

Why & How of IAEMP's Home Energy Management Programme

In the first issue of 'HEM News', contents of Home Energy Management Programme, launched by IAEMP were explained in detail. However, why such a programme was conceived, what are its objectives and goals and how it can be made successful could not be covered in detail for want of space. In this issue these points have been covered for the benefit of HEMP trainers and the participants.

Why should we save energy?

- ◆ Our dependence on imported energy is increasing day by day endangering our political independence.
- ◆ Our net oil import bill has crossed Rs 2,50,000 Crores mark.
- ◆ We are going to be dependent for nuclear fuel
- ◆ We spend about 30 % of our budget to meet energy demand
- ◆ We have even started importing Coal at high cost to generate electricity
- ◆ As 2001 Census, 44 % of Indian Households do not have access to electricity.
- ◆ 30% of World population without electricity lives in India.
- ◆ Subsidized Kerosene /Diesel /LPG is mainly consumed by undeserving /rich population.
- ◆ 30 % of the electricity generated is unaccounted most of which is because of theft by large industrial units
- ◆ Unreliable power supply is the reason for wastages of electricity due to large scale use of inverters and DG sets.
- ◆ Regular Power interruptions causing huge loss of manpower and production

Need Assessment for HEMP

- ◆ The domestic and commercial sectors are the largest group of energy consuming sectors in terms of numbers with huge scope for multiplier effect.
- ◆ People are not really aware how to adopt energy saving measures in their premises.
- ◆ People would like to invest in energy efficient gadgets/appliances but due to lack of time at their disposal and unavailability of trained manpower they are not able to do so.
- ◆ Unlike supply chains which exists and works in an organised manner to ensure almost uninterrupted supplies of any commodity, an 'energy conservation and efficiency chain' is missing.
- ◆ There are hardly any efforts on the ground
- ◆ Even manufacturers have not initiated any action to develop trained manpower though their dealers/ agencies.

Major findings of need assessment

- ◆ The awareness campaigns do not exactly tell how to save energy. They have almost negligible impact.
- ◆ We need to go beyond coining slogans/painting competitions and telling people that energy conservation means 'Switching -off lights and fans when not in use'.
- ◆ We need to lead by examples - in our own homes and work places.
- ◆ Practicing and preaching are equally important.
- ◆ Need for trained manpower to every thing from awareness creation to implementation.
- ◆ Need for Independent Monitoring and Verification mechanism and Impact analysis and continual improvements.

Programme Goals

- ◆ To create an organisation structure and cadre for providing a single point solution on awareness creation, training and implementation of energy and resources saving measures with verifiable results for the target group of consumers in domestic sector

- ◆ Establish a monitoring and verification mechanism
- ◆ To analyse the impact of the implemented measures and draft strategies for multiplier effect.

Programme Objectives

When we talk of 'Energy', it means everything. We need energy for all our needs e.g. cooking, lighting, travel, business, industries, agriculture, municipal, or govt. activities. No item can be produced without consumption of energy. Hence, objectives of the programme cover all aspects which directly or indirectly affect the energy consumption. These are divided into 'Primary', 'Secondary' and 'Tertiary' objectives

◆ Primary Objectives

- " Energy and Water Conservation & Efficiency
- " Efficient Use of resources
- " Increased use of renewable energy

◆ Secondary Objectives

- " Reduction or elimination of wastes
- " Increased use of recycled products
- " Improved Air quality

◆ Tertiary Objectives

- " Environment awareness
- " Compliance with applicable laws

Strategies

- ◆ Organising press meets for preliminary publicity about the programme
- ◆ Involvement of Local Agencies/EDP Cells/ITIs / NGOs/ Resident's Associations.
- ◆ Approaching SDA Officials/Corporates/Media-persons for consent to implement the programme in their homes.
- ◆ Regular briefings to the media
- ◆ Training of IAEMP/ Other volunteers.
- ◆ Selection Criteria of participants
- ◆ Central back-up support
- ◆ Regular interaction/consultation with suppliers /manufacturers of EERE products
- ◆ Corrections/Modifications in the strategies as per the feed back.

