



SAMADHAN COLLEGE, BEMETARA (C.G.)

Criteria 7 Institutional Values and Best Practices

Metric No.	7.1 Institutional Values and Social Responsibilities	
7.1.2	The Institution has facilities and initiatives for	<ul style="list-style-type: none">1.Solar Panel2. Management of degradable and Nondegradable waste3. Rain Water Harvesting,4. Green Campus5.Barrier free environment



RES/2022-23/59

September 22, 2022

To,
The Principal
Samadhan College
Bemetara, Rajnandgaon 491335 (C.G.)

Subject : Offer for Conducting Energy Audit & Green Audit

Dear Sir

This is reference to the your requirement for conducting Energy Audit & Green Audit of your college. We are pleased to submit our offer as under:-

(A) Scope of work for Conducting Energy Audit, Environment Audit & Green Audit:

The work of Energy audit and Green Audit should be conducted as per Criteria 7 of NAAC, National Assessment and Accreditation Council. The scope of Energy audit & Green Audit is:-

1. Auditing for Water Management, Energy Management, Waste Management, Green Campus Management and Carbon Footprint of the institute for Environmental Consciousness and Sustainability.
2. Alternate Energy initiatives such as: Percentage of annual power requirement of the Institution met by the renewable energy sources (current year data).
3. Percentage of annual lighting power requirements met through LED bulbs (Current year data).
4. Waste Management steps including: • Solid waste management • Liquid waste management • E-waste management
5. Rain water harvesting structures and utilization in the campus
6. Green Practices • Students, staff using a) Bicycles b) Public Transport c) Pedestrian friendly roads • Plastic-free campus • Paperless office • Green landscaping with trees and plants
7. Submitting of Energy Audit & Green Audit Report.

(B) Professional Fees : Rs. 45,000=00 Only (Rupees Forty Five Thousand Only)

(C) GST : Extra @ 18%

(D) Payment : Rs. 25,000 along with your work order and balance payment after submission of Final report.

We hope that our offer is in the line of your requirement.

Thanking You
Warm Regards
For, Raj Energy Services

(Proprietor)
(Sanjay Kumar Mishra)

Certified Energy Auditor from Bureau of Energy Efficiency, Ministry of Power, Government of India, New Delhi
EA- 8696



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(CHHATTISGARH) 491335

Data Required for Energy Audit & Green Audit

1) Introduction of College – A brief profile

About establishment of College, Achievement, List of places from where student coming to college, Infrastructure of campus, Achievements of college

2) Auditing for Water Management

1. List uses of water in your college.
2. What are the sources of water in your college?
3. How many wells are there in your college?
4. No. of motors used for pumping water from each well?
5. What is the total horse power of each motor?
6. What is the depth of each well?
7. What is the present depth of water in each well?
8. How does your college store water?
9. Quantity of water stored in your overhead water tank? (in litres)
10. Quantity of water pumped every day? (in liters)
11. If there is water wastage, specify why.
12. How can the wastage be prevented / stopped?
13. Locate the point of entry of water and point of exit of waste water in your College.
14. Where does waste water come from?
15. Where does the waste water go?
16. What are the uses of waste water in your college?
17. What happens to the water used in your labs? Whether it is mixing with ground water?
18. Is there any treatment for the lab water?
19. Are your labs practicing green chemistry methods?
20. Write down four ways that could reduce the amount of water used in your college.
21. Record water use from the college water meter for six months.
22. Bimonthly water charges paid to water connections if any
23. No. of water coolers. Amount of water used per day? (in litres)
24. No. of water taps. Amount of water used per day?
25. No. of bath rooms in staff rooms, common, hostels.
Amount of water used per day?
26. No. of toilet, urinals. Amount of water used per day?
27. No. of water taps in the canteen. Amount of water used per day?
28. Amount of water used per day for garden use.
29. No. of water taps in laboratories. Amount of water used per day in each lab?
30. Total use of water in each hostel?
31. At the end of the period, compile a table to show how many litres of water have been used in the college for each purpose
32. Is there any water used for agricultural purposes?
33. Does your college harvest rain water?
34. If yes, how many rain water harvesting units are there? (Approx. amount)
35. How many of the taps are leaky? Amount of water lost per day?
36. Are there signs reminding people to turn off the water? ___ Yes ___ No
37. Is there any waterless toilets? _____
38. How many water fountains are there? _____



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39. How many water fountains are leaky? _____
40. Is drip irrigation used to water plants outside? ____ YES ____ NO
41. How often is the garden watered?
42. Amount of water used to watering the ground?
43. Amount of water used for bus cleaning? (liters per day)
44. Amount of water for other uses? (items not mentioned above)
45. Area of the college land without tree/building canopy.
46. Is there any water management plan for the college?
47. Are there any water saving techniques followed in your college?
What are they?
50. Please share Some IDEA for how your college could save more water.

