

Carbon Emission From Food Waste In UiTM Shah Alam 2023-2024

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Structured Abstract

Background: Food waste in Malaysia creates major environmental and economic damage, which leads to additional carbon emissions while cutting down on potential food production. Two million people could eat food that represents one-fourth of all wasted food since wasted food creates methane gas emissions. Food waste production generates greenhouse gas emissions between 8 and 10% annually, which surpass the emitted levels from the aviation industry. Malaysia has to tackle food waste in order to achieve both lower greenhouse gas levels and sustainable food usage patterns. This study focuses on measuring and comparing the carbon emissions from food waste at Universiti Teknologi MARA (UiTM) Shah Alam in 2023 and 2024. The objectives are to determine total carbon emissions and examine monthly variations to identify key trends.

Methods: Food waste data were collected from Kolej Anggerik and Dataran Cendekia, with records obtained from the Seksyen Operasi Landskap, under the Pejabat Pembangunan Infrastruktur & Infostruktur (PPII). Emission calculations followed the IPCC 2006 methodology.

Results: The findings show a total of 601.2 kgCO₂e emissions in 2023, decreasing to 503.3 kgCO₂e in 2024. In 2023, the highest emissions occurred in October (91.6 kgCO₂e) and November (97.5 kgCO₂e), while April (22.5 kgCO₂e) and August (28.5 kgCO₂e) recorded the lowest. In 2024, January (95.1 kgCO₂e) and October (86.7 kgCO₂e) had the highest emissions, with March (6.2 kgCO₂e) and August (14.9 kgCO₂e) being the lowest.

Conclusion: The study has identified that the carbon emission from the food waste is high in all seasons and changes with every season, which might affect students' activities and campus events. These results indicate that there is a need for high food waste reduction strategies and sustainable practices that will help in mitigating GHG emissions in UiTM Shah Alam.

Keywords: Food Waste, Carbon Emissions, Greenhouse Gas (GHG)

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