Programme Phases

The HEM Programme would have 2 Phases:

Phase - 1 : Creation of a trained manpower

Under this phase participants will be trained to further carry out the activity under phase-2. The Phase -1 activity can be completed within 3 months. All the participants would be provided with a 'Training Kit' comprising of the following:

1. Portable Single Phase Meter with capabilities of measuring and recording 6 days kWh, Maximum demand kW, Last Six months kWh, instantaneous watt and cumulative kWh. The meter can measure up to 7.5 kW. The meter would be mounted on wooden board and will have 15 amps plug and 3 m long cable.
2. Multi-meter

3. Hand Tools
4. Training Manual with details of Govt. incentive schemes.
5. Details of Electricity Saving Incentive Scheme.
6. Forms and awareness material for distribution to the residents

Phase-2 : Launch of "IAEMP Electricity Saving Incentive Scheme"

There are schemes to encourage small monetary savings by which we are able to collect huge amount of money at low interest rates. These schemes not only encourage saving habits but also provide employment opportunities. There is a Directorate of Small Savings in each state which co-ordinates implementation of such schemes and gives cash prizes to those who deposit their savings in these schemes. In line with cash saving schemes, IAEMP has designed an incentive scheme to encourage energy savings. Initially, the incentive scheme would focus only on conservation and efficient use of electricity, later other forms of energy would be included under the scheme.

This scheme called "IAEMP Electricity Saving Incentive Scheme", shall be operated as follows:

- Step-1** Application form for participation in the prescribed format proof of last 12 months electricity consumption, (photocopy of first and last months' electricity bills) shall be submitted by the participants.
- Step-2** The Home Energy Audits by IAEMP trained professional would be performed and ideas to save energy will be explained to the participant. The nominal charges for the audit would be borne by the participants.
- Step-3** The participant will implement the recommendation with or without the help of IAEMP trained person.
- Step-4** At the end of 1 year from the start date, average consumption will again be worked out with proofs of bills. The savings achieved will be calculated and depending on the savings achieved, suitable cash award will be recommended.
- Step-5** All participants who do not achieve the desired results would be issued only a certificate of participation.
- Step-6** All successful participants be honored with cash prizes and certificates in an annual function and case studies will be prepared and presented in the function to motivate others.

The Phase-2 activity can be started immediately after the completion of Phase-1. The publicity for the Phase-2 can be started at the beginning of the Phase-1, so that action on Phase-2 can begin immediately without loss of time. The Phase-2 activity will be for a period of 15 months.

Impact Analysis

- ◆ The savings realized could be verified by any one. The files containing supporting documents like energy bills, details of energy saving items installed etc will be maintained.
- ◆ Each participant will be requested to maintain a diary containing names and telephones nos etc. to whom he has shown the energy saving ideas implemented in their homes.

It is an idea whose time has come!

The programme will not only help in bringing down the energy consumption in the homes of the participants but will slowly and surely spread into the homes of their acquaintances. This saving habit will transform the entire country into an energy efficient nation. It is needless to discuss how such a scenario will help the employment generation and associated benefits to the country's economy. The government is spending huge amounts of money by way of subsidies; hence, an incentive scheme designed to reduce energy consumption by the subsidized population makes a business sense too and will result in overall benefits to the nation.

What we need to do to change our mind sets?

"Qualification"-to-"Education";
 "What I can get" -to-"What I can give";
 "Self-centered success"-to-"Selfless accomplishments";
 "Teaching and studying"-to-"Learning and realization";
 "Indifference and inaction" -to-"Bold initiative & decisive action";
 "External Casualness & mediocre approaches" -to-"An indomitable urge to excel";
 "Employment as mere job & salary"-to-"A great opportunity to unfold and express oneself";
 "Forced upgradation of quality" -to-"An unflinching mission to serve by offering the best";
 "Competitive rivalry" -to-"Support & collaboration for competitiveness";
 "Reward - induced limited motivation" -to-"Limitless self - motivation";
 "Excuses & escapism" -to-"Accountability & Taking charge";
 "Policed discipline"-to-"Principle-bound self discipline";
 "Service & Means on life" -to-"Serving and Meaning to life";
 "Knowing and doing" -to-"Performing and achieving";
 "Mere living" -to-"living by leaving a legacy"; and
 "I can't" -to-"I can"

"Take up an idea; make it your life mission. Think of it, Live on that idea. Let your brain, muscle, nerves and every part of your body be full of that idea. This is the only way to succeed"

- Swamy Vivekananda

Ms. K.Jayalakshmi to edit the "HEM News"



Good news for the readers of 'HEM news'. Ms. K.Jayalakshmi has very kindly consented to edit the "HEM News" from the February 2010 issue onwards. A journalist with 15 years in the field, Ms. Jayalakshmi is a science writer and an environmentalist. Passionate about preserving the planet, and its biodiversity, she recognises the role that energy plays in sustainability. She has been lending a hand to organisations working in the area of energy and environment. Based at Bangalore, she is an honorary member of IAEMP.

