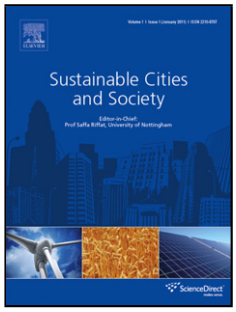

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A GIS-Statistical Approach for Assessing Built Environment Energy Use at Urban Scale

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Highlights

- A GIS integrated Multiple Linear Regression is developed to estimate the building stock energy consumption at the urban level.
- A case study on 3600 residential buildings in Italy was used to test the methodology.
- The proposed framework takes into account several variables.
- Spatial distribution of urban building energy consumption in 2D and 3D visualisation.

Abstract

Energy consumption modelling at the urban scale is crucial for supporting a transition towards the low-carbon city. Unfortunately, there are not many robust examples or standardised approaches available in the literature for delivering effective low-carbon urban energy planning. In particular,