

GROUP No. : 11

Batch: C5-3

Date: 22-11-23

Lecture No.: L9

Template for Energy Audit and Solar Installation Activity

Statement Given:

Task 1 Calculate the total energy consumption for a month for your home and share different measures that you will adopt to reduce your energy consumption.

Task 2: Estimate the cost of solar installation to meet your energy requirement.

Evaluation Criteria:

1. Calculations of energy consumption for different appliances
2. Adaptable ideas for reducing energy consumption
3. Cost estimation

Performance- 15 Marks

Submission-10 Marks

Team

Sr No	Roll No	Name
1	51	Shreya Nair
2	52	Shreya Menon
3	53	Shreyans Tatiya
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5		

TASK1 - Energy Consumption Calculations:

Equation for calculating energy:

- Energy (kWh) = (Power (watts) x time x number of appliances) ÷ 1000

Appliance	Power (W)	Number of appliances	Time used (hour)	Energy (kWh)
Ceiling Fan	80W	2	5	$(80 \times 5 \times 2) \div 1000 = 0.8$ kWh
Desktop computer	200W	0	0	0
Laptop	65W	1	6	1.04
LED bulb	10W	5	5	0.25
Tube light	20W	3	5	0.3
Television	200 W	1	2	0.4
Washing Machine	400W	1	1	0.4
Microwave	1000W	1	1	1
Refrigerator	400W	1	24	9.6
Geyser	2000W	2	1	4
Total				16.99 ≈ 17

Total energy used by all of the Appliances : 17 kWh

Total energy consumed on average in a Month : 510 kWh

Measures to reduce your energy consumption:

Measures you will implement to reduce your energy consumption	
1	Switch to LED Lighting
2	Unplug idle devices
3	Upgrade to energy star devices
4	Use smart thermostats
5	Practice energy-efficient cooking

TASK 2 – Cost Estimation for Solar Installation

Use provided excel sheet

Load Calculation:

99450

Number of Panels and Batteries:

$59 + 107 = 166$
Panel Batteries

Cost for Solar Installation:

25,62,520.525

Reflections on activity:

Engaging in the energy audit and solar installation activity deepend my commitment to sustainable living