

# Audit Framework and detailed findings

The following audit framework was used for conducting Energy Audit for the year 2022-23 of Kalimpong College

1. Energy Audit: Energy & usage of renewable			
Reduce consumption Hydel energy consumption	Limit the use of electricity in case of well Ventilated and well-lighted rooms, during the daytime	The use of Hydel energy will be replaced by Solar energy in the future. College has already been sanctioned by Govt. solar energy project to generate 28kwh of energy. Good initiative !!	
Reduce consumption of Hydel energy consumption	Appreciate to invest in new sources of renewable and carbon-neutral electricity	LED bulbs are commonly used. It can be encouraged.	
Reduce consumption of Hydel energy consumption	Replacement of old Aluminum wiring with copper wiring.	Old Building wiring Aluminum wires needs be replaced by latest copper wires / cables which are low in consumption of energy.	
Reduce energy consumption, especially of energy derived from fossil fuels,	Provide energy efficient heating systems, with adjustable controls for individual heating appliances wherever possible, and ensure that comprehensible instructions are available to staff and students on the use of heating controls	Planning to do the solar system on large scale in the future with the help of UGC or Govt funding. Heaters are used only during winter in staff rooms, offices, Library, and Principal's room.	

Reduce energy consumption, especially of energy derived from fossil fuels,	Encourage staff, students and conference guests to save energy through visible reminders, incentives and information to increase awareness. This particularly concerns turning off electrical appliances when not in use.	The College an " Eco Club" ( an environmental club), which organizes awareness programs on the consumption of energy and is also planning to organize various seminars in collaboration with organizations which are promoting sustainable
Reduce energy consumption, especially of energy derived from fossil fuels,	Monitor and understand the importance of different sources of college energy consumption, and set appropriate and measurable targets for a reduction in certain areas of consumption and/or in the overall consumption of energy.	The use of sensor bulbs can be promoted. All college staff and students should be briefed on the sustainable use of electricity, and it is their moral responsibility to not waste energy when not in need.
Reduce energy	Ensures that all electronic and electrical equipment such as computers, are switched off when not in use, and is generally configured in power saving mode when such option is available.	Lights and computers and other electronic gadgets are turned off when not in use
Reduce energy consumption, especially of energy derived from fossil fuels	If the equipment is running on standby mode, it reduces the energy consumption or minimizes the running of equipment.	All functional equipments need to run on standby mode.

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# **Environment Policy**

Eco-Club and Health and Hygiene Committee has been created at Kalimpong College with the aim to manage and carry out environmentally sustainable practices in our college campus along with the aid of NCC and NSS units of our college. The College strives for the aim and goal to effectively reduce the waste in college campus and make the campus neat and clean and eco-friendly. Further, it also aims to inculcate in the staff and students of the college the ethics and values towards contributing positively in building our environment's health.

## Part A: Objectives and Scope

### The main objectives of the Environment Policy Guidelines are:

- 1. Make the campus as well as the activities in college environmentally sustainable.
- 2. The campus to be made eco-friendly and safe as much as possible.
- 3. Create green events and inculcate a more aware and sustainable attitude among the students and staff.

Along with the main objectives, the college will also look into the following criterions for making the campus greener and sustainable:

- 1. A uniform waste management system to be followed to reduce the total waste generated.
- 2. To make the energy consumption of college more efficient.
- 3. To ensure that the hygiene and sanitation requirements in the campus are well maintained.
- 4. To hold awareness campaigns from time to time.

**The scope** of these objectives extends to all festivals, events, workshops, lectures and conferences as well. Necessary changes if needed or revisions in implementation-guidelines need to be periodically monitored and updated to this document to make it truly effective.

# Criteria for developing Environmentally Sustainable Culture on Campus

- 1. Measures taken to reduce the energy consumption, and indirectly reduce the carbon footprint.
- 2. Measures taken to reduce the consumption of water and other resources, as well as reducing the creation of waste.
- 3. Measures taken to reuse the water and wastes as much as possible.
- 4. Measures taken to check the impact on Environmental and social consequences while doing purchases, sponsors and vendors.
- 5. To monitor the progress and report from time to time.

