regarding S& L to the dealers and distributors at the office chamber of the Senior Electrical Inspector & State Designated Agency on EC



Questions & Answers Session between A.K. Rath (Consultant Energy Conservation) and the dealers and distributors of Electrical Appliances in the office chamber of the Senior Electrical Inspector and State Designated Agency on Energy Conservation on 8 th September, 2009

9. CONSULTANCY SUPPORT GIVEN BY EAGA ENERGY INDIA PVT. LTD, KOLKOTA

Shri Akshaya Kumar Rath (BEE certified energy Auditor) by Bureau of Energy Efficiency provide Consultancy Support to MSDA for a period of nine months has been operating with MSDA since from 1st July, 2009.



Mr. Akshaya Kumar Rath (Consultant Energy Conservation) has been very instrumental in energy conservation activities initiated by MSDA and also he has given a number of valuable suggestions regarding to Energy Conservation related activities.

He has conducted one Awareness Programmes on Energy Conservation for the silicon ferro alloy industries in Byrnihat on 27th July, 2009 and one Awareness Programme on S&L Programme for the electrical dealers & distributors.

Some of the important suggestions given by Shri Akshaya Kumar Rath are :-

- i) ***Formation of Energy Conservation Action Team – Comprising of members of various Government Departments/Public Sectors/ Private Sectors in specific domain related to Energy Conservation activities.***
- ii) ***Creation of governing Council monitor the overall progress of the Energy Conservation Action Team (ECAT) members.***

He is also taking the leading role to negotiate with the state government to make mandatory gazette notifications for use of energy efficient appliances to motivate the consumers to use only energy efficient appliances.

He also acts as the solicitor to the government in formulation of State Energy Conservation Policy.

Design of software module for the purpose of recording and storage of Energy Consumption data having a link with demonstration project of street lighting and pumping station, domestic, commercial and office building and also the data for the industrial consumers besides other works of revamping/ redesigning of MSDA website.

10. ENERGY CONSERVATION TIPS

Golden Tips on Energy Conservation

1) TIPS FOR SAVING ENENRGY AT HOME

1. Instead of brightly lighting an entire room, light only the specific area where you are working and not the whole room.
2. Turn off all unnecessary lights and try keeping bulbs and fixtures clean.
3. Use light colour on walls to reduces your lighting requirement
4. Natural light is free. Make the best use natural lighting whenever and wherever possible especially during the day time.
5. Turn off lights and other energy consuming appliances which are not in use or utilized
6. Reduce overhead and confine to domestic lighting as far as possible to cut down your energy consumption bills.
7. Use fluorescent bulbs in desk lamps
8. Resort to CFL Bulbs instead of incandescent bulb. CFLs produce four times the light per watt compared to an ordinary incandescent bulb. They are higher in price but last longer.
9. About 10% of your electric consumption bill can be saved by installing dimmer switches, lighting motion sensors or low wattage light bulbs.
10. Illuminate your corridors using night lights when a little light is enough.
11. Avoid unnecessary decoration of lights and limit the consumption of electricity especially in a vacant house/ room.
12. Switch on the streetlights in proper time. It will be wise if we can use the timer.

B) TIPS FOR SAVING ENERGY FOR P.C. USERS

1. Set your computers, monitors, printers, copiers and other business equipment to their energy saving feature, and turn them off at the end of the day.
2. A PC requires 300-500 watts of electricity; three PC's left running continuously for a day will consume 7.2 - 12 kilowatt hours of energy enough to boost up your power bills.

3. Screen savers do not save energy so turn off your computer and all its equipment completely when not in use.
4. Turn off your laser printers when not printing. If possible, switch to ink jet or laser jets printers- they consume 90% less energy than laser printers
5. Use and encourage others to use e-mail instead of sending memos and faxing documents
6. Some printers require a minimum of 660 watts to operate, it is wise to use a shared LAN printers instead of individual printers.

C) TIPS FOR SAVING ENERGY ON REFRIGERATORS

1. Maintain refrigerator at 37 - 40 degrees F and freezer at 5 degrees F
2. Defrost the fridge once ice gets more than ¼” thick. Regular defrosting reduces power consumption.
3. Remember to empty your refrigerators and turn them off during the winter seasons.
4. Change the setting on your electric refrigerator to energy save mode
5. Ensure that the dirty coils of your refrigerator are kept clean as the dirty coils can make your refrigerator to work harder than necessary.
6. Make sure the refrigerator door seals are airtight and don't leave the door open longer than necessary.
7. Try not to overload your refrigerator capacity.
8. Hot foods items should be allowed to cool down before placing them in the refrigerator. Hot food tends to decrease the temperature, thereby forcing the refrigerator to work harder to keep the air cool.
9. Clean dust and lint away from appliances (heating/cooling unit, refrigerators, hot water heaters, etc.) on a regular basis so that the motors run more efficiently
10. Load washing machines only to its prescribed capacity. A half-loaded washing machine wastes hot water and energy.

D) TIPS FOR SAVING ENERGY WHILE HEATING

1. Using of Halogen floor lamps may prove futile as they consumes lots of power and may pose a safety risk
2. Instead of turning on your heaters, wear a sweater or add a blanket during the cold seasons
3. Use ceiling fans to circulate warm air in winter rather than using your AC, especially in rooms with high ceilings.
4. Small appliances use less power than larger ones. Wisely choose your new electrical appliances based on your wise decision and as per your needs.
5. Cover the pots and pans and cook several dishes at once in the oven, to save time and energy.
6. Substitute your electric heaters or halogen heaters with fluorescence heaters as they consumes lots of energy.
7. Unless absolutely necessary, consider using a fan to an air conditioner during the hot summer seasons . It saves energy too.
8. Don't set your hairdryer to the maximum heat setting, not only will you save your power bills, but your scalp too.
9. Appliances (irons, coffee pots, etc.) with time limited shut off switches are very ideal for low energy charges.
10. Replace your old aging electrical appliances, like TVs, VCRs etc when needed, with energy efficient models.

