

ENERGY AUDIT REPORT

Introduction:

Energy is a critical input for economic development in any country, particularly in developing nations where growing energy needs demand substantial investments.

In India, we are increasingly focusing on a cleaner energy matrix, which involves not only boosting sustainable power generation but also using energy more efficiently for economic purposes. Every step towards energy conservation is a move in the right direction.

Our initiatives are aimed at finding ways to save energy to reduce costs and prevent the depletion of energy resources. As societal demand for energy continues to rise, energy conservation becomes essential.

An Energy Audit serves as a tool to assess and analyze energy consumption patterns based on factors like time, output, and floor area. The goal of these audits is to implement various energy-saving measures to achieve cost savings and evaluate the effectiveness of these measures. By setting specific energy-saving targets for individual cost centers, audits help identify areas where cost savings can be achieved and reduce energy consumption per unit of product output or lower operating costs.

An old incandescent bulb consumes roughly 60W to 100W, while a more energy-efficient LED consumes less than 10W. Energy auditing addresses energy conservation and methods to cut consumption to lessen environmental impact. Thus, it is vital for any environmentally conscious institution to scrutinize its energy usage practices.

Objective:

The objectives of an energy audit include:

- Assess and pinpoint areas where energy consumption can be reduced.
- Analyze the cost-effectiveness of implementing energy-saving measures.
- Establish specific goals for reducing energy usage for individual departments or processes.
- Recommend improvements to enhance overall energy efficiency and reduce operating costs.

Methodology

The energy audit process begins with meticulous planning, defining objectives, and assembling pertinent data. Through on-site inspections and data analysis, opportunities for energy conservation are pinpointed. Recommendations are tailored to maximize efficiency while considering cost-effectiveness. Prioritized solutions are proposed, factoring in potential savings and return on investment. Implementation involves collaboration with stakeholders to execute identified measures. Continuous monitoring ensures that expected energy savings are realized and adjustments are made as needed. Finally, a comprehensive report is compiled, detailing findings and outlining actionable steps for enhancing energy efficiency.

Initiatives taken by the college to conserve the energy

1. Implementation of LED bulbs throughout the building has replaced traditional tube lights, enhancing energy efficiency.
2. The transition from CRT to LED monitor screens in computer labs has significantly reduced power consumption.
3. Student Energy Monitors are appointed to ensure timely shutdown of electrical appliances daily.
4. Well-ventilated classrooms capitalize on natural airflow, reducing reliance on artificial lighting and fans.
5. Computer lab users are instructed to power down systems and switch off monitors before leaving.
6. Notices reminding users to switch off electrical appliances are posted in labs for student awareness.
7. Staff are encouraged to unplug idle electrical appliances, particularly in the nutrition lab, to conserve energy.
8. Removal of outdated air conditioners from computer labs has contributed to energy savings, alongside regular cleaning efforts.
9. Student engagement in energy conservation competitions fosters innovative ideas and awareness.

10. Commemoration of Energy Conservation Day involves student performances and demonstrations to promote sustainable practices.

11. Encouraging the use of stairs over lifts not only promotes health but also reduces power consumption

Conclusion

- Explore new technology upgrades like motion-sensor lighting.
- Expand awareness programs to encourage sustainable habits among staff and students.
- Look into more building retrofits and energy-efficient designs.
- Partner with utilities for incentives and resources.
- Continue regular audits to track progress and find more ways to save energy.

These initiatives will be implemented at KMICS's ongoing commitment to energy conservation and sustainability, furthering our efforts to reduce energy consumption and environmental impact.



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GREEN & ENVIRONMENT AUDIT REPORT

Introduction:

Keshav Memorial Institute of Commerce and Sciences comes under Keshav Memorial Educational Society which is a premier educational institution providing quality education since 1995. Keshav Memorial Educational Society is one of the oldest and well-known societies in the state. Keshav Memorial Educational Society was founded in the year 1940 by Late Pandit Vinayaka Rao as a living memorial to his father late Justice Keshav Rao Koratkar, an eminent judge of High Court and envisioned educationist.

In spite of several obstacles under the autocratic rule of Nizam, the Keshav Memorial society has daringly started the society through education. This college is committed to provide quality education and promote research that will contribute to the continual development of our society.

Keshav Memorial Institute of Commerce and Sciences (KMICS) is a premier educational institution dedicated to providing high-quality education in commerce and sciences. Located in the vibrant city of Hyderabad, India, KMICS has been a cornerstone of academic excellence since its establishment. Founded with the vision of nurturing future leaders and professionals, KMICS offers a dynamic learning environment that blends theoretical knowledge with practical experience. With a strong emphasis on innovation, critical thinking, and holistic development, the institute prepares students to excel in the competitive global landscape. As a hub of intellectual inquiry and academic excellence, KMICS continues to uphold its reputation as a leading institution in commerce and sciences education, empowering generations of students to make meaningful contributions to society and the world at large.

The college ensures the academic development of the students and also provides them with opportunities to prove themselves by means of extra-curricular and co-curricular activities. The college has shown noteworthy responsiveness in maintaining visiting the Campus, one can experience the appearance of rich an eco-friendly campus. On landscape, spacious sports

ground, well ventilated buildings and eco-friendly garden beneficial for teaching-learning process.

