Dr. C.V. Raman University

Kargi Road Kota Bilaspur (C.G.)

GREEN RAMAN CLUB
ENERGY CONSERVATION POLICY

Purpose

1. The purpose of this policy is to ensure the university operates in a sustainable manner managing energy and water consumption by using energy and water efficiently, wisely and responsibly. This policy contributes to meeting the university's commitments and goals with respect to energy and water-related costs as well as greenhouse gas emissions associated with energy use.

2. To align with the university's greenhouse gas reduction targets, which are identified in the Climate Action Plan, the university has set a goal to reduce energy and water consumption annually by 5%. Reducing overall energy and water consumption is key to meeting the university's commitments.

3. This policy supports and enhances the university's commitment to environmental sustainability and encourages change in individual behaviors, actions, and campus processes.

4. The policy supports management of ongoing energy and water related costs and reduces university risk to future carbon compliance regulations and payments. Energy and water management provides leadership on this global issue.

Principles

The university is committed to modelling sustainability and practicing effective stewardship of institutional resources while providing an excellent learning, teaching and research environment.

The university is committed to increasing environmental sustainability through implementation of the Campus Sustainability Plan.

Scope of this policy

This policy applies to faculty, staff, students, researchers and other members of the campus community. All water and energy sources (including, but not limited to, electricity, steam, chilled water, gasoline, diesel and natural gas) are included.

Policy

Energy and water are essential to university operations to support all work, study and research. All members of the campus community will endeavor to use energy and water in the most efficient manner possible. Energy and water use can be managed by all departments, colleges and units through awareness and adoption of the most efficient procedures and practices.

The campus community shall make informed choices to minimize the institution's ecological footprint associated with energy and water, with a goal of continuous improvement and reduced operating costs.

It is Dr.C.V.Raman University's goal to reduce energy consumption on campus whenever

possible through the support and everyday efforts of faculty, staff, students and university visitors ("the campus community"). This shall be accomplished through the following energy conservation measures:

Individual actions: Close doors and windows; turn off lights, computers, printers and faxes when not in use.

Technical strategies: Pursue energy savings in equipment operations and maintenance, as well as in building renovation and new construction.

Education and outreach: Encourage energy conservation and environmental stewardship on campus and
beyond.
-University Facilities: Will be operated in the most energy efficient manner without endangering public health and safety and without diminishing the quality of education regardless of the source of funding for their operations.
-Future construction and, renovation: Will be designed for optimum energy utilization, lowest life-cycle operating costs, and in compliance with all applicable energy codes and regulations. In instances where a project's current funding does not include energy features consistent with lowest life cycle costing, augmentations will be sought, when warranted. Incorporation of energy efficient design features in the project plans and specifications will receive a high priority next only to meeting health, life-safety code elements and the academic program needs of the project within the available project budget.

-Monitor the effects of energy conservation efforts on instructional programs and environment, the campus energy/utilities managers shall solicit and evaluate feedback from faculty, staff, and students.
Training on new energy management concepts and programs will be provided as necessary

-The cell will designate an Energy/Utilities Manager with the responsibility and the authority for carrying out Energy Conservation and Utilities Management Programs.

Responsibilities

Members of the campus community, faculty, staff, students, researchers and visitors, are responsible for identifying areas of inefficient energy and water use and measures to remedy inefficiencies, and actively working towards eliminating inefficiencies in energy and water use.

The Energy Steering Committee, overseen by the Sustainability Committee, is responsible for the oversight, guidance and endorsement of energy conservation on campus; approving the Energy Management Plan and energy reduction targets; updating this policy; approving energy and water conservation procedures; engaging working groups to develop and implement solutions for energy reduction; and supporting working groups in allocating required resources.

The Sustainability Committee is responsible for leading the institutionalization of sustainability in all areas of campus life, including reducing the university's ecological footprint associated with energy, water and GHG emissions

Best Practices by the cell-

Many sources of information are available on methods and practices for using energy and water efficiently. The following are some helpful tips on individual actions to consider.

1. Turn lights out when you leave rooms unoccupied or in unoccupied rooms that you pass. Encourage others to do the same.

2. Turn off or unplug office equipment, laptop computers, monitors and lab equipment, unless in use, especially at night and on weekends. Unplug equipment that is not used frequently.

3. Turn off fume hoods and biosafety cabinets when not in use to prevent the loss of conditioned air.

4. Adjust the thermostat to save energy when you are away from your office or dorm room for extended periods or vacations*. Set to lower temperatures during the winter and warmer settings during the summer. (*where thermostat is adjustable)

5. Develop research processes that are efficient and use resources wisely.

6. Dress appropriately for each season. Personal heaters and cooling devices are strongly discouraged.

7. Choose computer and device power management settings to minimize energy

usage. 8. Report water leaks to Customer Service Centre.

