Policy on Energy

for

Sustainable Development

Policy No. EP_2.0

KARE/IQAC/EP/2024/01

Approved by BoM on 29.06.2024

KALASALINGAM ACADEMY OF RESEARCH AND EDUCATION

(Deemed to be University)

(Under the section 3 of the UGC Act 1956)

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Policy Preparation and Verification Team

Prepared: version 1.0 - 2018

Revised: version 2.0 - 2024

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Kalasalingam Academy of Research and Education
Anand Nagar, Krishnankoil - 626 126.
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1. Preamble

Kalasalingam Academy of Research and Education (KARE) recognizes the importance of sustainable energy management as an integral component of institutional responsibility and environmental stewardship. In alignment with national missions such as the National Action Plan on Climate Change (NAPCC) and the United Nations Sustainable Development Goals (SDGs), particularly SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action), KARE is committed to fostering a culture of energy conservation and renewable energy utilization across all academic, administrative, and residential domains in KARE.

This policy seeks to establish a coherent framework for planning, implementing, and monitoring energy-related initiatives within the University. It aims to promote the efficient use of energy resources, minimize greenhouse gas (GHG) emissions, and integrate renewable energy technologies in a manner consistent with KARE's vision of becoming a carbon-neutral campus. The Energy Policy will serve as a guiding instrument for faculty members, staffs, students, and administrators to collectively achieve environmental sustainability and long-term energy security.

2. Scope

This policy aims to apply to all energy use across the KARE campus: Academic and administrative buildings, hostels, laboratories, campus lighting and transportation services operated by the university, agricultural and research facilities, and campus-owned service vehicles. It covers energy sourcing, consumption, efficiency, renewable energy deployment, behavioural change, procurement and energy-related research and curriculum activities.

3. Policy Goals

1. **Energy efficiency first:** Priorities demand reduction through efficient equipment, smart control systems and building design.
2. **Maximise renewable generation:** Expand on-campus renewable generation and storage to reduce dependence on grid electricity.

3. **Data-driven decisions:** Use smart meters, Building Energy Management System (BEMS) and Information and Communications Technology (ICT) dashboards for planning, monitoring and verification.
4. **Whole-of-campus integration:** Align operations, procurement, curriculum, research and co-curricular activities to support the energy transition.
5. **Transparency & continuous improvement:** Regular audits, public reporting and stakeholder engagement.
6. **Energy Consumption Reduction:** Reduce campus energy consumption intensity (kWh per capita) by 40% within 5 years
7. **Increase Renewable Energy Share:** Increase renewable share of electricity to 60% by 2030 and >80% by 2040 through solar, wind and biogas plant.
8. **Reduce GHG Emission:** Cut campus Greenhouse Gas (GHG) emissions by 30% within 7 years (relative to baseline 2024–25).

4. Applicability

This policy shall apply to all functional areas of KARE, including academic and administrative buildings, laboratories, hostels, residential facilities, transportation systems, street lighting, and other utility services. It is applicable to all faculty members, staff, students, vendors, and external partners engaged in activities that directly or indirectly influence energy consumption within the campus. The policy shall also guide future infrastructural developments, research initiatives, and collaborations to ensure alignment with the University's sustainability goals.

5. Implementation Strategy

The implementation of this policy shall be overseen by the University's **Energy and Sustainability Committee**, which will coordinate efforts among departments, monitor performance indicators, and ensure compliance with National and Institutional standards.

5.1 Policy on Energy Efficient Solar Buildings for Zero Carbon Emission

- The University will ensure that all new buildings comply with national energy codes such as the **Energy Conservation Building Code (ECBC)** and follow best practices in sustainable architecture.
- KARE is committed to developing and maintaining energy-efficient buildings that minimize dependency on conventional energy sources.
- All future campus constructions and major renovations shall incorporate natural lighting, thermal insulation, cross ventilation, erect the rooftop solar PV panels and the use of environment-friendly building materials.
- Periodic energy audits will be conducted to identify efficiency opportunities and promote continuous improvement in building energy performance.

5.2 Overall Approach to Carbon Neutrality in Buildings

The University's approach to carbon neutrality emphasizes a threefold strategy:

1. **Reduction:** Minimize energy demand through efficient design, equipment upgrades, using energy saving appliances and smart control systems.
2. **Replacement:** Shift from fossil fuel-based energy sources to renewable alternatives such as solar PV system, Wind Energy Conversion System (WECS) and biogas.
3. **Restoration:** Offset unavoidable emissions through carbon segregation measures such as tree plantation and green cover enhancement.

Each building shall have measurable energy performance indicators (EPIs) and carbon emission metrics that will be reviewed annually to assess progress toward carbon neutrality.

5.3 Creating Zero Carbon Buildings In and Around the Campus

- KARE shall encourage the creation of **Zero Carbon Buildings (ZCBs)** within and around the campus through collaboration with architects, engineers, and sustainability experts.
- Pilot projects shall be established to demonstrate innovative solutions such as net-zero energy buildings powered by rooftop solar systems, wind plant installation in heighted buildings, Biogas plant for food wastages in hostels and building-integrated photovoltaics (BIPV).
- Community engagement and outreach activities will be promoted to extend the ZCB concept to nearby institutions and residential communities, positioning KARE as a regional leader in sustainable campus development.

5.4 Implementation and Promotion of Renewable Energy Technology and Energy Efficiencies

- The University continues to expand its renewable energy infrastructure through solar photovoltaic installations, wind energy conversion system, biogas plants and hybrid renewable configurations.
- Energy-efficient lighting (LED), smart metering, Building Energy Management Systems (BEMS), and sensor-based controls will be adopted campus-wide to optimize consumption.
- Research and student projects will be encouraged to focus on renewable energy integration, performance analysis, and energy optimization techniques.
- Training and awareness programs will be organized regularly to enhance energy literacy among the university community.

5.5 Implementation and Promotion of Electric Vehicles in the University Campus

- To reduce carbon emissions from transportation, KARE shall implement a comprehensive plan for the gradual adoption of **electric vehicles (EVs)**

within the campus. This includes the introduction of solar-powered charging stations, electric shuttle services, and dedicated parking zones for EVs.

- The use of non-electric private vehicles shall be progressively restricted in certain zones to promote a cleaner and quieter campus environment.
- The University shall also support research and industry collaborations related to EV technology, charging infrastructure, and battery storage systems.

6. Roles & Responsibilities

- **Governing Council / VC Office:** Policy approval, financing, target endorsement.
- **Energy & Sustainability Committee:** Oversight, target setting, annual review & report submission
- **Estate Office:** Implementation, maintenance, data management.
- **Procurement Office:** Enforce green procurement rules.
- **Academic Departments:** Integrate energy themes into curriculum.
- **Students & Staff:** Practice energy-saving behaviours.

7. Approval & Review

This Energy Policy will be reviewed annually by the Energy & Sustainability Committee and revised every 3 years or earlier if required.

Approved By

Dr. S. Narayanan
Vice-Chancellor-KARE