

# CINT City Net-Zero Tool: A Method to Quantitatively Assess Carbon Data in Urban Areas

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We present CINT (City Net-zero Tool): an analytical and predictive model designed to quantitatively assess carbon data in urban areas. We developed a workflow to collect existing data from city councils on carbon footprint, consumption and production, and tested the interoperability between urban public data and GIS data. We implemented the model using Kernel Density Estimation (KDE) to infer the carbon emissions related to individual buildings based on a station-based dataset. We present initial testing on the integration of data from OpenStreetMap with a vector model and initial testing on modelling data into graph networks to generate enquiries and inference on carbon data and urban scenarios. This method shows how we can integrate more datasets into our base model (graph-based geo-referenced map) to infer unknown information (for example the estimated NO<sub>2</sub> emission per each building).