



READING PANDITJI'S ELECTRICITY BILL

KNOW YOUR WATTS

Watt is the unit of electrical power consumption. A kilowatt hour.



WHO PAYS FOR THIS?



Every kilo of coal burnt in a plant gives 3-4 units of electricity. So, the 179 units in Pandit Gobar Ganesh's bill have been generated from the burning of about 45-60 kg of coal. That's about 720 kg a year (taking the higher figure into account).

But wait, there's more.

To generate 1 unit, a plant emits 900 gms of CO₂, which is a greenhouse gas contributing to global warming. That's 648 kg of CO₂ annually for this bill.

A coal plant also emits SO₂, nitrous oxides, CO, degrades the land and fills your water sources with metal pollutants, but that's difficult to calculate here.

India gets 70 per cent of its electricity from coal. Other forms of generating electricity emit less CO₂. A gas plant emits 400 gms/unit and less than 50 gms/unit for nuclear, hydroelectric, biomass and wind plants.

And we still have 2,20,983 million tonnes of coal left in our reserves. Can you calculate how much that can cost the environment?

SANCTIONED LOAD

The total capacity of Panditji's house. In this case, it's 3KW. That means the total number of appliances used at the same time in the house cannot cross this load. 3 KW = 3000 watts = Thirty 100 watt bulbs or Twelve 250 watt appliances

SLABS

You don't pay the same amount of money for all your units. For example in this bill, Panditji pays Rs 1.85 per unit for the first 30 units and Rs 2.90 for then next 70 and so on.

METER READING

The difference between last month's meter reading and this month's, which gives you the total number of units consumed in the current month.

UNITS

1 unit = 1 kilowatt hour (kwh), where 1 kilowatt = 1000 watts. 1 kilowatthour is the amount of electricity consumed by a 1000 watt appliance in 1 hour. So a 500 watt appliance would take 2 hours to consume the same and a 50 watt bulb 20 hours. You can calculate the number of units an electrical appliance consumes using the following formula:

$$\frac{\text{Wattage of appliance}}{1000} \times \frac{\text{Time taken in mins}}{60} = \text{Number of units consumed}$$

WHAT'S YOUR TV WATCHING BILL?

If you watch TV, which has a wattage of 180 for 250 minutes, then the amount of units you have consumed is: 180/1000 X 250/60 = 0.75 units. So if you watch that much TV for 30 days, then your TV has consumed 0.75X30 = 22.5 units in a month. 1 unit in the above bill costs Rs 1.85. The total cost of watching TV = 22.5 X Rs 1.85 = Rs 41 and 62.5 paise.

So that's just your TV bill for the month. Similarly, you can calculate your refrigerator bill, or just your room's bill, Check the wattage on the brochure of the appliance. For most appliances, the wattage is obvious, a 60W bulb will take 60 watts; a 360W-RMS music system will take 360 watts and a one unit immersion rod will take 1000 watts.

| Slab | Rate | Units | Amount |
|----------|------|-------|--------|
| 1st SLAB | 1.85 | 30 | 55.5 |
| 2nd SLAB | 2.90 | 70 | 203 |
| 3rd SLAB | 3.90 | 79 | 308.1 |

In a year, the average Indian consumes 355 units of electricity. In Iceland? 25,126 units!