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13.3.3. Co-operative planning for climate change disasters

KARE has made **strong institutional commitments** to climate action and sustainability, which provide a solid foundation for planning around climate-related disasters. KARE published *Policy on Climate Action* clearly outlines the university's strategic intent to address climate change through mitigation and adaptation measures. *Sustainability Report 2023-24* further documents initiatives around renewable energy, carbon-emission reduction, and green campus efforts. These documents signal that KARE is aware of climate risks and is taking proactive steps, which is a prerequisite for disaster-planning.

On the **planning and implementation front**, **"Energy Efficient Appliances Usage"** and similar sustainability outreach) showing campus-level efforts to reduce emissions, adopt green practices, and engage stakeholders (students, faculty, staff) in climate-related behaviours. These efforts demonstrate that KARE is fostering a culture of resilience and awareness, which is important when faced with climate hazards like floods, heatwaves or droughts.

Moreover, while the sustainability report mentions **"Green Army", "vehicle-free day",** and tree-planting, these appear more oriented toward campus environment rather than external community disaster-preparedness or collaborative planning for climatic catastrophes.

Kalasalingam Academy of Research and Education (KARE) has made significant progress in promoting sustainability through its Energy and Climate Change (EC) programs. These programs directly support the United Nations Sustainable Development Goals (SDGs), especially **SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).**

Renewable Energy and Carbon Reduction

KARE is strongly committed to reducing its carbon footprint by increasing the use of renewable energy. The university has installed **1124.22 kWp** of rooftop solar power systems on several academic and hostel blocks. These systems generate about **3.66 million kilowatt-hours (kWh)** of clean electricity every year, meeting **nearly 45% of the total campus power requirement.** Along with solar energy, KARE also uses biogas and wind energy to produce additional renewable power. Around 152 solar streetlights and solar water heaters are installed across the campus, further reducing dependency on grid electricity.


Rooftop Solar plant

By producing this much renewable energy, KARE successfully **avoids around 700 tons of CO_2** emissions each year, which is equivalent to planting more than 10,000 trees. These efforts make a direct contribution to **SDG 7 and SDG 13** by promoting renewable energy use and reducing greenhouse gas emissions.

Energy Efficiency and Smart Infrastructure

KARE follows a campus-wide policy of energy conservation. The institution has replaced old electrical fittings with energy-efficient LED lights, BLDC fans, and star-rated appliances. More than **82% of lighting and ventilation systems** are now energy efficient. The use of motion sensors, automatic timers, and daylight sensors helps avoid unnecessary power usage.

The university buildings are designed as smart and green buildings with features such as natural ventilation, skylights, passive cooling systems, and smart meters. These features reduce

electricity use and create a healthy indoor environment. The **Facility Management System (FMS)** monitors energy use, maintenance, and resource management in an organized way. This approach reflects KARE's support for **SDG 11 and SDG 12**, which focus on creating sustainable and efficient communities and responsible consumption patterns.

Policies and Governance for Sustainability:

To maintain sustainability across operations, KARE has developed strong institutional policies such as **Energy Policy, Climate Action Policy, Recycle Policy, and Water Conservation Policy.** These policies guide all departments and ensure that the university's growth remains environmentally responsible. KARE also **restricts vehicle movement** inside the campus, promotes electric shuttle services, and encourages students and staff to use bicycles. These practices help reduce pollution and promote clean mobility, supporting **SDG 11 and SDG 13.**

Academic Integration and Research

Sustainability is an important part of education at KARE. The university offers academic programs such as M.Tech in Renewable Energy Technologies, M.Tech., Environmental Engineering foundation courses in Sustainable Design and Manufacturing, and **mandatory courses** on Environmental Science. Several elective courses in departments like Electrical, Civil, and Biotechnology focus on renewable energy, climate change, and environmental protection.

Research and Innovation:

Research and innovation also play a major role. Faculty members and students have published more than **150 research papers and filed 11 patents** related to renewable energy, sustainable materials, and energy-efficient technologies. These research outcomes promote practical solutions for global environmental challenges, supporting **SDG 9 (Industry, Innovation, and Infrastructure) and SDG 13.**

Community Engagement and Awareness:

KARE extends its sustainability practices to the surrounding community. Through awareness campaigns, workshops, and tree plantation drives, students and faculty engage with local

people to promote energy conservation and environmental protection. Such outreach programs align with **SDG 17 (Partnerships for the Goals**) by encouraging collaboration for sustainable development.

Overall, KARE's Energy and Climate Change programs have created a measurable positive impact on sustainability. The use of renewable energy, energy-efficient systems, green building design, and strong policies together form a holistic model of environmental responsibility. By integrating education, research, and community participation, KARE effectively supports multiple Sustainable Development Goals and demonstrates how a university can lead by example in building a greener, cleaner, and more sustainable future.

To tap the alternate energy sources, KARE has installed 1124.22kWp **rooftop solar power panels** on top of nine blocks. About 45% of the energy consumption is met by the solar energy leading to the reduction in carbon foot print. The institution has also installed 152 solar street lights throughout the campus which amounts to a saving of about 9.56 kWh per annum. Further, solar water heaters are installed in the hostels and solar pumps are installed in the agriculture farms to tap solar energy.

Rooftop Solar plant