

REDUCE YOUR BI-MONTHLY ELECTRICITY CONSUMPTION BELOW 200 UNITS

- Electricity is a rationed & subsidized commodity and that too is slipping more between the cup & lip now. So let us all be rational to effectively use electricity for essential purposes only and not for lavish comforts.
- The TANGEDCO statistics reveal now that in Tamil Nadu, out of the 1.57 crore domestic consumers as on 2012,
 - 50 % of consumers (79 Lakhs) uses a maximum average of 50 units per month that is 1.7 units per day
 - 30 % of consumers (45 lakhs) uses a maximum average of 100 units per month that is 3.3 units per day
 - 15 % of the consumers (24 lakhs) consume a maximum of 250 units per month that is 8.3 units per day
 - 5 % of the consumers (8 lakhs) are AC users and are assumed to consume around 20 units per day or more.
- The tariff rates for the first 200 units and for 201 units & above indicate that more the electricity is consumed by us, the more we will pay from now on. Here if a portion of the above 15 % the border case consumers is conserving and joins the 80 % band, it is a win-win situation for both the consumer and the Govt.
- That is indirectly the Govt. is thrusting on us to conserve electricity without compromising our comforts. It is giving the consumers at the slab rate between 201 & 200 unit consumption bi-monthly, an incentive towards electricity conservation as reduction of Rs.100/- in the EB bill from Rs.403 to Rs.300/-
- So the idea is that the consumers who consume say for ex/- 240 units + bimonthly can try to conserve by 20 % and bring down their consumption less than 200 units and save Rs.220/- in the EB bills from Rs.520 to Rs.300/-
- **This can be achieved by efficient operating practices on our existing appliances now & immediately plan to buy 5 star rated. 5 star gadgets consume around half the power consumption of our existing old gadgets.**
- We all individually and collectively, account for each of unit of electricity consumed by us
 - as each unit of electricity had come to us by burning 1 Kg of coal elsewhere and after we consumed now,
 - Each unit of electricity we spend, we liberate 1 Kg of Carbon di-oxide, warming locally & in turn globally.
 - So by the electricity conservation, we are saving 1 Kg of coal and we are reducing emission by 1 Kg of CO₂.
- Practically speaking when there is a slab or barrier, we always find the consumer numbers swell at both the sides of the 200 unit / 500 unit slabs. (similar to what we see the dense traffic at both sides of the road barricades)
- Now in 200 unit + segment, Out of the total 4 units per day consumption, the decade old fridge run for 24 hours consumes around 2 units per day and it is half of the total power consumption.
- So out of 120 units per month average consumption, up to half of the same goes to fridge consumption how early, can we plan to replace with the 5 star rated fridge which consumes less than 1 unit a day instead of 2 units now?

SAVINGS IN FRIDGE:-

- If not going for 5 star fridge, how can we improve the efficiency of our running fridge so as to reduce its compressor run hours and reduce its daily power consumption?
- The only appliance working 24 hours in a day is our fridge. Visualize the fridge like a 200 liter water barrel. We are filling up with cool air near 0°C inside the fridge and frequent opening the fridge door to the ambient at 30°C will leak the cool air out; this makes the fridge compressor work more time only.
- Please call a reliable fridge mechanic or expert to improve its working condition, check its thermal insulation levels in the fridge housing & in the front door, especially the door seals.
- **It is prudent to add Run hour meter (costs Rs300/-) to fridge compressor to know the daily run hours. Now the 5 star fridge needs to add this counter in display and this is the measure of daily efficiency working.**
- **As part of Standards & Labeling program, BEE can include this run hour meter as part of 5 Star gadgets as the Energy Efficiency Practices lies with the consumer only after the initiatives from Govt. to buy 5 Star gadget.**

- Every component in our running appliance has its wear & tear. The worn & torn parts if replaced in the right interval, gives sustained efficiency to the appliance. This is what the medical world is following now in replacement surgery!
- Change the settings in fridge thermostat for summer & winter. Many users have never ever touched the knob inside the fridge. This setting can be changed twice a year.
- Keep your refrigerator and freezer at the right temperature. If they are 3 degrees colder than necessary, energy consumption may go up by approx 25%. **Never allow icing buildup in the freezer.**
- Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
- Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open. Always load inside the fridge partly even with PET water bottles / packets **as empty fridge consumes more.**
- When dust builds up on refrigerator's condenser coils, the motor works harder and uses more electricity. Clean the coils regularly to make sure that air can circulate freely.