9. Use compact fluorescent light or LED bulbs in all floor and desk

lamps. 10. Do not idle fleet vehicles

11. Develop funding opportunities to support investment in energy and water conservation projects

12. Develop a communication plan to share with the campus community energy efficiency and energy and water performance.

13. Develop engagement and awareness programs with regular publicity campaigns.

14. Implement an Energy Management Information System to monitor consumption and measure and verify savings for energy and water

Intended Benefits from cell-

Meeting or exceeding these goals should result in the following benefits:

1. Reduce rising utility costs on campus

2. Extend the life of expensive equipment and facilities
3. Reduce greenhouse gas contribution
4. Create a more healthy environment for our faculty, staff, students, visitors, and surrounding communities
5. Promote new research and teaching opportunities focused on energy management and sustainability

Procedure-

Action Item: A) Implement an Energy Conservation Policy:
An energy conservation policy is needed to document the goals of the University in establishing
recognition of energy savings. The energy conservation policy includes:
-Creating guidelines for proper management of our energy resources; (e.g. water, natural gas, and the energy products of steam, chilled water, and electricity).
- Controlling the waste of natural resources.
-Maintaining the most comfortable and safest environmental conditions in university buildings at
the lowest cost.
-Creating an outline to be used for educating faculty, staff, students and guests of the University
in the day to day practice of energy conservation.
An updated but unapproved policy is attached for further discussion and consideration.

Action Item:B) Energy Conservation Efforts In Place

Action Item:C) Conduct An Energy Audit and Implement Strategies

Identified Action Item:D) Implement Culture Changes

Action Item:F) Establishing Carbon Footprint

Reduction Action Item:G) Energy Conservation

Through Innovation

GUIDELINES FOR ENERGY CONSERVATION-

The following guidelines for energy conservation shall be followed in all buildings managed by Facilities Management-
1. Indoor Air Temperatures:-

During normal occupied hours the target indoor air temperature are:

Heating Season –

The heating season is generally from mid-October to mid-April (depending upon prevailing weather conditions).

During normally occupied hours, heat will be provided to maintain indoor temperatures as close to 67`F as practical (usually +2`F). During off hours, temperatures may be allowed to drop as low as 55`F.

Cooling Season –

The cooling season is generally from mid-April to mid-October (depending upon prevailing weather conditions).
During normally occupied hours, cooling is provided to maintain indoor temperatures as close to 78`F as practical (usually +2`F). During off hours, temperatures may be allowed to either rise above this temperature, or in the case of the hottest periods, drop below this level in order to lower our cooling demand during peak use periods

	SUMMER	WINTER
Office Space:	78 degrees	67 degrees
Classrooms:	78 degrees	67 degrees
Laboratories	78 degrees	66 degrees

2.During off hours, heating, ventilation and air conditioning systems shall be adjusted so that indoor air temperature settings achieve the greatest energy savings possible while protecting university assets.

3. Temperature exemptions will be granted only under extenuating circumstances
4. While buildings are being heated or cooled, doors and windows shall remain closed and as secure as possible to prevent loss of conditioned air. Do not prop doors leading to the outdoors of buildings.
5. Chemical fume hood sashes shall be closed when not needed to prevent loss of conditioned air. Whenever possible, exhaust fans shall be turned off when hoods are not in use.
6.. All windows in buildings and/or facilities that are air-conditioned will be kept closed and as secure as possible to prevent loss of conditioned air.

2.Purchasing:-

i. ENERGY STAR qualified equipment, systems and appliances (see http://www.energystar.gov) shall be purchased whenever such products are available and the following two conditions are satisfied:
a) The quality and function of the ENERGY STAR qualified product is equal or superior to that of non-ENERGY STAR qualified products; and,

b) The additional upfront cost of the ENERGY STAR qualified product is less than its resulting lifecycle energy savings.If it is not possible to satisfy both of these conditions, then the most energy efficient-equipment, systems and appliances possible shall be purchased.

ii. Energy-efficient flat panel computer monitors shall be purchased unless medical, instructional, research or other special requirements necessitate the use of less efficient

CRT monitors.
iii. Computers and other electronic office equipment, as well as window air conditioning units (where applicable), shall be turned off when not in use and at the end of the day.
iv. Refrigerators, microwaves and coffee makers consume large amounts of energy and are not authorized for use in individual spaces on campus.

3.Lighting:-
i. Lights shall be turned off when not in use, when leaving a room unoccupied and at the end of the day.
ii. Energy-saving fixtures, lamps, ballasts and lighting control systems will be used to the fullest extent possible in routine maintenance and repair jobs, as well as in major renovation and new construction.
iii. Artificial lighting is to be used only when daylight is insufficient to perform the task at hand, or where campus safety would be comprised without artificial lighting.
iv. Lighting levels recommended by the most recent edition of the Illuminating Engineering Society (IES)
v. Day lighting shall be used to the fullest extent possible in major renovation projects and new construction projects
vi. Outside lighting on building exteriors and campus grounds will be maintained at levels necessary to provide security and safety to promote confidence within the campus community. Good energy management practices shall be observed within this guideline

4.Water:-
i. Water is to be used sparingly. Showers and faucets shall be turned off after each use.
ii. Cold water shall be used whenever possible, unless sanitary or other special requirements necessitate the use of hot water.
iii. Low flow toilets, showers, and faucets shall be installed whenever possible.