

Solar Energy Basics

Peer-graded Assignment

Part 2- Calculating electrical load and reducing the load through efficiency improvements

Appliances	No.s	Power(W)	Hrs/day	Days/yr	Daily Electrical Usage (kWh)	Annual Electrical Usage (kWh)
Washing machine	1	500	1	300	0.5	150
Tubelights	5	40	19	350	3.8	1330
Television	1	200	1	200	0.2	40
Personal Computer	1	200	6	260	1.2	312
AC	2	1000	10	120	20	2400
Fans	5	35	22	310	3.85	1193.5
Water Heater	1	1500	1	90	1.5	135
CFL Bulbs	3	15	3	355	0.135	47.92
Refrigerator	1	225	24	360	5.4	1944

Total Daily Electrical Usage For Building (KWh) = 36.585

Total annual electrical usage(KWh) = 7552.425

Efficiency Improvements

Appliances	No.s	Power(W)	Hrs/day	Days/yr	Daily Electrical Usage (kWh)	Annual Electrical Usage (kWh)
Washing machine	1	225	1	300	0.26	67.5
LED Tubelights	5	16	19	350	1.52	532
Television	1	200	1	200	0.2	40
Personal Computer	1	200	6	260	1.2	312
AC	2	1000	10	120	20	2400
Fans	5	35	22	310	3.85	1193.5
Water Heater	1	1500	1	90	1.5	135
LED Bulbs	3	10	3	355	0.09	31.95
Refrigerator	1	225	24	360	5.4	1944

Total Daily Electrical Usage For Building (KWh) = 34.02

Total annual electrical usage (KWh) = 6655.95