**Bio inspired design: when sun and wind are there to help**

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Colombia is increasingly acknowledging the role that bioclimatic design of buildings can play within both environmental sustainability—through reductions in energy consumption and GHG emissions—and social sustainability—through the promotion of vernacular architecture and the reconnection of citizens with their surrounding environment.

Façades, at the interface separating the internal and external environments, have the role of regulating the heat and air transfers between the two. In developed countries ventilated façades are a well-understood and widely-used technology to reduce energy consumption whilst providing indoor comfort. While there is little knowledge of how they would perform in climates such as that of Colombia, some initial comparative studies have shown promising results. The peculiarity of several Latin-American countries (with Colombia and Brazil *in primis*) is that they are so diverse that one single climate is insufficient to characterise them. Indeed, in July 2015, the Colombian Government, through resolution No. 549, defined four separate climatic areas for building design.

This paper reports on the findings of a funded project based on a real building in the District Capital city of Bogota’. “Torre de La Indipendencia” is a mixed purpose 19-storey building, with the first two floors of commercial space, two floors of car parking, and residential space for the remaining 15 floors. The building includes a ventilated façade which was developed based on dynamic energy modelling and general design guidelines. Its performance has been monitored in partnership with Colombian academics and compared with predictions to assess the potential of this technology in new contexts such as Colombia.

This research is therefore relevant to monetary/energy savings and economic development as well as people’s health and wellbeing. As such, it relates to several UN SDGs; specifically, No.3 (health and well-being), No.4 (clean energy), No.8 (economic growth), No.9 (innovation), No.11 (sustainable cities), and No.13 (climate action).