GOAL 12

Responsible Consumption and Production

6	477	36
Research Projects	Publications	Patents

Waste Sorting at NUST

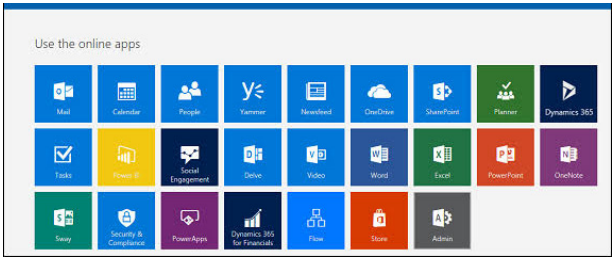
NUST is working to reduce waste and promote efficient recycling and reuse for a sustainable environment. NUST has installed color-coded dustbins in all cafeterias where waste is sorted into plastics, paper, and glass to facilitate faster recycling, with the collaboration of a private recycling firm "Pappu Recycles" under Saaf Suthra Sheher initiative, with the help of one of our Millennium Fellows.

Color coding helps waste disposal companies distinguish different types of wastes, and easily sorts them into different categories. This initiative has encouraged adopting recycling a major part of the Institution's operations and management.

NUST launches E-Office

In order to reduce paper-work, an online minuting system "NUST E-office" has been launched since July

2019 for paperless processing. This has not only made internal processing time extremely efficient but has also reduced the use of paper in each office, resulting in huge savings of paper and resources.



Ban on Plastic Bags

NUST actively promotes environment-friendly practices at all of its campuses. The use of plastic bags at all stores inside NUST was banned on account of their negative impact on the environment and has long been replaced by eco-friendly alternatives.

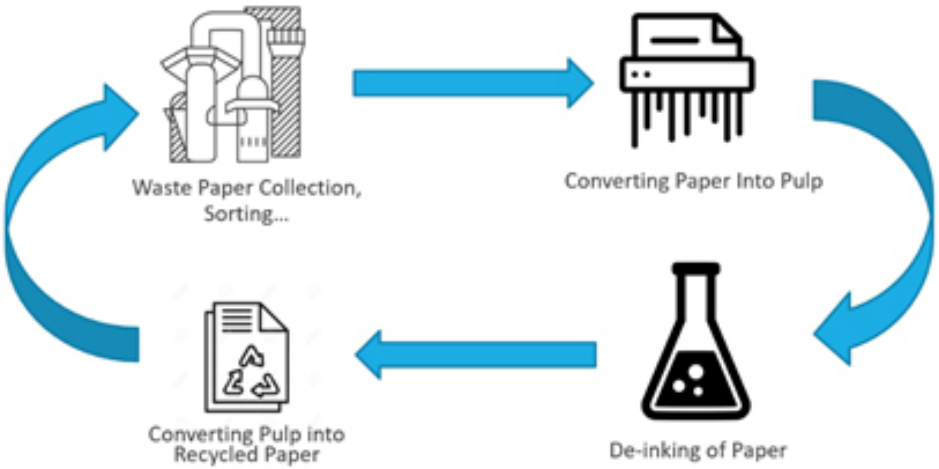
Circular Fiber: NUST Paper-Recycling Machine

A total of 15 tons is supplied to the schools per annum and around 4-5 tons of paper wastage is collected yearly from all the schools. The paper waste in NUST includes regular letters, newspapers, research documents and exam sheets etc.
Paper used in the examination sheets are recycled to reduce paper wastage and making more environmental friendly procedures, but the rest of the paper is either burned, collected and dumped whereas classified documents are shredded in a shredder.

NUST invested in the development of an indigenous paper-recycling machine for recycling waste paper of NUST and also of other neighboring universities. Considering the factors of global warming, expensive machines and problems of sending papers to be recycled to off-site plants, NUST engaged its students in a project to develop an economical and compact paper recycling machine for our organization. The project has the following stages:

- Design and Manufacturing of paper recycling machine
- Converting waste paper to pulp
- De-inking of waste paper and forming.

So far, a prototype has been developed and the industrial-scale machine will be fully developed and deployed by the end of 2021.



Recycled Road

Recycled Road is a project by one of our Millennium Fellows 2019 that aims to repurpose plastic waste to building roads. When building roads, the materials of construction required are concrete, sand and petroleum derived bitumen. In Pakistan, we have limited resources of workable plants of petroleum refinery from which bitumen can be extracted. So to compensate the needs, we are compelled to import bitumen product from various countries. By using solid plastic waste for this purpose, the project aims to improve waste management and provide cost-effective infrastructure development to cities, suburbs, rural areas, and slums.

Filler Up

Filler Up is a project by NUST Millennium Fellows 2019, which aims to educate people to be cognizant
of their individual and collective impact, especially as it pertains to waste generation consumption and sustainability. It provokes people to take a real hard look at what they buy, why they buy it and where they buy it from. It is imperative that we understand how we can sustainably satisfy the expectations of the growing global middle class which stem from a certain consumerism-centric version of global culture.

Efficient Recycling of Machine Waste by Laser Deposition

The project has been completed by NUST researchers to develop a method to allow the chips produced by the milling and turning of ferrous metals to be quickly recombined into usable solid blocks. This has the wider objective of increasing the material and energy efficiency of manufacturing of components from ferrous metals for ecological benefit.

The project has successfully demonstrated the full process of beginning with a solid block of metal, machining it into discrete chips and then recombining those chips into a solid. The wider objective of the project was increasing the material and energy efficiency of manufacturing of components from ferrous metals for ecological benefit. Tests using 'multiple recycling' show it is possible to approach 100% material efficiency with the method