"HEM News" Launched at New Delhi



The First Edition of "HEM News" was launched by Mr Suhas Khandekar, Vice President, IAEMP at New Delhi on 13th Dec'09 on the eve of 'National Energy Conservation Day, 14th Dec, 2009.

Photograph shows (L to R) Shri R Vaidyanathan, Shri Sunil Sood, Shri S.Khandekar, Shri K.D.Bairai, and Shri S.K.Gupta who were present on the occasion besides others.

Practicing should come before preaching!



Shri B.K.Patel I/C Chief Engineer, Madhya Pradesh Urja Vikas nigam Ltd., Bhopal in conversation with Shri K.D.Bairagi, State Coordinator, MP.

Sir, What do you think of the "Home Energy Management Programme Launched by IAEMP?"

Like most of the states in our country, Madhya Pradesh is suffering from shortage of electricity as there is a huge gap between demand and supply. The domestic sector consumes approx. 18% of the electricity supplied in the state. But not much attention has been paid to this sector which is growing at an alarming rate. This has been the situation for so many years because we have not been able to give due attention to areas where conservation can help a lot. Hence, we would certainly welcome the ground level programmes like the one launched by IAEMP.

Can we expect help and guidance from MPUVN?

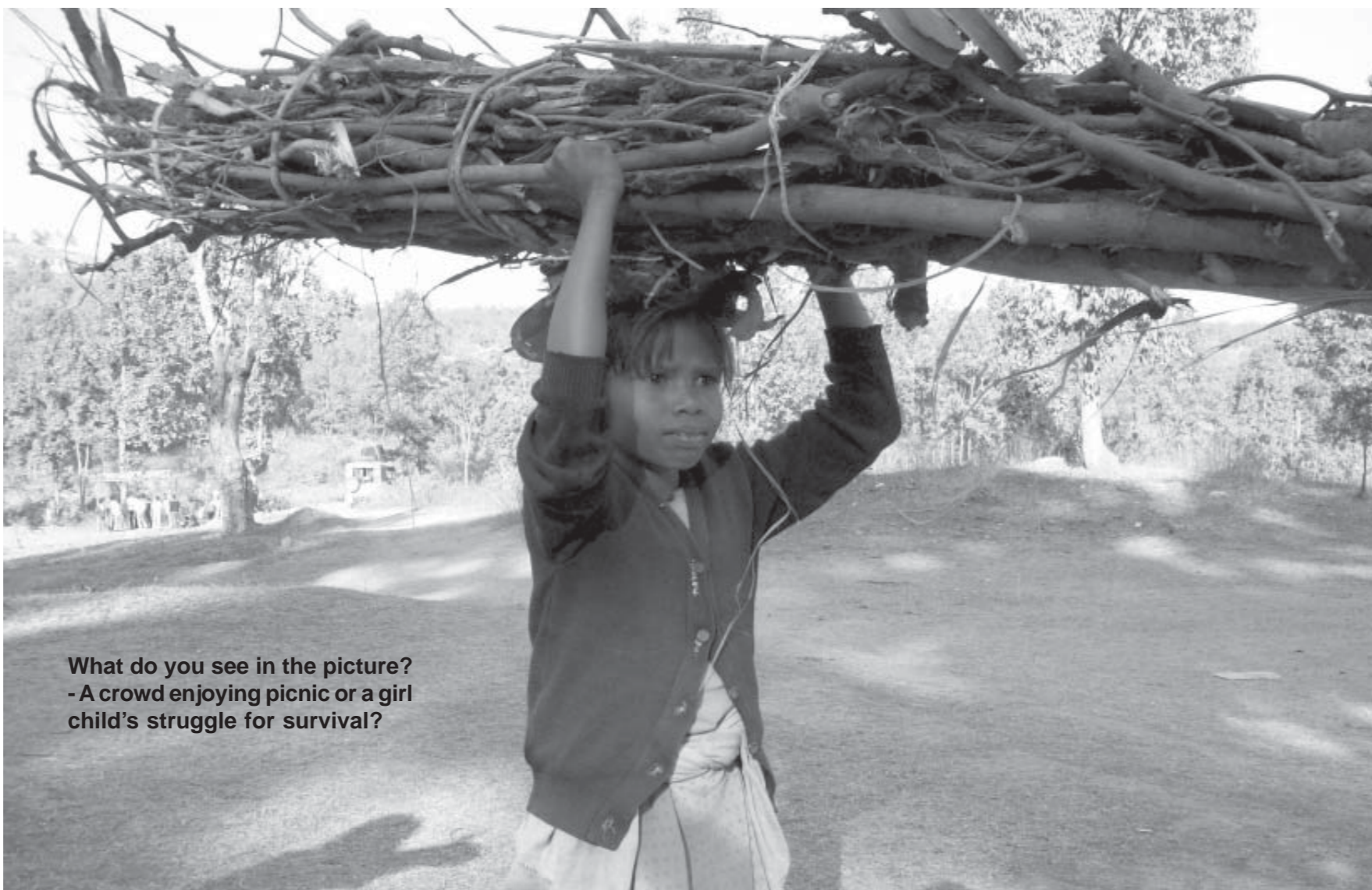
We are always supportive to such energy conservation activities in MP. We have already provided support to your organisation with active participation when 'Trainer's Training Programme' was conducted by you at Bhopal during last October and during the recent Mela at Indore. You can approach us with request for specific help.

