GITAM: GANDHI INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(Deemed to be University u/s 3 of the UGC Act, 1956)

A Category – I Deemed to be University

Visakhapatnam | Hyderabad | Bengaluru

The Policy for

Energy Conservation

Contents

Definitions

1.1 CO2 Emissions (Carbon Dioxide Emissions):

CO2 emissions refer to the release of carbon dioxide gas into the atmosphere. Carbon dioxide is produced during the combustion of carbon-based materials and through the respiration of living organisms. It is a significant greenhouse gas, and monitoring emissions is crucial in understanding and mitigating their impact on climate change.

1.2 *HVAC (Heating, Ventilation, and Air Conditioning) Equipment*:

HVAC equipment encompasses a range of systems, including heating, ventilation, and air conditioning systems. These systems often include major energy-consuming components such as boilers and air handling units. Effective management and optimization of HVAC equipment are essential for energy efficiency in buildings.

1.3 *Whole Life Costing (Lifecycle Cost Analysis):*

Whole Life Costing, also known as lifecycle cost analysis, is a method used to evaluate the financial benefits of a specific technology or building component. It considers not only the initial capital cost but also the impact on operational costs over the entire lifespan of the technology or component. This approach provides a more comprehensive understanding of the financial implications of investments in building systems and technologies.

2 Policy statement

The GITAM Deemed to be University is committed to reducing its carbon footprint by implementing energy-efficient practices and utilizing low or zero carbon energy sources. GITAM aims to lead by example in sustainability by exceeding legal energy efficiency requirements and promoting responsible energy consumption.

GITAM prioritize monitoring and reporting energy usage across the University to drive ongoing improvements in energy efficiency and emissions reduction.

In pursuit of sustainability, GITAM engage with academic community and students, fostering a culture of energy conservation through awareness campaigns and collaborative research efforts.

The University is dedicated to optimizing the operation of its buildings and facilities,

ensuring they meet high energy efficiency standards and integrating whole-life cost assessments to enhance operational energy savings.

3 The core objective of energy conservation policy

- To implement policies and procedures that will cut energy usage at the university, lower energy costs, and assist efforts to reduce greenhouse gas emissions.
- Continuously improve energy efficiency by implementing appropriate procedures and employing energy-saving equipment and technology.
- With the complete engagement of students, faculty members, and employees, energy waste will be avoided.
- Conduct regular management evaluations to verify that the company is improving.
- At regular intervals, conduct energy audits and energy conservation awareness programmes.
- Through research and extension initiatives, raise community knowledge and education about energy conservation strategies.

4 Scope

- All GITAM Deemed to be University staff members and students are subject to the policy.
- The facilities owned by GITAM Deemed to be University in all of its sites, including those in Visakhapatnam, Hyderabad, Bangalore, and the GIMSR Campus, are subject to this policy.

5 Specific measures

5.1 For building:

- The windows and doors of the climate-controlled spaces should be shut when the systems are operating. Having a free flow of air is beneficial at other times.
- When they are not actively being utilized, power down computers, office

machinery, lighting, window air conditioners, and any other electrical devices.

- Personal electrical equipment and air conditioners are not permitted.
- Personal PCs should have their power management capabilities enabled.
- The Energy Code should be observed not only in the design but also in the operation of buildings.

5.2 New and renovation buildings:

- All construction efforts should address LEED criterion applicability and application where necessary and practical, and energy life cycle costing studies should be included in the design process.
- For improved energy management capabilities, new construction should be added to the campus-wide energy management system.
- Solar (thermal and photovoltaic), wind, biomass, bio-fuels, hydro (conventional and low-head), co-generation, and energy recovery should all be considered.
- Connecting and/or extending central systems for heating, cooling, and other mechanical systems should be prioritized.
- The most energy efficient systems ("best available technology") should be used to meet year- round cooling needs.
- Utility metering should be included in all new building (electricity, natural gas, steam, and water).

