

REDUCE YOUR BI-MONTHLY ELECTRICITY CONSUMPTION BELOW 500 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 consumers (24 lakhs) consume a maximum of 250 units per month that is 8.3 units per day**
 - **5 % of consumers (8 lakhs) are AC users assumed to consume 500 units p.m. & more say 20 units per day**
- The tariff rates for the first 500 units and for 501 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 5 % the border case consumers start to conserve from now on, and join the rest of the 95 % consumers, 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, but optimizing our comforts. It is giving the consumers at the slab rate between 501 & 500 unit consumption bi-monthly, an incentive towards electricity conservation as reduction of Rs.500 /- in the EB bill from Rs.1800 to Rs.1300 /-**
- **So the idea is that the consumers who consume say for ex/- 600 units + bimonthly can try to conserve by 20 % and bring down their consumption less than 500 units & save Rs.1100 /- in the EB bills from Rs.2400 /- to Rs.1300/-**
- **This can be achieved by efficient operating practices on our existing appliances now and immediately plan to buy 5 star rated appliances. 5 star appliances consume around half the power consumption of our existing old gadgets.**
- Practically speaking when there is a slab or barrier, we always find the consumer numbers swell at both the sides of the 200 / 500 unit slabs. (similar to what we see the dense traffic jam at both sides of the road barricades)
- The news paper statistics show that **“Over 1 Lac AC machines sold in a single retail outlet in Chennai during hot summer months of one year recently”**. The AC will tilt the ecological balance in a given localized area and thus adversely affect the overall green scenario.
- Power outages due to overshooting of loading in 1 of 3 phases due to AC loads in a street. When one section tries again & again to switch on their AC, the other section of street dwellers will be fretting and fuming in harsh, stale, non-movement of air, and darkness inside the houses.
- **One of the main reasons for EB crisis today is due to poor supply and excess demand in summer months of year. Apart from drop in efficiency in generation at EB, the excess demand is due to rise of Air conditioner loads.**
- **The only way to reduce the supply demand gap in electricity is to curb the use of AC in our premises.**
- **The ceiling fan is a luxury but a necessity to the poor man. But the Air conditioner is a luxury and not always a necessity to the rich man. He can combine the poor man's AC that is ceiling fan along with his AC and get better comfort than AC alone & consuming less too!**
- The load end demand reduction in each premise on AC usage will solve the India's national burning problem. Compared to the cost & gestation of improving generation of electricity, the short cut solution to our supply – demand crisis in electricity distribution & consumption pattern is to target first & foremost, the load end consumption now.

AIR- CONDITIONERS

- **Though we talk about tariff slab rate reduction around 500 units bi-monthly, practically speaking, consumer with 1 AC in house consume around 20 units per day and average of 600 units per month. AC running for 8 hours a day is the 60 % of our daily power consumption.**
- **By energy conservation measures in his old AC mentioned here, the consumer can easily bring down his bi-monthly bill above 1200 to below 900 units and reduce in his EB bill by Rs.2000/- from Rs.6000 to Rs.4000/-**