Sir, Please do not mind asking, but we are curious to know what steps you have been following in your own house to conserve energy?

I am glad that you asked me this question and happy to inform you and your readers that I am not the one who simply preaches without practicing. During the planning stage itself, I had taken care to install all energy efficient gadgets to reduce the demand. In my house you will find a 200 LPD Solar Water Heater and a Solar Home Lighting System installed. I have energy efficient fans with electronic regulators, efficient lighting etc. One can visit my home to see for himself.

I believe that 'Practicing should come before Preaching' Hence, I request each & everyone to show strong commitment by starting the conservation activities from their home first.

Whenever you waste LPG or grumble about its non-availability or reduction in subsidy - remember this picture



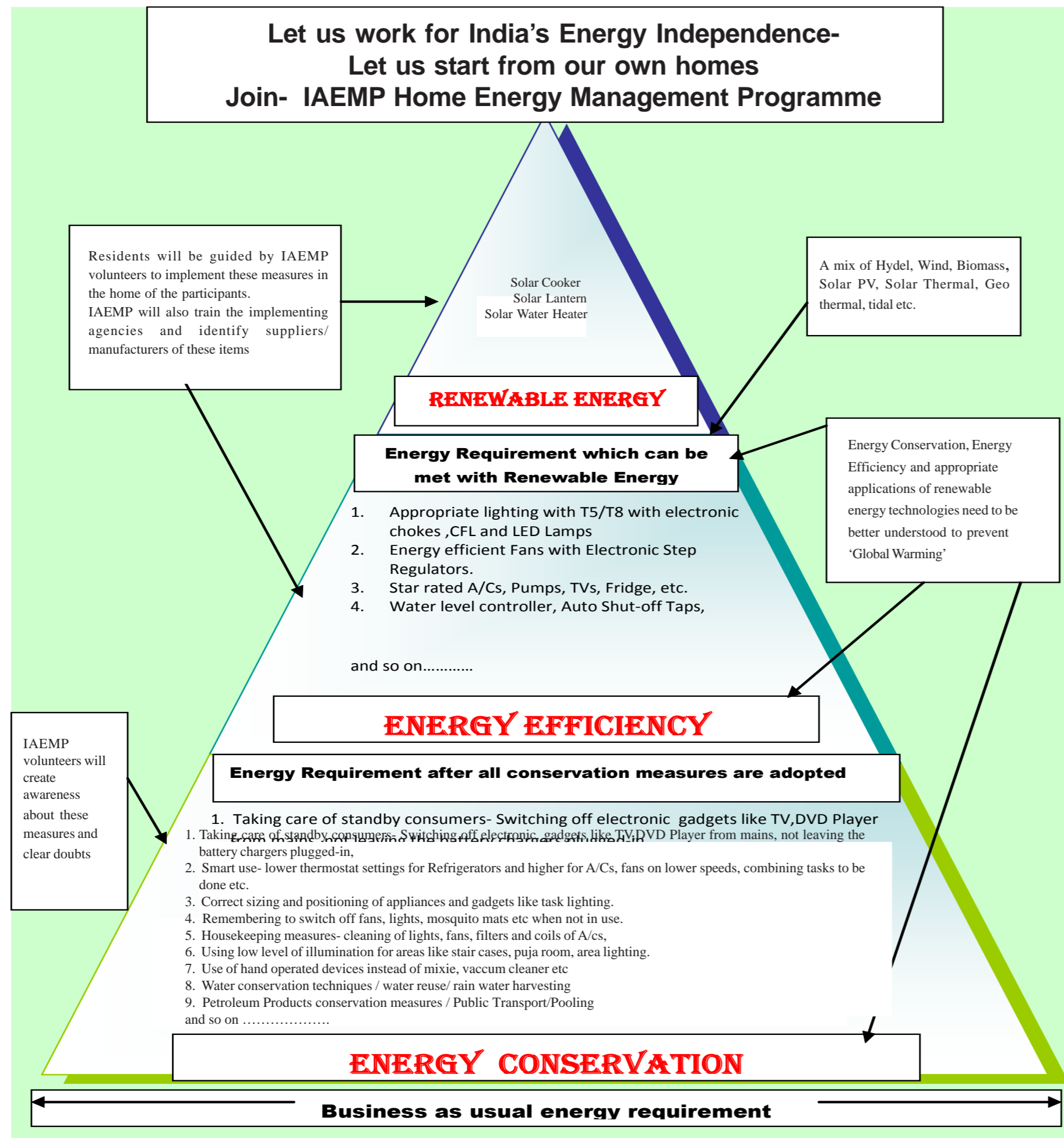
What do you see in the picture?
 - A crowd enjoying picnic or a girl child's struggle for survival?