5.3 For cooling specification:

- When the room is occupied during the air-conditioning season, the temperature should be kept between the ideal temperature range for a classroom is between 73-79 degrees Fahrenheit during the summer months.
- Special areas research facilities and library special collection spaces that require consistent humidity levels or colder temperatures are the only exceptions to this guideline.
- Separate and specialized stand-alone dehumidification equipment will be taken into consideration if the functionality of this apparatus enables a

reduction in the use of the building's cooling systems.

- Window air conditioners will still be used in places without central air conditioning. These units' temperature settings should be manually increased or the unit should be switched off when spaces are not in use.
- The campus monitoring team should be notified of any areas that are excessively chilly or too hot.

5.4 For transportation:

- Public transportation, bicycles, and car/vanpooling should all be encouraged.
- Walking and cycling are promoted on campus by faculty, staff, and students.
- Investigations into the viability of battery-powered electric vehicles will be encouraged, with implementation taking place where possible.
- The purchase of new College fleet vehicles should be extensively scrutinized, and vehicles should be selected with the maximum feasible fuel efficiency.

5.5 For procurements:

- When possible, energy-efficient products should be purchased.
- When possible, purchase recyclable and reusable products to save money on disposal.

5.6 For maintenance:

- Over time, the efficiency of mechanical systems tends to deteriorate.
- To guarantee that the systems run as efficiently as possible, proper maintenance is essential.
- The Facilities Monitoring team is dedicated to not only providing quality in all construction projects, but also to ensuring that quality is maintained throughout the project's life cycle.
- Sound resource conservation measures will be incorporated into maintenance and operational procedures to reduce waste and energy consumption to the greatest extent possible.

5.7 For lighting:

- Employees and students are encouraged to actively participate in energy conservation efforts within all University buildings. This can be achieved by adhering to several key principles: firstly, lights in unoccupied areas should be switched off. Secondly, the replacement of incandescent lighting with more energy-efficient alternatives, such as compact fluorescent or light-emitting diode (LED) bulbs, is recommended. Additionally, it is advisable to maximize the utilization of natural light whenever feasible and to turn off non-essential lighting.
- In the context of new construction and renovations, it is advisable to prioritize the use of high-efficiency lighting while minimizing the use of incandescent lighting. Exterior decorative lighting should be minimized, and interior decorative lighting should be maintained at a minimal level. To further enhance energy savings and potentially improve productivity, the increased adoption of daylight lighting and appropriate lighting controls should be considered.
- Lastly, the management of lighting systems should be integrated into the campus-wide energy management system, with a focus on coordinating lighting with occupancy periods, setbacks during unoccupied periods, environmental conditions, and campus-related events, ensuring the optimal utilization and conservation of resources.

5.8 Training and monitoring

- Both operations and service professionals must receive training to ensure that they have the skills and expertise to efficiently deploy the technologies used to save energy.
- If progress is not tracked on a regular basis, no energy conservation programme will be successful.
- Meter readings can be used to measure utility consumption, and the information can be utilized to pinpoint problem areas and assess if conservation targets are being reached.
- Most of the college's campus buildings are now metered for electricity;

additional utilities (suchas potable water and sewer) will be metered on a "per-building basis" as funding becomes available.

- This is a critical undertaking for us since it will improve our capacity to track progress in our conservation and operational activities.

6 Conclusion

GITAM (Gandhi Institute of Technology and Management) is unwavering in its commitment to energy conservation and sustainability, exemplified by its comprehensive Energy Conservation Policy. This policy, applicable across its campuses in Visakhapatnam, Hyderabad, and Bangalore, establishes key definitions and principles. The university's primary objective is to reduce energy usage, costs, and carbon emissions, actively engaging its academic community and students in cultivating an energy-conscious culture. The policy outlines specific measures encompassing building operations, construction, cooling, transportation, procurement, maintenance, and lighting to ensure energy efficiency and environmentally responsible practices. GITAM emphasizes training and monitoring as essential components of successful energy conservation, integrating utility metering and meter readings to enhance tracking and evaluation capabilities. Overall, GITAM's Energy Conservation Policy reflects a holistic commitment to reducing its carbon footprint, aligning with its mission to promote responsible energy consumption and sustainability across its campuses.

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