

ENERGY CLINIC

K. M. Dharesan Unnithan
Director



എന്റേജി | #P ഫാക്ടറി ഹൗസ് #എന്റേജി
വിലംപുഴ #9-8347 #തൃശ്ശൂർ #കെരളം

Why Training for Women ?

Rural women :

- » Live under Poor Conditions
- » Have lower literacy rate
- » Little scope for income generation
- » Spent more time in Kitchen for cooking
- » Live in drudgery
- » Suffer from ill health

Still

Women are the Managers for

- Water
- Energy and
- Sanitation

Energy Clinic.....

- Is a energy conservation awareness workshop for women, run by women volunteers trained by EMC.
- The implementation of the program requires two stages of knowledge transfer, first from EMC staff to women volunteers, second from the volunteers to women in rural communities.

Why conserve Energy

Conventional fuels are only for a certain period, oil for 40 years, Gas for 60 Years, coal for 200 years...

Increasing cost of energy services

Green House gas emission and related global warming

Who benefits All.

Ourselves

Utility

State

Country

The Planet Earth

Future Generations

How will you select.....

- Invite 30 to 40 Women volunteers from each district
- minimum qualification as 10th Std or more
- Volunteers should be able to understand the topics and should be able to deliver what she learned
- Conduct a half day training programme
- Conduct a test on the basis of the training
- Those who pass the test can be selected

How will you select.....

- Let them take three or four classes in two month
- Call the volunteers back and provide a refresher training
- Give hand outs, exhibits, ID card and reporting form
- A remuneration of Rs. 200 or Rs.250 can be fixed per class and at least 40 women to attend
- Details should be forwarded to the SDA for releasing the money

Incandescent Bulbs

- Available in different sizes, Voltages, Wattage, colour
- Initial cost is very less, but life cycle cost is very high
- Colour Rendering Index is 100, can see all colours
- Efficacy is very less 10%, Converts 90% of electricity to heat, which results in high room temperature, use of fan increases, if your room is air conditioned, A/C load will increase.
- Burning Hours (Life) is 1000 hours
- Banned in some developed countries

CFLs & FLs

- CFLs can be used for replacing GLS bulbs
- High efficacy lamp- 60 to 80%, reduction in energy bills
- Improves voltage, more life for your equipments
- Low wattage – less heat dissipation
- Excellent colour rendering
- Long Life – 8000 – 10000 glowing hours
- Highly suitable – living rooms, lounges, corridors, hotels and canteens
- T12- 40 W, T 8 – 36 W, T 5 -28 W
- Electronic choke consumes less energy

Comparison of GLS & CFL

GLS	Watts	40	60	100
	Lumens	425	720	1380
CFL	Watts	9	11	20
	Lumens	400	660	1200

Comparison of CFL & Bulb..

	60W	11W
Burning hours	1000 hours	8000 hours
For 8000 hrs, no. of bulbs/cost	8, $8 \times 11 = 88$	1, $1 \times 120 = 120$
For 8000 hrs, energy required	$(8000 \times 60) / 1000 = 480$ kWh	$(8000 \times 11) / 1000 = 88$ kWh
Cost of Energy @ Rs.3	Rs. 1440	Rs.264
Total cost (life cycle cost)	$88 + 1440 = 1528$	Rs. 384

	Bulb 100 W	CFL 20 W
Energy Consumption 5 Hrs/Day	0.5 kWh	0.1 kWh
Monthly Consumption	15 kWh	3 kWh
Energy Cost	45 Rs	9 Rs

Fan

Resistance type regulator consumes more energy

Electronic regulator use less energy

Less consumption in lower speed

Always use only quality fans



Conventional Choke – Electronic choke

- Conventional Ballast – Inherent losses
14-15 Watts /choke
- HF Ballast – Operates at high frequency
20 KHz to 22 KHz
- Low Loss – 1 to 2 Watts/Choke
 - High power factor
 - Instant start-up
 - Operates at low voltage
 - Can be serviced
 - Low heat dissipation – less load on air conditioners

Comparison of Power consumption

Step Position	O/P voltage regulator (V)	Conventional regulator (Resistive)	Electronic Regulator
1	140 V	50	28.4
2	160 V	54	37.5
3	180 V	60.5	47.5
4	200 V	65.3	57.3
5	230 V	73.5	73.5

item	55W Fan	118 W Fan
Cost	Rs.1200	Rs.400
Energy consumed (12 x 365)	240 kWh	516.8 kWh
Energy Cost/@Rs.3	720	1550 (loss: 830)
Life Cycle Cost (for ten years)	8400	15900

