

- Submit Your Paper
- View Articles
- Guide for Authors
- Abstracting/ Indexing
- Track Your Paper
- Order Journal

Journal Metrics

CiteScore: **4.37**

More about CiteScore

Impact Factor: **3.394**

5-Year Impact Factor: **3.804**

Source Normalized Impact per Paper (SNIP): **2.197**

SCImago Journal Rank (SJR): **2.121**

> View More on Journal Insights

- Article Enrichments
- > AudioSlides
 - > Data in Brief co-submission
 - > Interactive MATLAB Figure Viewer

Related Links

Most Cited Building and Environment Articles

The most cited articles published since 2012, extracted from Scopus.

A study on the cooling effects of greening in a high-density city: An experience from Hong Kong

Volume 47, Issue 1, January 2012, Pages 256-271

Edward Ng | Liang Chen | Yingna Wang | Chao Yuan

Greening is a useful mitigation strategy for planners mainly from a visual perspective. For high-density urban living environment such as Hong Kong, urban greening helps cooling the air and providing shade; it also helps lowering building energy consumption by providing a better outdoor boundary condition. Many researchers have also suggested that greening may be employed as a strategy for combating the ill effects of urban Heat Island (UHI). Working towards a set of better greening guidelines for urban planners, the current paper first provides a comprehensive review of planning with urban greening. It then describes parametric studies that have been conducted to investigate the preferred location, amount, and types of vegetation for urban planning. The parametric studies employed the numerical model ENVI-met, verified using field measurements, to simulate 33 cases with different combinations of factors. For benefiting urban activities, ambient air temperatures at the pedestrian level are compared among different greening strategies and building heights. For a city such as Hong Kong, which has a high building-height-to-street-width (H/W) ratio, the present study reveals that roof greening is ineffective for human thermal comfort near the ground. Trees are also suggested to be more effective than grass surfaces in cooling pedestrian areas. The amount of tree planting needed to lower pedestrians level air temperature by around 1 °C is approximately 33% of the urban area. The present study allows urban planners to identify more precisely the greening principles, amount and policies necessary for better urban living environment in high-density cities.

© 2011 Elsevier Ltd.