Objectives :

The objectives of conducting a green audit and environment audit at Keshav Memorial Institute of Commerce and Sciences (KMICS) are multifaceted and geared towards promoting sustainability, environmental responsibility, and continuous improvement within the institution. Here are some key objectives:

- **Assessment of Environmental Impact:** Evaluate the environmental footprint of KMICS, including energy consumption, water usage, waste generation, and carbon emissions, to understand the institution's environmental impact.
- **Identification of Areas for Improvement:** Identify areas where KMICS can reduce its environmental impact and enhance sustainability practices, such as implementing energy-efficient technologies, reducing waste generation, and conserving water resources.
- **Compliance with Environmental Regulations:** Ensure that KMICS complies with relevant environmental laws, regulations, and standards to minimize environmental risks and liabilities.
- **Promotion of Environmental Awareness:** Raise awareness among students, faculty, and staff about environmental issues, sustainability principles, and the importance of adopting eco-friendly practices both on campus and beyond.
- **Integration of Sustainability into Operations:** Integrate sustainability considerations into institutional policies, procedures, and decision-making processes to embed environmental responsibility into the fabric of KMICS's operations.
- **Engagement of Stakeholders:** Engage stakeholders across the KMICS community, including students, faculty, staff, and administrators, to foster a culture of environmental stewardship and encourage participation in sustainability initiatives.
- **Development of Actionable Recommendations:** Develop actionable recommendations and strategies for improving environmental performance and implementing sustainable practices within KMICS, taking into account feasibility, cost-

effectiveness, and potential impact.

- **Monitoring and Evaluation:** Establish mechanisms for monitoring and evaluating the effectiveness of sustainability initiatives and tracking progress towards environmental goals over time, ensuring accountability and continuous improvement.

By pursuing these objectives, KMICS can not only reduce its environmental footprint but also serve as a role model for other educational institutions, demonstrating a commitment to environmental stewardship and contributing to a more sustainable future.

Methodology

Haritha Haram

The NSS team organizes the annual Haritha Haram Programme in the college which is Telangana govt's flagship Programme. The objective of the Programme is to improve green cover, maintain ecological balance and to ensure sustainable livelihoods. The Programme was initiated on 3rd July 2015 and the college is continuously doing this since then. The staff and students enthusiastically participate in plantation program. The NSS volunteers of the institution constantly along with the gardeners, maintain the plants in the college campus.

The biotechnology department predominantly takes care to create greenery and its conservation in college campus. The planting species in college is decided based on the adaptability and sustainability to climate and soil conditions of college campus. Mix of different species like Avenues, ornamental, medicinal and rare exotic species are planted in garden and other parts of campus.

The maintenance of these plants are performed periodically. The college has appointed one trained gardener and attenders for the maintenance.

The maintenance activities include:

- Watering
- Regular pruning
- Manuring

- Weeding
- Sweeping
- Disposal of garden refuse
- Plant protection from pests and diseases etc.
- Ground keepers also deal with local animals (birds, rodents etc.)

The College follows organic farming techniques by avoiding chemical pesticides and fertilizers and using organic products.

Important Trees in Campus:

S. No	Local name	Botanical name	Family	Uses
1	Bilva	Aegle marmelos	Rutaceae	Diabetes, Jaundice
2	False ashoka	Polyalthia longifolia	Annonaceae	Avenue tree
3	Medi	Ficus hispida	Moraceae	Ulcers
4	Neem	Azadirachta indica	Meliaceae	Antiseptic
5	Jamoon	Syzygium cumuni	Myrtaceae	Astringent ,anticancerus
6	Guava	Psidium guajava	Myrtaceae	Diabetes
7	Citrus	Citrus limon	Rutaceae	Digestive
8	Raavi	Ficus religiosa	Moraceae	Skin diseases
9	Tree jasmine	Mellingtonia	Bignoniaceae	Asthama
10	Flame tree	Delonix regia	Fabaceae	Anti diabetic
11	Subabul	Leucaena leucocephala	Fabaceae	Skin diseases

12	Weeping fig	Ficus benjamina	Moraceae	Avenue tree
13	Indian goose berry	Embllica officinalis	Euphorbiaceae	Laxative, Diuretic
14	Palm tree	Areca palm	Arecaceae	Avenue tree
15	Deva ganneru	Plumeria pudica	Apocyanaceae	Ulcers
16	Ramabanam	Ixora coccinia	Rubiaceae	Anti dysenteric
17	Puvelaga	Murraya exotica	Rutaceae	Anti inflammatory
18	Karivepaku	Murraya koenigi	Rutaceae	Digestive
19	Parijatam	Nyctanthes arbortristis	Oleaceae	Fungal infections
20	Mudda mandaaram	Hibiscus mutabilis	Malvaceae	Cough
21	Mandaram	Hibiscus rosa sinensis	Malvaceae	Dandruff
22	Paccha ganneru	Thevetia sps peru	Apocyanaceae	Cardiac diseases
23	Crape Jasmine	Tabernaemontana divaricata	Apocynaceae	rheumatic pain, headache, piles, inflammation, eye infections abdominal tumors, 24epilepsy, fev25er, asthma, fractures, leprosy, paralysis, rabies, skin diseases, urinary disorders, toothache, ulceration and vomiting

