

***Development of a Carbon Management Framework  
for the Tertiary Education Sector in Mauritius:  
Carbon Footprint Measurement and Employee Sensitization***

Girish Bekaroo<sup>1</sup>, Chandradeo Bokhoree<sup>2</sup>, Priscilla Ramsamy<sup>1</sup>, Waseemah Moedeen<sup>1</sup>

<sup>1</sup>School of Science and Technology, Middlesex University (Mauritius Branch Campus)

<sup>2</sup>School of Sustainable Development and Tourism, University of Technology Mauritius

**Synopsis:**

Mauritius is not spared by the adverse effects of climate change on its natural flora and fauna. In recent years, several environmental indicators have revealed the detrimental changes brought by climate invariability to the island including increase in average temperature. These environmental changes, which are expected to worsen in the decades to come, are the outcomes of an increase in greenhouse effect. The enhanced greenhouse effect, which is specifically a rise in concentration of greenhouse in the atmosphere, is mainly due to explicit anthropogenic drivers, namely economic development and population growth. Through increasing personal energy usage and other factors, human beings are tremendously contributing to the greenhouse effect, and primarily to the growth of carbon dioxide emissions.

To alleviate the adverse effects of climate change, different key stakeholders including tertiary education institutions are actively researching into this growing concern so as to bring effective solutions. One particular tool known as carbon footprint calculator, is available to help in measuring an individual's annual carbon emission, and consequently help in keeping track and reducing the amount of carbon emitted through daily activities. Prior research has indicated that the measurement of individual carbon emissions helps people to be more environmentally conscious of their actions and to adopt a low-carbon lifestyle. Even though the tertiary education sector is a key player for inculcating environmentally sustainable practices among its human resources along with promulgating carbon mitigation awareness to other stakeholders and sectors of the island, there is no indication whether such tool is being used by employees so as to reduce their carbon emissions. Furthermore, there exists no carbon management framework meant for employees of the same sector. To address this problem, this research project aimed to develop a carbon management framework to assess, reduce and sensitize employees within tertiary education institutions in Mauritius, after measuring their carbon emissions via the use of existing calculators. To meet the aim of the project, 440 employees within different tertiary education institutions in Mauritius were sensitized on how to reduce their personal carbon emissions via the use of flyers. Furthermore, the carbon footprint data of the same participating employees was collected in order to create a baseline for employee carbon emission in the tertiary education sector. Based on results obtained, the carbon management framework was created.

As key findings, a comparative analysis of the existing online carbon footprint calculators showed that a limited number of such calculators could be used for Mauritius. Results from the survey indicated that employees of the tertiary education sector have little to no knowledge on the notion of carbon footprint and the tools used to measure the personal carbon emission. Less than 5% of the participants have ever calculated their carbon footprints or used the technique as a tool to reduce their carbon emissions. Most importantly, the carbon footprint of participating employees in the survey was found to be nearly twice of that of the average per capita carbon footprint of an individual in Mauritius.