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CSE-CC SEC:J2

**Why do we consider that the SRM IST is a true green and sustainable campus?**

**ANSWER:** SRMIST can truly be regarded as a green and sustainable campus. From the very beginning it has taken many initiatives to achieve this goal. The SMB is the group responsible for the development and reporting of the sustainability strategy and key actions of the university.

**About Sustainability**

The SRMIST is committed to maximizing its positive impact and minimizing its negative environmental impact to help develop a more sustainable world. SRMIST have a healthy approach to sustainability, incorporating social economic and environmental principles that have been in place for nearly a decade. SRMIST has short and long-term objectives for sustainability

**INITIATIVES:**

SOLID WASTE MANAGEMENT:

SRM recognizes the importance of its societal role in working with its supply chain and thus believe in helping others to minimize waste generation and working in close with the authorities for waste collection. They are committed to good practice in reducing and managing waste effectively, innovatively and integrating the policy within all departments at all levels.

DONATION OF BOOKS:

At the end of every semester exams, the donation box for books is available in all hostels to collect the books and the books will be re-distributed and available to needy students.This save pages and thus leads to saving of trees

BIO COMPOST:

Biodegradable material such as paper waste, organic waste generated within the campus is converted into biofertilizer. The environmental benefits of diverting organic materials from landfill include reduced methane emissions (a potent greenhouse gas), and decreased leachate quantities from landfills. The SRMIST has set up one solid waste management yard at East Potheri, where engaging outsourcing segregates solid wastes generated from the campus. The segregated recyclable wastes are disposed off by sale.

TRANSPORT AND TRAVEL:

The Environmental sustainability at SRM provides information and services designed to help staff and students make sustainable travel choices on a day-today basis and contribute to the reduction of carbon footprint in the university by:

1. SRM Cycles–Pedal

2. Electric Vehicles

3. Shuttle Services

4. Campus Connect Buses

5. Public Transport

The university seeks to understand the requirement of transport for its users, staff and supply chain to prepare targets to reduce the environmental influence of transport related to college activities

WATER MANAGEMENT:

SRM IST has a long-term commitment for conservation for water. The Institute of Science and Technology will regularly monitor the use of water with frequent meter readings to enable a rapid response to potential leaks in the system before damage, excessive use and expense occur. Overnight leak tests by taking meter readings before and after a period of no occupancy will identify any leaks and/or overflows in the building.

The specification and design of all water systems to monitor remotely by the management staff. While the excellent design of water systems will reduce the amount of water used at SRM. The college has operated an irrigation monitoring program specifically designed to conserve water and reduce runoff from campus. The irrigation schedule is administered by an advanced automated central control system based upon historical irrigation practices.

REVERSE OSMOSIS PLANTS (R.O. PLANTS):

Reverse osmosis (RO) is a membrane separation process, driven by a pressure gradient, in which the membrane separates the solvent (generally water) from other components of a solution. The membrane configuration is usually cross-flow. The Institute of Science and Technology has provided purified R.O. drinking water to all the students and staff residing in the campus by setting up the R.O plants in the hostels and academic buildings. In additional to drinking purpose, R.O water is provided to the hostel mess for cooking foods.

ROOFTOP RAINWATER HARVESTING:

SRM has initiated and executed the rooftop rainwater harvesting in all the buildings of the Institute of Science and Technology, including hostels, guesthouse and hospitals. The rainwater collected from building rooftops of buildings connected to a standard header and led to a trickling sand filter. The filtered water is used for domestic purposes after chlorination. Rainwater harvesting is also done by diverting stormwater drains and runoff from rooftops to bore wells for recharge.

ENERGY GENERATION:

SRM has installled solar panels in all the building of the campus to meet up there energy requirements. It thus make the campus self dependent and truely a green campus.

REDUCING CARBON EMISSIONS:

The SRMIST is working hard to reduce energy consumption, increase efficiencies, use more renewable energy sources, and reduce its carbon footprint. We have ambitious targets to reduce our carbon emissions from our activities to reduce our impact on the natural environment. To adequately address global warming, SRMIST has significantly reduced the amount of heat-trapping emissions we are putting into the atmosphere. By taking action to reduce emissions of the greenhouse gas pollution that warms our planet, we can reduce the risks we will face from future climate change. SRMIST has expanded the use of renewable energy and transform our energy system into one that is cleaner and less dependent on coal and other fossil fuels.

SRM INITIATIVES TO REDUCE CARBON EMISSION:

1)SOLAR PANELS AT SRMIST:

Solar power can help reduce CO2 emissions mainly by being a clean and renewable source of energy. Solar power is not dependent on burning fossil fuels or other products; instead, it uses electrons from captured from the sun’s energy for energy creation. Therefore, solar energy does not create greenhouse gases for energy production.

2)SOLAR STEAM GENERATORS:

A solar steam generating system based on this technology comprises elliptically shaped parabolic solar concentrators arranged in pairs of sleeping and standing dishes in parallel modules, aligned in a perfect east-west direction. Receivers (heat exchangers painted black) are placed in the focus of each pair of dishes. SRM IST has implemented the Scheffler based system for the purpose of cooking application in the campus. The total system has 37 Nos of concentrators of each 16m2 area. The system was commissioned in February 2012 by M/s Thermax Limited, Pune. Prior to the implementation of the CST system our University was using LPG for cooking purpose. The system is integrated with CST & LPG.

3)SOLAR WATER HEATERS

Solar water heating is one of the most common and cost-effective uses of solar energy. Solar heating systems, convert the heat energy from the sun into useful energy by heating water or any thermic fluid for use in multiple applications as given below. Solar water heating systems use collector panels to capture the sun’s radiation and convert it into useful heat in the form of hot water. A solar collector coupled with solar water storage reduces the fuel needed. The heated liquid is stored in an insulated storage unit made of stainless steel or low carbon steel with glass lining or directly transferred to process during the daytime without storage. Solar hot water collectors heat water for washing, showers, and other domestic uses. SRM Institute of Science and Technology set up solar steam generation plant over the Terrace of Sannasi U.G. mess hostel in 2012 and the steam energy generated is utilized for cooking foods for hostel students. The plant is successfully functioning between 2.30 p.m. to 5.00 p.m. daily.

4)BIOGAS PLANT

The purpose of the project is to contribute to the reduction of carbon dioxide and methane emissions into the atmosphere through the promotion of the use of biogas for cooking instead of LPG. Five biogas plants have been constructed and are operational. A prototype anaerobic model of 90 m^3 was developed for the study of biogas production and biogas manure from the mixed kitchen waste generated from SRM Institute of Science and Technology hostels. SRM hostels consist of 12 Block with four kitchens cooking food for more than 9000 students. It was estimated that an average food waste (cooked and uncooked) per person was 200 gm.