

Modeling Greenhouse Gas Emissions in Urban Environments: A Predictive Approach

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Abstract

Urban areas are significant contributors to greenhouse gas (GHG) emissions, primarily due to transportation, energy consumption, and industrial activities. As global urbanization accelerates, effective management of these emissions becomes critical for mitigating climate change. This study presents a predictive modeling approach to estimate and analyze GHG emissions in urban environments. Using a combination of remote sensing data, ground-based measurements, and machine learning techniques, the model predicts emissions patterns and identifies key factors influencing urban GHG outputs. The results highlight the role of urban density, transportation networks, and energy consumption patterns in determining emissions levels. Furthermore, the model provides insights into potential strategies for emission reduction.

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