24	kanuga tree	Pongamia pinnata Linn Pierre	Fabaceae	skin diseases, rheumatic problems
25	Moringa tree	Moringa oleifera	Moringaceae	Diabetes, High blood pressure
26	Eucalyptus	Eucalyptus globulus Labill	Myrtaceae	relieve congestion
27	Sapodilla	Manilkara zapota	Sapotaceae	diarrhea, colds, and coughs
28	Canna	Canna indica L.	Cannaceae	Ornamental
29	Betel palm	Areca catechu	Areaceae	mouth freshener, cleanses gut from tapeworms

Important Herbs:

S.No	Local name	Botanical name	Family	Uses
1	Tulsi	Ocimum sanctum	Lamiaceae	Anti bacterial
2	Banths	Tagetes erecta	Asteraceae	Digestive ,diuretic
3	Chamanthi	Chrysanthemum indicum	Asteraceae	Blood pressure
4	Hedge plant	Duranta erecta	Verbenaceae	Ornamental
5	Dragon tree	Dracaena	Aspergaceae	Ornamental
6	kalabanda	Aloe vera	Liliaceae	Burns
7	Rhoeo discolor	Tradescantia	Commelinaceae	Antibacterial
8	Mexican mint	Coleus sps	Lamiaceae	Bronchitis

9	Sabja	Ocimum basilicum	Lamiaceae	Blood sugar control
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Important Climbers:

S.No	Local name	Botanical name	Family	Uses
1	Tippa teega	Tenospora cordifolia	Combretaceae	Respiratory disorders
2	Paan	Piper beetle	Piperaceae	Digestion
3	Jasmine	Jasminum officinale	Oleaceae	Cirrhosis
4	Paper flower	Bougainvillea glabra	Nyctaginaceae	Ornamental

Organic Vegetables grown in Campus

S.No	Local name	Botanical name	Family	Uses
1	Ivy gourd	Coccinia grandis	Cucurbitales	ower blood sugar level
2	Broad Beans	Dolichos lablab	Fabaceae	strength bones
3	Tomato	Lycopersicon esculentum	Solanaceae	preventing cancer of the breast
4	cabbage	Brassica olerace	Brassicaceae	intestinal ulcers
5	Cauliflower	Brassica olerace	Brassicaceae	diabetes
6	Peppermint	Mentha piperita L	Lamiaceae	digestive problems
7	Coriander	Coriandrum sativum	Apiaceae	Diabetes
8	Eggplant	Solanum melongena	Solanaceae	weight loss
9	Sorrel leaves	Rumex acetosa	Malvaceae	lower blood pressure

10	Methi	Trigonella foenum-graecum	<i>Lamiaceae</i>	reducing allergic symptoms
11	Spinach	Spinacia oleracea	<u>Amaranthaceae</u>	lower blood pressure
12	Pendant Amaranth	Amaranthus caudatus	<u>Amaranthaceae</u>	ulcers, diarrhea
13	Malabar spinach	Basella alba	<u>Basellaceae</u>	laxative
14	Bitter Gourd	Momordica charantia	Cucurbitaceae	diabetes, osteoarthritis
15	Snake gourd	Trichosanthes cucumerina	Cucurbitaceae	help reduce fever
16	Bottle Gourd	Lagenaria siceraria	Cucurbitaceae	Reduces inflammation
17	khatta palak	Rumex acetosa	Polygonaceae	rich in vitamins A, B1, B2, B9 and vitamin C
18	Amaranth	Caryophyllales	Amaranthaceae	Inflammation

The proper growth and maintenance of these species has increased the green cover in the campus and provides shade to Keshavites, the evening breeze is cool and refreshing because of the presence of many plant species

Green Initiatives and other Healthy practices in the campus from 2018-2023

Year	Title of the program	Date
2018	Homage to Dr Kalam	27-07-2018
2018	Go Green Concept	12-08-2018
2018	Go Green Program	04-10-2018
2018	Swachh Bharath Mission	30-10-2018
2019	Stress Free Garden	15-02-2019
2019	Haritha Haram	24-08-2019

2019	Environment Pollution & Protection	25-10-2019
2020	Go Green Program	10-01-2020
2020	Best Out Of Plastic	01-03-2020
2020	Planting of Saplings	09-03-2020
2021	EnvironmentDay	28-08-2021
2022	World Soil Day With Isha Foundation	12-05-2022

CONCLUSION

The green and environment audit at KMICS has highlighted our commitment to sustainability through various activities at our college. We plan to invest in more energy-efficient technologies, increase the use of renewable energy sources, and enhance our waste segregation and recycling programs. Additionally, we'll implement advanced water-saving technologies and foster a culture of environmental awareness through training and engagement programs for students and staff. These steps will help KMICS reduce its environmental footprint, save costs, and reinforce our reputation as a sustainability leader. We remain dedicated to protecting the environment and supporting sustainable development for future generations.



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