Would you like to do something about it? Join IAEMP's Home Energy Management Programme- Please contact: Sunil Sood, National Convener, HEMP, IAEMP (www.iaemp.org) e-mail: sunilsolar@yahoo.co.in Mobile: 09386778963

HEM News

web : www.iaemp.org • e-mail : sunilsolar@yahoo.co.in • Mobile : 09901911910, 09386778963

A monthly newsletter on "Home Energy Management Programme" of IAEMP



'Charity Begins at Home'

Let us do our bit - Try to bring down consumption of energy and resources to a lowest possible level without sacrificing comfort and safety. In fact, the use of optimal energy often helps us with increased comfort level. For example, often, the thermostat of A/Cs are set too low causing discomfort as the temperature in the night drop too low and we sometimes get up in the middle of the night to stop the A/C. Or a fan running at too high speed may result in similar discomfort. Similarly, overuse or consumption of resources is not at all good. The problems associated with being overweight or obese are directly linked to our being over indulgent. The traffic problems, water shortages, etc all affect us because we tend to be undisciplined in use of these facilities. Hence, if we use the gadgets and facilities judiciously, it will only help in making our life easier and more enjoyable.

How I Started?

I am following the procedure explained in the "Home Energy Management Programme (HEM News, Dec, 2009 issue) and appointed myself the "Home Energy Manager". I have implemented almost every idea possible in my home. Many of the ideas can not be implemented by me as it is a rented accommodation and my job is transferable. Despite that, I could save a lot. As depicted in the "Energy Independence Pyramid", basically the energy and resources saving measures have to be implemented in 3 stages:

1. Energy Conservation Measures- These measures have to be explained to all family members and followed strictly.
2. Energy Efficiency Measures- These measures are implemented with the help of electrician but the use of such measures also need to be monitored.
3. Renewable Energy Measures- These measures also need external help and expert advice.