# Part B: Guidelines

### Waste Reduction and Efficiency

### **1.** Paperwork transitions to digital methods.

a. To lessen the need for paperwork it is highly recommended that the general management of the college goes digital and as paperless as possible.

b. The necessity of letterheads must be reduced, and communications carried out over email, Telegram, WhatsApp Groups or similar platforms.

c. There must be efforts taken to digitize the submission of assignments as well as the distribution of notes to the students.

d. All these to be monitored regularly.

### **Energy Usage**

1. Maintenance of audio, video and other equipments should be monitored regularly.

2. Investments in Renewable energy: The efficient working of the solar cells is essential to an energy efficient campus and thus must be a priority of the college. If possible, the college's dependence on the power grid should be decreased by installing the use of solar panels and regular maintenance.

3. Purchasing the best and greenest possible resource for the campus and events (e.g. using LED bulbs instead of halogens despite the cost increase). As well as making sure to purchase energy efficient appliances and to ultimately use solar energy for all purposes eventually in the near future.

#### Water Management

1. All the demands of water of the College to be met through the rain water harvesting without any wastage.

- 2. Taking steps to creating a water-recycling system to reuse as much water as possible.
- 3. Encourage the reuse of kitchen water to water the plants.
- 4. Conduct regular checks for leaky faucets, flushes etc.

### **Green Cover**

The college is situated at the hills and, therefore, is already laden with beautiful landscape having greeneries like Dhupi (*Cryptomaria Sp.*) and Chilaune (*Schima Wallichii Sp.*) scattered almost throughout the major portions of the college along with other plants and flowers. Thus, its chief aim will be to:

1. Check the suitability of certain plants in the campus environment and plant species that are beneficial to the overall health of the campus.

2. Try to increase the green cover on campus by implementing innovative ideas such as hanging pots, less turf, and planting medicinal herbs etc.

#### **Documentation of the process**

A comprehensive documentation of all these shall be done by the appropriate committees of the college with necessary co-operation of the administration.

#### **Rainwater-Harvesting System**

Kalimpong is situated in the hills of North Bengal and gets heavy rainfall from July till September and it also rains during other times of the year. In order to conserve water, the college rooftops and terraces area has been well connected with the help of pipes that carry the accumulated water to the ground level. The college has a rainwater-harvesting system that includes a tank to accommodate 1, 50,000 litres of water to cater to the needs of almost 2300 staff and students of the college. The system was constructed by Rotary Club of Kalimpong in collaboration with several Rotary Clubs of Scotland and Rotary International. The water tank fulfils the water requirement for all the laboratories, washrooms, and drinking water system of the college.

#### MANAGEMENT OF DEGRADABLE AND NON-DEGRADABLE WASTE

Kalimpong College takes all the necessary precautions and full responsibility for disposing the waste generated at the college with the aid of local Municipality. The waste in the bins is periodically emptied whenever the bins are full by the support staff of our college and also with the help of volunteers of Eco-Club, NSS, NCC, Hygiene and Health Committee and students from various departments at times. Necessary coordination with the administration and various committees is instrumental in carrying out this endeavour.

**I. Solid Waste Management:** To reduce waste at the institute, students and staff are educated on proper waste management practices through timely lectures, displaying slogan boards in the campus. Waste is collected daily from various sources and kept in dry and wet waste red and green waste bins respectively. Waste materials like plastics is collected weekly

by the volunteers of Eco-Club, NSS, NCC and Hygiene and Health Committee and handed over to the local municipal vehicle. The college takes significant steps to produce compost manure from the Canteen solid waste, paper, leaves and stubbles with the aid of Eco-Club. The manure is used for the maintenance of the herbal garden as well as for the trees.

**II. Liquid Waste Management:** The waste water mixed with chemicals from laboratories passes through concealed pipe line into soak pits. All waste water lines from toilets etc., is well connected with municipal drainage mains.

**III. E-Waste:** It is collected and stored in the store room. Old monitors and CPUs gets repaired by our technicians and may be reused. Scraps are either sold to the vendors or given to the municipality for reusing it.

**IV. Hazardous waste management:** The college is yet to come out with a proper system of hazardous waste management. There is minimal Hazardous waste and these negligible amounts of solid hazardous waste emanating from the science departments are collected in the dustbins and given away to the municipality while the liquid hazardous waste goes directly into the soak pit through the properly concealed pipes. The planning for a proper measure is in the pipeline and the college is ready to encounter any such problems whenever if the situation arises with the help Chemistry Department who are fully aware about the effects of hazardous waste and the need to dispose them carefully.