



AUDIT REPORT

Environmental audits can be a valuable instrument for College to improve their environmental, energy and economic performance by reducing wastages and operating costs. Green audit helps us to identify opportunities to enhance environmental quality, improve green practices, reducing waste and water and energy costs.

Scope and Objectives:

Green auditing help us to identify environmental quality of the campus improve health, hygiene and safety, reduce liabilities and save money.

The main objectives of Green auditing are to:

- Maintain safe and secure 'Green environment' and determine how to conserve the environment.
- Critical evaluation of existing background information.
- Scrutinize functional information of campus.
- Maximize alternate energy utilization.
- Abide the relevant national, local or other laws and regulations.
- Reduce energy consumption.
- Ensure maximum utilization of resources.
- Suggest further improvement to be followed in the campus to promote safe and clean environment.



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Award: (Higher Education Review Top 10 Nursing Colleges in 2020)
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ENERGY AUDIT

Auditing for Energy management: Nursing Campus

Energy used in the college in various ways like electricity and LPG. College is adopted some energy saving measures such as solar energy and LED bulbs.

- Burnt 40W Tube light fittings replaced with 20W LED Tube lights
- Burnt 2x18 w CFL Lamps replaced with 15 w LED lights
- Burnt low efficient fans (80w) replaced with Energy efficient fans (50w). There are 517 fans in the college and hostel altogether.
- Metal halide & tube light street lights replaced with energy efficient LED Lights
- Energy efficient LED lights are installed in new buildings
- Power factor improved from 0.98 to 0.99 by adding capacitor banks at Feeders receiving ends
- Low efficient split AC systems replaced with highly efficient inverter AC systems. There are 5 AC in the institution
- Energy saver invertors installed for lifts
- Usage of 5 MW solar power for entire campus through 3RD party open access system for usage of renewable energy around 69% total consumption



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- 89.6 kwp solar power plant installed on roof tops of all buildings in the campus to optimise use of renewable energy.
- Generator power generation per year is around 212 units (0.04%) of total consumption.
- Diesel used per year around 70 lts.
- There are 52 computers in the institution and are put on power-saving mode for saving energy consumption.
- Awareness programme conducted regarding energy conservation methods.

Auditing for Energy management: Staff Quarters

Some of the eco-friendly initiatives are

1. Burnt 40W Tube light fittings replaced with 20W LED Tube lights
2. Burnt 60w Incandescent Bulbs with 9 w LED lights
3. Burnt low efficient fans (80w) replaced with Energy efficient fans (50w)
4. Metal halide & tube light street lights replaced with energy efficient LED Lights
5. Energy efficient LED lights are installed in new buildings
6. Power factor improved from 0.98 to 0.99 by adding capacitor banks at Feeders receiving ends
7. Low efficient split AC systems replaced with highly efficient inverter AC systems
8. Energy saver invertors installed for lifts



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9. Usage of 5 MW solar powers for entire campus through 3RD party open access system for usage of renewable energy around 69% total consumption

10.44.8 kwp solar power plant installed on roof tops of all buildings in the campus to optimize use of renewable energy.



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ENVIRONMENTAL AUDIT

Auditing for water management: Nursing Campus

The main water source of college is Borewell and there are 4 borewell in the campus. Each borewell depth is around 150 feet. There are 3 motors functioning for pumping the water. The horse power of each motor is 7.5 Hp. Water storing method following in the college is Sintex tank. Total of 3 sintex tank is there in the college, among this 2 have the capacity of 2000 L and 1 have 1000 L. Other than this 1 raw water tank with the capacity of 24,500 L and 3 fire tanks with above 5000 L capacity. There are 4 water coolers in the college and each water cooler used 2 L per day. Two RO plants are in operation and each recycle around 2000 L/day. Waste water from the RO plant is diverted to the soakage pit to avoid the wastage of water. A sewage plant is functioning in the campus. Waste water generated from Washing, Cleaning, Housekeeping activities is recycled and using it for watering the gardens. Around 15000 Kl waste water is treated in sewage plant per month. 8 rain water harvesting plants are under construction stage in the campus. There are 5 water fountains functioning in the campus. Every alternate day the garden is watered by the foundains. Maintenance department from the institution is regularly checking the leakage from the tap and fountain leakage if any.



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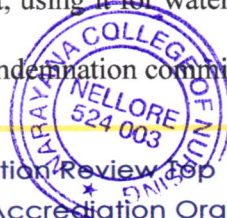
Auditing for water management: Staff Quarters

There are 3 Borewell in the Residential blocks, in which 2 is in working. 4 motor is using for pumping the water and each motor horse power is 7.5 Hp. Each borewell depth is around 300 feet. Water is storing in 6 over head tanks and 14 Sintex tanks. Each overhead tank capacity is around 5000 L and 10 Sintex tanks are with 2000 L each and 4 with 3000L each. Waste water coming from each quarter is diverting to the septic tank. Recycled waste water is using it for watering the garden.

Auditing for waste management:

There are many negative effects due to improper disposal of waste such as soil contamination, water contamination, air contamination, bad impact on human health. Waste can leak hazardous chemicals in to the soil and from there in to our food. Keeping this aspect in mind, institution has taken many initiatives to manage the waste produced from the college.

