

13-Dec 2019

SMIU'S Waste Management and Climate Action Plan

A. Waste Management Plan (2020-2025)

The aim of the university's Waste Management Plan is to provide direction on how SMI University can improve waste management practices at its premises. The plan is designed to encourage the reduction, reuse and recycling of materials and diverting waste from landfill which is the least desirable option in the waste management hierarchy. Our plan incorporates suggestions that are mainly focused on solid, electronic, organic, and recyclable waste. Specific recommendations for managing each type of waste are summarized in table given below.

Table 1. Overall Recommendations for waste management plan at SMIU.

Category	Recommended Actions
Organic	Separate organic waste from the cafeteria to be used in composting system
Recycling	<ul style="list-style-type: none"> a. Sorting bin design b. Warehouse (recycling station) for further separation and storage c. Establishment of environmental awareness students volunteer team d. Transportation of Waste
Styrofoam Waste	Usage of biodegradable containers as cups and plates for food consumption.
Electronic Waste	Create a program for electronic items reuse
Communication and Training	<ul style="list-style-type: none"> a. Two highly recommended posters to support the new sustainable initiative b. Supplemental informative flyers c. Informative sessions for students and staff

Further measures for managing the solid waste generated at the university is described in the following sub-sections.

1.1 Use of Coded Colored Waste Bins for to promote Recycling Initiative

Instead of same type of dust bins, it is proposed to provide four types of dust bins for each of the four types of waste categories i.e. organic/food waste, plastic waste, paper waste, metal/glass waste to promote the recycling initiative through waste segregation at the source.

Table 2. The proposed colors of the dust bins will be as below.

S. No.	Colors of bins	Waste
01	Green	Organic/food waste
02	Red	Plastic
03	Blue	Paper
04	Yellow	Metal/glass (others)

1.2 Recommendations for Managing Organic/Food Waste

As far as the organic waste is concerned it should be recycled for composting that can be used for horticultural practices at university. As determined by this study there is the significant potential and sufficient space available for composting outside the university campus.

1.3 Recommendations for Styrofoam Waste

To counteract the production of waste from styrofoam take-out containers we would like to also recommend the implementation of reusable containers. It is suggested that the student pays Rs.25 to receive a metal clip as a form of identification for ownership of a reusable container. The student can then trade in the clip for a reusable take-out box to bring anywhere on campus. This practice would result in a significant reduction in the amount of trash the cafeteria produced.

1.4 Recommendations for Electronic Waste

With the growing population at SMIU, there is the possibility that more electronic waste will be produced in the future. If this does happen, we recommend a system for reducing electronic waste instead of forming a contract with an electronics recycling company. For example, the spare electronic parts can be given to the electrical engineering department at SMIU to start a reuse policy for electronics. The reuse policy can then prompt the use of these excess electronics as a demonstration in the classroom or as additional parts that could be used in the lab.

B. Climate Action Plan (2020-2025)

S.No.	Activity	Timeframe	Category
Green Infrastructure			
1	Increase green infrastructure and permeable spaces to at least 20% of the total campus area by 2025	2025	Green Spacing
Tree plantation			
2	SMIU plans to plant 200 more trees by 2025 through periodic tree plantation drives, to be organized with the support of students, faculty and staff at Main Campus and Malir Campus of the university.	2020-2025	Tree Plantation
Greenhouse gasses (GHG) inventory			
3	Prepare a GHG emissions inventory and audit.	ongoing	Energy
Renewable Energy (RE) Transition			
4	SMIU goal is to develop on-site Renewable Energy generation to meet at least 20% of the energy needs by 2025.	2023-2025	Energy
Energy Efficiency and GHG emission reduction			
5	The indoor and outdoor lighting will be transitioned to high efficiency LED and SMD lighting	2023	Energy
6	Green Building initiatives, use of appliance timers where applicable, and improving environmental awareness among university students and staff for energy conservation.	ongoing	Energy
Waste Management			

7	Trash collection is already segregated across campus for recycling waste. All chemical waste, including hazardous and toxic waste from the laboratories, shall be safely disposed of in compliance with national and international guidelines and regulations by 2025.	2025	Waste Management
Paperless work environment			
8	SMIU has already progressed in transitioning its administrative and office management to a digital, paperless environment through the adoption of online systems. The use of paper in academic affairs has also been reduced significantly through the use of Learning Management Systems (LMS).	ongoing	Waste Recycling
S.No.	Activity	Timeframe	Responsibility
Water conservation and water recycling			
9	Currently several measures for sustainable water management and conservation are deployed in SMIU. Storm water drainage from the roads and parking areas is collected and used to provide water for irrigation in SMIU Greens. Expansion of water conservation measures is planned to harvest storm water from Grey Infrastructure across campus and divert it towards Green Infrastructure for irrigation and groundwater recharge, covering at least 20% of grey surfaces by 2025.	2025	Water Conservation
Increasing Water efficiency			
10	Increasing water efficiency is one of the key aims for sustainability and for climate adaptation. SMIU plans to introduce water-efficient taps and sanitary appliances across the campus to help conserve water.	ongoing	Water Conservation
Transportation			
11	SMIU operates a bus/van service for students and staff to discourage individual use of motor vehicles. University plans to increase the number of buses/vans for students and staff.	2025	Reducing GHG Emissions from Transportation
12	SMIU has a Bicycle and Pedestrian Friendly Policy with the goal to establish some of the means by which the university will accommodate pedestrians and bicyclists on campus and as a result, encourage sustainable and accessible modes of transport. The policy aims to connect all campus buildings with dedicated bicycle and pedestrian tracks and sidewalks by 2025. with	2025	Reducing GHG Emissions from Transportation

	adequate bicycle parking facilities available across the campus.		
Education			
13	SMIU aims to integrate sustainability and climate action into higher education to achieve the Sustainable Development Goals (SDG). To achieve this, SMIU plans to integrate SDGs and climate action as a part of all relevant undergraduate and graduate programs by 2025 . In addition, the university plans to initiate campus-wide engagement and awareness on Climate action and sustainability through events for students and staff.	2025	

Naeem Akhtar Samoon
Prepared by
Naeem Akhtar Samoon
Lecturer
Department of Environmental Sciences

Imran Ali
Checked by
Dr Imran Ali
Departmental Coordinator
Department of Environmental
Sciences

Dr M. Hashim Zuberi
Approved by
Dr M. Hashim Zuberi
Incharge Chairperson
Department of Environmental Science