Activity	Average litres of water used per activity (litres)	NO. of times activity done each day	Total water used by a person each day (litres)	NO. of people in the College using water	water consumption per day
Wash hands and face	1.5 litres				
Bath	20 - 150				
Toilet flush	6-21				
Drinking (cup)	0.25				
Washing dishes (hand)	18 single & 36 double basin				
Leaking/dripping tap (1 drop/ second)	30 to 60				
Food garden (m ² / day)	4				
Canteen (Av. for 5 people)	1				
Using the garden hose for an hour	1000				

3) Auditing for Energy Management

- List ways that you use energy in your college. (Electricity, electric stove, kettle, microwave, LPG, firewood, Petrol, diesel and others).
- Copy Electricity bill amount for last one year
- Amount paid for LPG cylinders for last one year
- Weight of firewood used per month and amount of money spent? Also mention the amount spent for petrol/diesel/ others for generators?
- Are there any energy saving methods employed in your college? If yes, please specify. If no, suggest some.
- How much money does your college spend on energy such as electricity, gas, firewood, etc. In a month. (Record monthly for the year 2014)
- Inventory and operational hours details of all electrical installations



- 8 . Any other item that uses energy (Please write the energy used per month) Mention use (Hours used/day for how many days in a month)
- 9.Are your computers and other equipment put on power-saving mode?
- 10.Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on stand by modes most of the time? If yes, how many hours?
- 11.What are the energy conservation methods adapted by your college?
- 12.How many boards displayed for saving energy awareness?
13. Write a note on the methods/practices/adaptations by which you can reduce the energy use in your college campus in future.

4) Electricity/ Diesel/LPG Consumption and Solar Power Generation Details as per attached Excel format.

5) Audit of waste management

total strength of students, teachers and Non teaching staff in your College?

No. of Students No. of Teachers No. Non teaching staff

Gents
Ladies
Total

1. Which of the following are available in your College? Give area occupied and number

Garden area
Play ground area
Kitchen
Toilets (number)
Number of class rooms

Garbage dump (number)
Laboratory
Canteen
Car/scooter shed area

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2. Which of the following are found near your college?

Mark the level of disturbance it creates for the college in a scale of 1 to 9.

- Municipal dump yard
- Garbage heap
- Public convenience
- Sewer line
- Stagnant water
- Open drainage
- Industry – (Mention the type)
- Bus / Railway station
- Market / Shopping complex / Public halls

3. Details of WASTE generated

4.1 Does your college generate any waste?

If so, what are they? How much quantity?

Number/ weight

E-waste / Hazardous waste /Solid

waste/Glass

Unused equipment

Napkins

Others (Specify)

4.2 Is there any waste treatment system in the college?

4.3 Is there any treatment for toilet/urinal/sanitary napkin waste?

4.4 What is the approximate amount of waste generated per day? (in Kilograms) (approx.)

Office

Approx	Bio degradabl	Non-Bio degradable	Hazardous	Others
< 1 kg.				
2 - 10 kg				
> 10 kg.				

Laboratories

Approx	Bio degradabl	Non-Bio degradable	Hazardous	Others
< 1 kg.				
2 - 10 kg				
> 10 kg.				

Canteen/kitchen

Approx	Bio degradabl	Non-Bio degradable	Hazardous	Others
< 1 kg.				
2 - 10 kg				
> 10 kg.				



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- 5 Is there a problem with the waste produced ?
- 6 Whether waste is polluting ground/surface water? How?
- 7 Whether waste is polluting the air of the college? How?
- 8 How is the waste generated in the college managed? Methods
- 8.1 Composting / Recycling / Reusing /Others (specify)
- 9 How many separate boxes do you think you would need to put into a classroom to start a waste segregation and recycling campaign?
What would each be used for? (Develop a colour code with reasons)
- 10 Do you use recycled paper in College?
- 11 Is there any waste wealth programme practiced in the college?
- 12 How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.
- 13 Can you achieve zero garbage in your college? (Reduce ,Recycle, Reuse, Refuse) If yes, how?
14. Existing waste management methods in the campus

Green Campus

1. List of plants (tree population)

Sl. No.	List of Flora	Numbers/ Area
1	Full grown trees	
2	Semi grown trees	
3	Bushes (Including floriculture plants)	
4	Lawn	




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