- While buying AC or during its warranty period, please discuss with the vendor about how to reduce AC energy consumption. Please team up with & coax the vendor to religiously conserve the AC power, after all, you are only going to pay for higher electricity bills due to poor installation, running maintenance and wrong operating practices.
- In India, the recent years' statistics show that TWO OUT OF THREE ACs SOLD is SPLIT AIR CONDITIONERS ONLY instead of Window ACs now. When the split AC is working, the High side or Compressor side of AC has to starve & struggle under Hot Sun to give cool comfort to the inside premises.
- Take the case of reputed AC users like Telecom buildings, Railways etc the clients insist on fixing R 22 freon gauges in the AC Freon suction & discharge of compressor circuit. When installed, the vendor charges Freon gas and checks for suction and discharge pressures of 70 psi & 240 psi in the normal operating ranges. Even if the AC vendor used the latest E-Friendly gas R134A in his machine, this parameter has to be checked periodically.
- Due to long years and minute leaks etc, if the Freon gets leaked out and the system goes under charging, the AC compressor will be loaded for 8 hours instead of 6 hours during the 8 hour daily AC workings. **Now you know why your AC consumes 100 units more per month (it can be due to undercharged condition at less than 50 psi at the suction of the AC compressor as well!)**
- **One of the major differences between 5 star and 3 star Split AC is that the heat transfer area on the out door unit is more than that of the 3 star AC. The existing AC user can think of improving his 3 star by improving in his out door unit, the heat transfer area by frequent cleaning routines and by the weather proof umbrella shed.**
- Why not we think of just giving sun protection & cross ventilation to the AC High side in the open terrace? This can give up to 10 % savings depending on the hot weather and radiated heat from near surroundings.
- Please reduce your comfort levels with less Air conditioner usage time and simultaneously use fans etc using evaporative cooling. Positive cross ventilation is important to improve indoor air quality in your premises. You are aware now that power crisis subsides in winter months.
- **Our body temperature is 37°C we have to set our Air Conditioners at is 10* minus our body temp, 27°C (instead of 22* C setting now). Cool air breeze is better to health than Cold blast. & 15 % power savings. Please don't keep yourself too cool and make surroundings from warm to Hot. Live with the Surroundings.**
- Why should we use AC at chilled temp room setting around 20 °C for longer hours of the day? Why this not be set near to 30°C when our body temperature is 37°C?
- Clean the air-conditioner filter every week or month depending on usage. Clean the fins once in a month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy. Dirty filter makes you sick too.
- Today buy a spare Air filter @ Rs.100/- and keep it ready as active standby. Now you have the time & effort later to clean the removed filter leisurely not in a hurry, thoroughly and effectively. You can keep it ready and insert the same whenever required.
- Using ceiling or room fan allows you to set the AC thermostat higher because the air movement will cool the room. AC without room fan will make the cooled air throw at one area and hot pockets in other areas in the room are not medically good to us. Practically felt, it is really the Smaller blade ceiling fan + AC are comforting the humans now.
- It is prudent to add Run hour meter (costs Rs300/-) to AC compressor to know the daily run hours. This will show the total hours AC is ON and the part load hours of AC compressor ON time. This will show how much the savings you have achieved in your AC daily based on the energy conservation measures.
- **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 gadgets.**
- as per the BEE star rating tables on Air-conditioners, 1 Star rated AC 1.5 Tr consumes 10 UNITS FOR 8 hours working per day compared to 5 Star rated AC consumes only 7 units per day

- In our old running AC we can retrofit AIRCON SAVER and achieve up to 25 % reduction in run hours. This is costing RS.6000/- and if the AC is running healthy & oversized for the existing premises, the savings is more and the same is seen in the reduction of AC run hours after retrofitting the same. One of the short cut ways to reduce your old AC consumption and this may lead to savings of say around 100 units in your old rugged power guzzler AC.
- The conventional old AC voltage stabilizer consumes around 300 watts without any AC load where as the present Sleek type stabilizer consumes only around 100 watts. Assume a difference of 200 watts more in old to new stabilizer, it consumes around $200 \times 8 \text{ hrs} = 1600 \text{ watts extra / day}$ i.e. hence 50 units extra per month as standby loss till date!
- If we are not able to overhaul, change wetted parts in our existing AC circuit to achieve power savings, it is a wise move now to swap with 5 star rated AC to achieve more savings.
- **After above energy conservation works, we save around 25 % on AC, i.e. 150 units less from 600 units.**

SOLAR WATER HEATER:-

- But we have to be rational in using Electricity the high grade energy to be used only in High grade application in industry & domestic and not in low grade heating like boiler etc. One 100 liter solar water heater saves 1800 units / year.
- Of late, ETC model heater is efficient. Because of the borosilicate glass used in Evacuated Tube collector model, the rate of heat transfer is efficient and scaling due to hard water is less compared to Flat Plate collector. With this, there will no need for switching on electric heating element at all once we are used to warm water bathing practice. This is important.
- You too, can avoid burning 1800 Kgs of coal / year (that is 150 KGs of coal per month) for your domestic / commercial EB units consumption. If you visualize this extra 5 KG of coal per day is burnt in front of your eyes towards your Electric water heater consumption, we all can definitely avoid the same and go in for Solar heater.
- **We can save around 150 units per month in our Electricity bill on switching over to SOLAR from electric geyser.**
- **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.**
- We have discussed about the ways & means to achieve energy savings in other domestic appliances like the fridge, electric geyser, TV, UPS, pumps, ceiling fans in the other similar article with the title:-
- **“ REDUCE YOUR BI MONTHLY ELECTRICITY BILL TO LESS THAN 200 UNITS”**
- Today the teenager operates his cell in Power-save mode by putting black background display so as to use the cell for more hours with charged battery. If the similar Power-save mode is implemented on gadgets & appliances by all in the family, then we all can walk the talk of conversation on Conservation as that is the need of the hour now.
- Thinking & Acting on Conservation Measures catalyzes our social responsibility, caring for others and sacrificing our selfish comforts. When we are safe and healthy, conservation prevails.
- **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.**
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