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Abstract

Vertical Greening Systems can help mitigate the urban heat islands, increase the thermal e f ciency of the buildings, save cooling energy and enhance air quality by using the vegetation's natural processes. However, since vertical greening schemes need materials and energy to be built, there are questions about whether they actually deserve to be adopted and how their environmental e f ciency can be improved. The study aims to evaluate vertical greening systems' environmental e f ciency and to study essential factors for e f cient and sustainable building construction.

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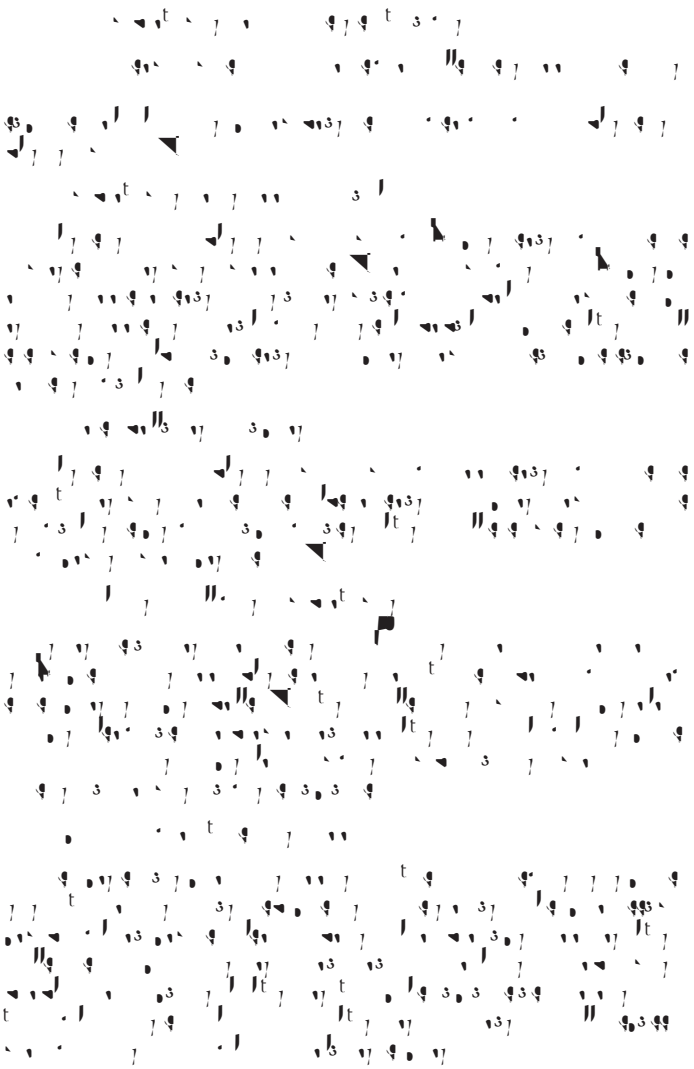

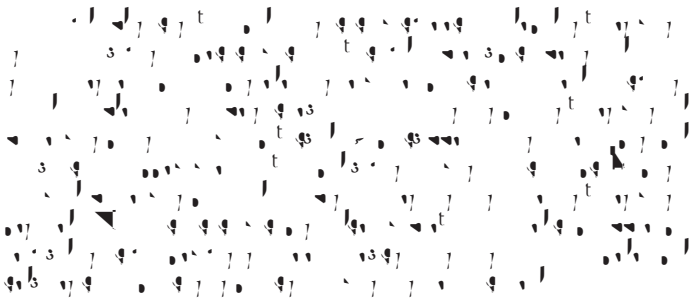

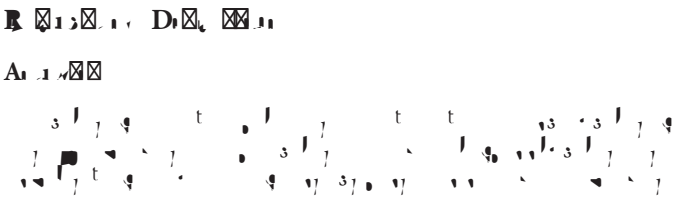

Table 1: Buildings with vertical green.

References

1. Pérez-Urrestarazu L, Fernández-Cañero R, Franco-Salas A, Egea G (2016) Vertical greening systems and sustainable cities. J Urban Technol 22: 65-85.
2. Perini K, Ottelé M, Fraaij ALA, Haas EM, Raiteri R (2011) Vertical greening systems and the efect on air fow and temperature on the building envelope. Build Environ 46: 2287-2294.
3. Sheweka SM, Mohamed NM (2012) Green facades as a new sustainable approach towards climate change. Energy Procedia 18: 507-520.
4. Cohen B (2006) Urbanization in developing countries: Current trends, future projections, and key challenges for sustainability.Technol Soc 28: 63-80.
5. Hoyano A (1988) Climatological uses of plants for solar control and the efects on the thermal environment of a building. Energy Build 11: 181-199.
6. Alexandri E, Jones P (2006) Ponds, Green Roofs, pergolas and high albedo materials; which cooling technique for urban spaces. In proceedings of the 23rd Conference of Passive and Low Energy Architecture, Geneva, Switzerland.
7. Darlington TK, Wager-Smith K, Ceriani MF, Staknis D, Gekakis N, et al. (1998) Closing the circadian loop: CLOCK induced transcription of its own inhibitors per and time. Science 280: 1599-1603.
8. Dravigne A, Waliczek TM, Lineberger RD, Zajicek JM (2008) The