The waste generated in the college is managed mainly by composting and reusing (liquid waste). Solid waste generating from the college is segregating as degradable and non-degradable waste. Dust bins are kept all over the campus to collect the waste. Leaf litter from the college is used for composting and organic manure/compost obtained, is used for plants. Non-biodegradable waste is sending to Municipal Corporation Dumping Yard. 50 Kg/day of solid waste is producing in the campus. 500 Kl of waste water is producing each day and is treating in sewage plant, using it for watering the plants. E – Wastes are collected from the college frequently and condemnation committee give it for Auction.



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Suggestions:

- More trees need to be planted for neutralizing the carbon emission.
- A nature club can be formed exclusively for nursing campus.



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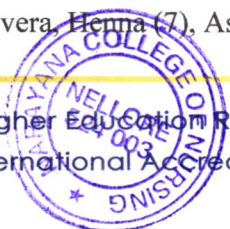
GREEN AUDIT

Auditing for Green campus management: Nursing Campus

Institution is unceasingly diligent to maintain the campus environment eco-friendly by maintaining greens all around the campus. The total nursing college campus area is 3 acres. The campus is planted with 297 shady plants, 3 green lawns, 100 medicinal plants and other gardening environments. College is maintaining gardens and green lawns in the campus and students are utilizing this by spending their leisure time in the garden. There is a kitchen and medicinal garden in the backyard of Mess building and it's around 1 acre. Ladies finger, Brinjal, Seasonal Green leafy vegetables, Banana trees etc are some of the vegetables cultivating in the kitchen garden. Indian Beech tree – 1, Alovera-10, Thulasi-10, Lemon tree-1, Custard apple-1, Peepal tree -1, Kalenku-2, Neem trees are some of the medicinal plants in the medicinal garden. Vermicompost is preparing in the institution from degradable waste and using it as bio manure for plantation. Waste water is recycled and using it for watering the gardens.

Auditing for Green campus management: Staff Quarters

Quarter's area is built up with individual villas (10) and apartments (5). A separate garden is set around for each quarters and apartments. The total Quarters area 3 acres. This residential complex is planted with 258 shady plants, blooming house plants, medicinal plants and other gardening environments that brighten the environment and keep a pleasing atmosphere. Some of the vegetables and fruit trees cultivating in and around the quarters are Moringa, Curry leaves, Lemon trees, Fig tree, Pomegranate, Black plum/Jamun tree, Guava tree (6), Coconut tree etc. Thulasi, Aloe vera, Henna (7), Ashoka trees (10), Indian bael (vilvam Tree), Neem





trees etc are some of the medicinal plants could see in the quarters. Other than this many flowering house plants such as Jasmine (12), Rose, Pinwheel flower, Yellow allamanda flowers, Champa flower, Mandaram flower, Varieties of Oleanders and Hibiscus also could find in the garden around quarters. Gardening area is taking care by the institution by regular watering, cleaning the area, planting new varieties of plants and mowing the lawns.

Auditing for Carbon foot print: Nursing Campus

Carbon Neutral initiative is taken by the college by conducting awareness programme, alternative energy measures etc.

- Nursing campus total average energy consumption - 4,78,00KWH/YEAR
- Total co2 emission per year 4.30 Lakhs KGS or 430 Tons OF CO2 EMISSION

Use of Renewable energy:

89.6 kwp roof top solar power plant installed on the roofs

Usage of solar power through 3RD party open access system for usage of renewable energy
(Purchasing from 3rd party solar plant)

SOLAR ENERGY

ROOF TOP (28%)	1,34,400 KWH/YEAR
3RD PARTY SOLAR (66%)	3,18,000 KWH/YEAR
TOTAL SOLAR POWER (94%)	4,52,000 KWH/YEAR



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CO2 EMISSION PREVENTED PER YEAR DUE TO SOLAR POWER IS:

- 4,52,000 UNITS X 0.9 KGS OF CO2 = 4.07 Lakhs KGS or 407 TONS OF CO2
- Balance CO2 emission after solar power is 0.23 Lakhs KGS or 23 TONS/YEAR
(477000KGS-450000KGS)
- One big tree inhale around 20.3 Kgs of CO2 in a year

The total student's strength in the campus is 640 and teaching staff strength is 81. Around 10 members in the teaching and non-teaching staff are using two wheelers.

Auditing for Carbon foot print: Staff Quarters

- Staff quarters total energy consumption 6,18,000 KWH/YEAR
- Total co2 emission per year 5.56 Lakhs KGS or 556 Tons OF CO2 EMISSION

Use of Renewable energy

- 44.8 kwp roof top solar power plant installed on the roofs
- Usage of solar power through 3RD party open access system for usage of renewable energy (Purchasing from 3rd party solar plant)

SOLAR ENERGY

ROOF TOP (11%) 67,200 KWH/YEAR

3RD PARTY SOLAR (69%) 4,26,000 KWH/YEAR

TOTAL SOLAR POWER (80%) 4,93,200 KWH/YEAR



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CO2 EMISSION PREVENTED PER YEAR DUE TO SOLAR POWER IS:

- 4,93,200 UNITS X 0.9 KGS OF CO2 = 4.43 Lakhs KGS or 443 TONS OF CO2
- Balance CO2 emission after solar power is 1.13 Lakhs KGS or 113 TONS/YEAR



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