Electric Iron

- Automatic is good
- Keep all the cloths ready before ironing
- While ironing never go for other jobs
- Dried clothes are better
- Clothes require less heat should be ironed at the beginning and after switching off the electric iron
- Avoid daily usage of Electric iron
- Always use a thicker bed ironing platform

Refrigerator

- Buy the optimum size to suit your requirement
- Buy Energy Efficient ones, more BEE star more energy efficient
- Check whether the thermostat is working properly
- Cover the food stuff and vegetables, never keep it open
- Depending up on the climate condition and quantity of storage, adjust the thermostat.
- Remember that ice is thermal insulator
- Never keep hot food in the refrigerator
- Clean the sides and back, for better heat transfer
- Don't overcrowd your refrigerator
- Make sure your Refrigerator door closes tightly

Washing Machine

Heater consumes more energy

Front loading machines require less energy

Avoid daily usage, save water & Energy

Better to run the machine in its full capacity

Mixer & Grinder

- Fill the bowl at half level
- Never overload the machine
- More load – More Current – More temperature
– damages the winding
- Add water as and when required
- Never short circuit the over load relay
- Always keep the bowl neat and clean

Energy Conservation in Cooking

- Plan your dishes well in advance
- Keep all the required material for cooking within your reach
- Light your stove only after everything is ready
- Use optimum quantity of water, more water means more energy and loss of
- Pressure cooking saves energy and time, 20% in rice, 46% soaked gram, dal, 41% meat
- Further saving is possible by using separator

Energy Conservation in Cooking

- Blue flame gives maximum heat
- Always reduces the flame once boiling starts
- 20% energy saving possible if you use soaked cereals
- Use flat bottomed vessel
- Area of flame should always be under the vessel
- Small burner or lower flame saves energy

Energy Conservation in Cooking

- Clean the burner regularly
- Use ISI marked kerosene wick stove
- Allow frozen food to reach room temperature before cooking
- Pan you meals time
- Use lid to retain heat and for decreasing cooking time



താപഭരണി



എൽ.ഇ.സി. സൗകര്യം സൗകര്യം
കമ്പനി ലിമിറ്റഡ്
പുതിയ കോട്ടയം, എൽ.ഇ.സി. സൗകര്യം
ഫോൺ: 0471-2555555

എൽ.ഇ.സി. സൗകര്യം സൗകര്യം
എൽ.ഇ.സി. സൗകര്യം സൗകര്യം

താപഭരണി



എൽ.ഇ.സി. സൗകര്യം സൗകര്യം

എൽ.ഇ.സി. സൗകര്യം സൗകര്യം



savings

Type of Fuel	Bi monthly Consumption		Savings
	Without Oorja-2	With Oorja-2	
Firewood	360 Kg	180 Kg	180 Kg
LPG	2 Cylinder	1 Cylinder	1 Cylinder
Kerosene	14 litres	5 litres	9 litre

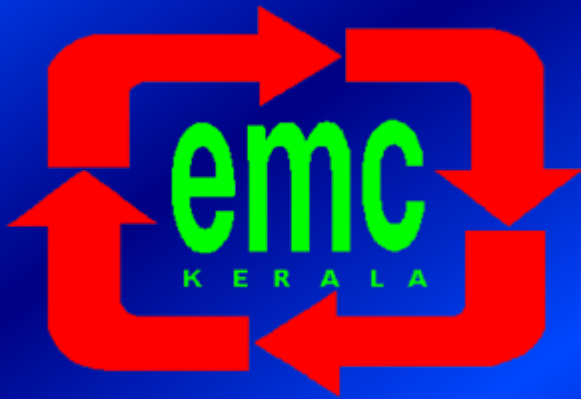
social benefits:

- **Savings in fuel and fuel costs @ Rs. 78 per family per month.**
- **Reduction of cooking time by one hour**
- **Utilisation of saved one hour for other activities**
- **Improved health condition**
- **Reduction of GHG emission**
- **Savings in import of Petroleum products**
- **Involvement of Self Help Group (SHG) for poverty alleviation**
- **Focussing on deforestation**

Simple tips

- **Maximum utilization of natural light**
- **Clean lamps, shades periodically**
- **Task lighting is more beneficial**
- **For reading purpose use Fluorescent lamps**
- **Switch off all electrical gadgets after use**
- **Don't put unnecessary lights out side the building when you are sleeping, in order to escape from thief**
- **Buy and use energy efficient equipments, go for more BEE stars**
- **Avoid using high power consuming equipments during the peak hours (6 pm to 10 pm)**

thanks !



Hoqhu | #P ddpjhp hoq#E'hoqwh

Wk | faxg SR

Wilydbguxp #9<8#347

Sk#E +37:4Q#565#6696#Ed | #E +37:4,#565#6675

hp de##hp fnc nhwobqhu | tjrylq