Electricity Savings

To save electricity, I took the following steps;

1. Opened a file and started recording daily readings of electricity meter and Car Meter. This helps in keeping a check on the consumption.
2. Explained to my wife about the HEM programme and sought her cooperation to adopt conservation measures and ensuring smart use.
3. Removed all the incandescent bulbs and replaced them with LED/CFL.
4. Got 50 watt Havel make Fans fitted in Drawing Room and Master Bed Room.
5. Replaced the resistance type regulator with electronic regulator.
6. Installed T5 tube lights in the Drawing Room and Master Bed Room.
7. Purchased a 5 Star Direct Cool Refrigerator of 190 Litre (Gross) Capacity. This is not saving me any electricity but the capacity is more than double though the extra capacity is not needed as we are only 2 persons. Earlier, we had an 80 Litre capacity Fridge of old designs. The new fridge is not saving energy but it has contributed in reducing the peak demand as it consumes only 100 watts during starting as against 150 watts which was being consumed by the 80 Litres fridge. I would have saved much more if smaller capacity Star Rated Refrigerators was available. Here, I would like to mention that people should purchase Star Rated Direct Cool Refrigerators only and should not purchase the Frost Free (even if these are Star rated) refrigerators as their designs are not energy efficient.
8. Purchased a 4 Start slim tube TV but it has increased my consumption as it consumes 70-80 watts as against 50-60 watts consumed by the Old TV. The Star Rating Label put on the TV is misleading and does not give clear picture of energy consumption.
9. Installed a 100 Litres per day capacity Solar Water Heater on the roof top. A connection is also given to the Bathroom of upstairs tenants who use the extra water every day and full water when we are out of station. Thus we are saving good amount of energy for others too.

I have estimated that the combined effect of the above measures is resulting in savings of about 700 units per year and avoided peak demand of 3 kW (or 5 kW peak

considering T & D Losses). Having the energy efficient items helped in reducing the losses in the Inverter too as otherwise; the battery would have consumed much extra energy for recharging. My savings are compiled in tabular form (Please refer box 'HOW I INSTALLED A POWER PLANT AT HOME!')

I have some inefficient items like Dessert Cooler and a Pedestal Fan. These are used only when some guests arrive or during peak summer. The so-called modern coolers are actually energy inefficient than the conventional ones as these have some design deficiencies. Pedestal fans are also not energy efficient in comparison to ceiling fans. I have already reported the consumption figures of all the appliances used in our home in the December, 2009 issue of 'HEM News'.

LPG and Petrol Savings

Since we are only 2 persons, the consumption is not much. We are mostly following PCRA (www.pcr.org) guidelines to save LPG Food is cooked just before the meal time to avoid reheating. Mostly Dal, Rice and Vegetables are cooked at one go with use of multi-container pressure cooker.

For conservation of Petrol, in addition to the usual measures, I have done some experiments to conserve petrol. In the forthcoming issues of 'HEM News', I will report a brief outline of those measures which can be adopted easily.

HOW I INSTALLED A POWER PLANT AT HOME!

I have a Power Plant installed at my Home! This is equivalent to a 3 kW peak capacity (or 5 kW peak considering T & D Losses) and saves me about 700 units per year. You can do it too. Here are the details:

Sl.	Measures Adopted	Avoided peak capacity	Energy Saved Per year	Remarks
A. Energy Conservation Measures				
1.	We switch off TV, DVD, Mobile Chargers etc from mains.	10 watts	75 units*	* Estimated
2.	Switch off Mosquito mats during day time	5 watts	25 units*	
3.	Use Electric Iron Smartly! Not ironing hidden portions, switching off 1 minute before).	750 watts#	25 units*	# We avoid Ironing when Pump is ON
4.	Thermostat Settings of Fridge as per requirement and season (Lower settings when the fridge is empty. Off during winter nights)	100 watts	100 units*	
5.	Use of LED Lamps to delay use of tube lights (2 hrs per day)	32 watts	25 units*	
6.	Using Fans at appropriate speeds/ Avoid unnecessary running	30-50 watts	40-50 units*	
B. Energy Efficiency Measures				
1.	Change Over to 5 Star Rated Fridge of 190 Litres capacity against 80 Litres capacity	50 watts	Nil**	**No savings but more than double capacity
2.	Change over to 4 Star Slim Tube CRT TV 21 "size from ordinary CRT TV of same size (6 hours of use)	(- 15 watts)	(- 33 units)	Slim Tube TV consumes more energy
3.	Use of 50 watt Fans with Electronic Regulator (2 fans total use 16 Hrs/Day) instead of regular fans/regulator	20-50 watts	100-120 units	For 300 days/year
4.	Use of T5 Tube lights in place of T12 tube light with ordinary choke (2 nos- total use 10 hours per day)	5 watts	18 units	T5 FTL gives much higher illumination
5.	Use of CFLs for Stair Case/ Bathrooms/ Study Room etc (4 nos of 8 Watts - total use 15-20 Hrs/day)	60 watts	100 units	Compared to Incandescent 25 watts
C. Renewable Energy Measures				
1.	Use of 100 Litres per day capacity Solar Water Heater (Partly used by other tenants)	2000 watts	-200 units	Our need is less as we are only 2 persons
Total		Approx. 3000 watts -700 units		

Note: I do not recommend Solar Home Lighting/ Inverter. However, Solar Lantern in place of Emergency Lights is encouraged.