STORAGE WATER HEATER :-

- Also, we have to set our Electric storage water heaters at 47°C that is 10° C plus our body temperature (instead of 60°C set) Warm water is better to health than hot water in long run & 20 % power savings can be achieved.
- First, buy today one Spare Heating element for just Rs.300/- and swap it to the existing element and do this exercise once / twice a year and you will find up to 10 % savings in heating in time & power. Now you have the time & effort later to can clean the removed element leisurely not in a hurry, thoroughly and effectively or thro outsourced professional services.
- **Add a Run hour meter to know how much time the heating element is ON daily to confirm its improvement**

CEILING FANS: -

- The ceiling fan is comforting the man by two ways namely by Evaporative Cooling and by Air Circulation. To achieve both the functions, the fan has to breathe in.
- But we can increase our comfort levels by better circulation first and next by evaporative cooling from the fan by increasing the down rod size from 10 inches to 18 or 24 inches for 10 feet height building, 2 feet and above if the height of building is 11 feet and above. **Visualize our old buildings with 14 feet ceiling height is always cool.**
- Do we get blast of air or gentle and smooth air breeze? If air breezes, it comforts us by evaporative cooling. If air blasts on us for the whole night, we get up only to feel tired next day morning.
- Decades old & heavy weight fans consume around 100 watts. 5 Star rated Branded light weight fans consume around 50 watts only. With mid position setting on electronic regulator, the fan consumes around 30 + watts only.
- If not 5 star fans now, changing to double ball bearings in our noisy fan, changing to switch type electronic regulator, check the correct capacitor working, heavy dust removal etc all above reduce power by 20 %.

STABILISERS – TV, FRIDGE, & AC:-

- The power cuts happening now force to keep our stabilizers working actively. When ever power cut hours is over and on power resumption, high voltage comes in first to house and only after loading from the consumer ends, the **voltage drops say from 250 to 220 volt for example. This is hazardous to our household appliances.**

- Though the external stabilizer is not mandatory as told by the TV /Fridge vendor, it is always safe to retrofit the stab. And it gives power savings too when high / low volts occur from the EB side. The stabilizers reduce the voltage from 240 volt to 200 volt and this volt value is safe & power saving too.
- When the domestic UPS is used now, avoid prolonged hours of charging the battery when the power cut is less during daytime / night time. Plan to switch off UPS after adequate charging hours in consultation with the vendor.
- Avoid the standby usage of TV by switching off at the Mains in day / night time and not by hand remote always.

LIGHTING: -

- **Sunlight is available abundantly free of cost. Make max use of daylight & reduce electric lighting.**
- When you buy CFL now, pls. go in for branded high power factor CFL as this consumes less power VA in EB / UPS.
- The CFL replacement / addition to existing lights & tubes and optimum usage give excellent lighting savings.
- Think of buying Emergency torchlight, Standby lights using LED based. They will consume a fraction of power and give back up for long hours and you will be surprised to see your old battery comes for many months now. So it is time to switch over to LED lightings / tube lights in the long run as the prices come down now.
- Every room / hall in the house can have two lights 1 CFL, 1 FTL (Florescent Tube Light) and for general purpose lighting make use of the CFL for longer hours and specific usage like reading etc please use tube light 4 ft or 2 ft. i.e. with tube lights 18 watts or 36 watts. For TV viewing, we have to keep background lighting ON to avoid eye strain.
- Long back, the electronic ballast costed more than Rs.500/- now it is only around Rs.200/- only comparable to ordinary choke. So the new tube light 28 watts (+ 2 watts choke) has started replacing the conventional tube light.
- People who use domestic UPS (in VA rating only and not Watts rating) now are very much aware of the conventional tube light consumption as 40 + 15 watts equals 100 VA consumption. So instead of 1 tube light, 3 no. tube lights T 5 model tube light of 28 watts can be used or 2 no. of T 8 model tube light of 36 watts with electronic ballast can be replaced for the same power consumption and the UPS back up comes for longer hours now with efficient lights.
- Bring down the tube light height and keep background few feet white bright all around tube in wall for better visibility. Buy branded CFL only with warranty and don't keep any CFL near eye sight / elevation as it strains the eyes more. Try to make use of the reflector shade/ dome for CFL as this scatters & diffuses the light evenly for the user comfort.
- Cleaning the suction foot valve of the water pump annually reduces the daily pumping hours, changing the noisy bearings, checking the condition of suction & discharge piping choke, aged wiring correction helps to save power.
- **Thinking & Acting on Conservation Measures catalyzes our social responsibility, caring for others and sacrificing our selfish comforts. When we are safe and healthy in usage, conservation prevails.**
- Govt. gives subsidy to us on Electricity and what we must do now to reciprocate? Only way is to conserve first or pay more at Rs.3 + when we consume more than 200 unit +. We have to keep in mind always that the cost of generating 1 unit is Rs.5 +. So conservation of the subsidized & starved electricity is the collective responsibility of all now.
- **It is our moral duty to conserve rationed commodity now, so as to preserve for our children in future.**
- **The main three factors for electricity conservation required by the family are: -**
 - **Firstly the Conservation Initiative by the Family head,**
 - **Secondly among the members, Individual Awareness of power consumption of gadgets break up,**
 - **Thirdly the culture to conserve to inculcate in each one of us in the family & in the surroundings.**
- **Ashok.S / BEE certified Energy Auditor / Coimbatore / mail - ashok@energymeasuretosave.com**
- **www.energymeasuretosave.com / Objective: SHARING KNOWLEDGE TO SAVE OUR ENERGY.**