

MKSSS's

**Smt. Hiraben Nanavati Institute of Management & Research for
Women (HNIMR)**

ARTICLE

CARBON NEUTRAL HNIMR

Climate change can be disastrous and has become an urgent global threat to human civilization. Science is complex and there are still many unknowns about the threat to climate change and its future implications. Now-a-days, the term "carbon footprint" is often used as an abbreviation for the amount of carbon (usually in tons) emitted by an activity. Carbon emissions from burning fossil fuels, deforestation, and cement production accumulate in the atmosphere. Atmosphere does not have enough capacity to absorb those emissions. Therefore, when carbon footprints are presented in the context of a total footprint, carbon emissions are expressed in tons as the amount of productive land area required to isolate those carbon emissions. Real solutions require global action, but there are options that can be done in daily life to reduce personal impact on the environment.

Maharshi Karve Stree Shikshan Samstha's Smt. Hiraben Nanavati Institute of Management, herewith addressed as HNIMR, took active participation in 'Carbon Neutral Campus (CNC)', an idea initiated by Samuchit Enviro Tech, a member of Indian Network on Ethics and Climate Change (INECC) as well as Climate Collective Pune (CCP), as a means of kick starting climate change discussion and climate action on educational and institutional campuses. HNIMR, seeing the need for this knowledge to be known, decided to take an initiative in the form of this project which, by trying to reduce climate change, also educated the students on this subject which will be very important in their future.

To provide orientation about the project, one day workshop was conducted by Dr. Priyadarshini Karve on 'Carbon Accounting and Carbon Neutrality. Where in first half, Dr. Priyadarshini informed the college regarding Green House Gases (GHG) origin, and the effect of GHG on the environment. Due to these GHG's, the heat is trapped into the environment, thus increasing the temperature of the Earth by 1.5 deg C each year. In order to avoid this, if decisive actions in this direction are not initiated by 2030, the planet may enter a regime of 'runaway climate change', which will have devastating impacts for the humankind. Further, she explained regarding the

procedure involved in order to achieve the 'Carbon Neutral Campus', which includes data collection of Scope 1, Scope 2, Scope 3 and carbon sinks and offsets.

Guided by Dr Priyadarshani, a team of 30 students and 2 faculty members Dr. Arpita Singh and Dr. Pranita Sonar was formed to undertake this project at HNIMR institute, baseline carbon accounting has been carried out in year 2022 and, boundaries were assigned. Seven teams were formed to obtain the data of the institute. Each team were given a task to collect the data as follows.

1. Scope 1: Scope 1 emissions account for all the fossil fuel use happening within the campus. The suggested calculation path assumes that monthly fuel consumption data can be available from bills of payment from the accounts department. For the institute, only the quantity of petrol burned by the generator inside the campus per month is considered.
2. Scope 2: Scope 2 emissions account for purchased energy carriers (such as grid electricity) that are generated elsewhere but used on the campus. This included the amount of Electricity utilized per month for general use and for A/C panels. Whereas the solar panel installed in the given campus contributes to 1000 watts per day.
3. Scope 3: The data regarding daily commute, of the juniors, seniors and the teaching and non-teaching staff, was collected by circulating a google form. The scope also consisted of the organic waste and inorganic waste collection data.
4. Carbon Sinks: Sinks are either natural or artificially induced processes that are removing greenhouse gases from the atmosphere. We therefore need to estimate the amount of greenhouse gases sequestered in the Base Year. Hence, we conducted the calculation of the carbon sequestration of 35 trees within the campus.
5. Carbon Offsets: Offsets are of two types – within boundary (campus) and outside boundary (campus). The first part includes technological interventions within the campus which are leading to directly replacing either electricity or fossil fuel used items. For example, rooftop solar PV is supplying electricity. Whereas the organic waste is utilized in the biogas plant and the inorganic waste (like sanitary napkins) collected is disposed of in the incinerator which is tested for emitting below average carbon emissions.

This data was collected by the students and submitted in the given format. Upon analyzing the data, it was clear that the major contributions for carbon emissions

at HNIMR institute are electricity based. In order to reduce the emissions, HNIMR is planning to implement several preventive measures under the guidance of Samuchit Enviro Tech for the year 2022 and further.

The project, which had been going on for about two months was a massive success in finding out how we could do better. The students were certainly enlightened on this subject and are planning to reduce emissions on a personal level. We recommend implementing this project in other educational institutes to help preserve our world. And we certainly plan to improve in the years to come.