Water Conservation

We are living on ground floor of the building, the first floor of which is occupied by another tenant. The water supply to both of us is through a common bore well. There is no rain water harvesting presently. I am going to request the owner to install the system. Whatever is in my hand, I am doing to use water judiciously like the following measures:

1. I wash my car once a week with just 10 Litres of water
2. The water used for washing cloths is reused for floor washing/road washing/toilet flushing/cleaning of Car Tires/Wheels etc.
3. We do not use a washing machine as it needs more detergent and water besides consumption of electricity.

Purchase

My wife purchases most of the vegetables from the door to door vendor. We make only one trip a month to 'Big Bazar' and purchase only those items which are cheaper than or not available with the neighborhood grocer. This way we help the local people.

'Last Rites' (Waste Disposal & Recycling)

Like most of Indians, we are already doing as much recycling as possible. I have developed a unique idea to ensure maximum benefits. I propagate the idea of doing 'last rites' of any item we bring home. Nothing is kept lying in the house which will never be used. I do the 'last rites' once I am convinced that the item has completed the 'expiry date' by either selling it, or donating it to some one or by simply putting the same in the garbage container. The solid waste is mostly the vegetable waste or packing material. I am going to soon start segregation of waste into dry and wet type and also try my hand for composting to achieve a 'zero waste' target.

Conclusion

Overall, I feel these efforts are not only giving me some financial benefits but also giving me immense satisfaction as I have proved that with right approach, one can reduce the energy and resources consumption drastically. I believe that before you preach others on the importance of energy savings- "Charity begins at Home". It has to start from you. Did you say it is unnecessary waste of time? But if you have sufficient time to argue with vegetable vendors, domestic helps, coolies, milk and newspaper suppliers to save some petty amount at the cost of the poor people; then you can certainly find time to do this in your home.

(Sunil Sood)

National Convener, Home Energy Management Programme, IAEMP
e-mail: sunilsolar@yahoo.co.in, mobile: 09901911910,09386778963

ADVERTISE IN 'HEM News' – Get noticed in over 1000 Institutions !

Do you have a genuine energy saving/renewable energy product to offer? Are you into providing services in these fields with special focus on Home and Commercial energy consumers? If yes, we recommend you to place an advertisement in "HEM News" to promote your products and services.

THE TARIFF PLAN IS GIVEN BELOW

Type of ad	Single Issue	4 Issues	12 Issues
Full page	Rs. 5000	Rs. 15000	Rs. 40000
Half page	Rs. 3000	Rs. 9000	Rs. 24000
Quarter page	Rs. 2000	Rs. 6000	Rs. 16000
Box	Rs. 500	Rs. 1500	Rs. 4000

We send 1,000 copies free of cost to all the Libraries/Institutions.

Mode of Payment :

Demand Draft payable at Bangalore or at par cheque of ICICI, HDFC, SBI etc. in favour of "Indian Association of Energy Management Professionals". Advertisement material along with cheque / DD may be sent to:

Indian Association of Energy Management Professionals
Golden Square, 102, Eden Park, 20, Vittal Mallaya Road, Bangalore-560001

Advertisements material may also be sent by e-mail to iaemp@yahoo.com. The amount payable too may also be deposited electronically to IAEMP SB account no. 0883101060759, Canara Bank, Sarakki Layout Branch, Bangalore



IAEMP

INDIAN ASSOCIATION OF ENERGY MANAGEMENT PROFESSIONALS

Conscience Keepers to Nation on Energy Matters

Admn. Office: Golden Square, 102, Eden Park, 20, Vittal Mallaya Road, Bangalore-560001

Mobile: 09901911910, e-mail: iaemp@yahoo.com, Web Site: www.iaemp.org