

How office buildings are providing new homes for nature ?

Urban planning projects that support biodiversity are mushrooming in cities across the world as awareness of the need for climate action grows. The services and property sectors have a leading role to play here, by designing new buildings that accommodate life in all its forms: human, plant and animal.

Welcoming nature back to cities

A few decades ago, the idea of an office building as a home for biodiversity would probably have been judged unrealistic, if not downright ridiculous. Since then, it has gained ground, and is now accepted as a necessity. Today's cutting-edge office buildings make a point of creating spaces to house and protect biodiversity by covering any feasible surface with plants – and the possibilities are endless! For many buildings, efforts start outside, with trees planted directly in the ground a very popular choice. They offer nesting sites to birds and shade to employees. Living roofs on buildings can house vegetable gardens or bee hives: Swiss start-up [Bees4U](#) has sites on the roofs of UBS Geneva and PwC, and harvests several hundred kilos of urban honey each year.

We are also seeing colossal green walls appear, covering the sides of buildings. Climbing plants, hanging plants and small shrubs are set on the structure's outside walls, offering shelter to birds and insects. In Milan, [the impressive "Bosco verticale"](#) (vertical forest) has become home to falcons and swifts, which had previously disappeared from the city!

Sometimes, these green walls can actually serve to link together green areas of a city. They work as "corridors of life", encouraging contact between species and helping animals to travel. After dark, this "green infrastructure" transforms into "black infrastructure" as all the building's lights are turned off. This is important because artificial light can disrupt the biological clocks and life cycles of many insect species. So turning out the lights not only saves energy, it also promotes biodiversity!

Using plants to cool air naturally

Among the many advantages nature offers to cities, its role as natural air conditioning is being taken increasingly seriously. When cities experience hot weather, green spaces fight urban heat islands in a number of ways. Firstly, vegetation blocks the sun's rays, providing shade and therefore cooler temperatures. When it is very hot, plants secrete droplets of water through their leaves to regulate their own temperatures, releasing moisture into dry air. And the results are striking: a study carried out in Rotterdam¹ observed temperature differences of eight to nine degrees between areas with the least and the most plant cover.

So, when plants are installed on the roofs and walls of office buildings, nature not only helps reduce the energy consumption of the buildings themselves, it also cools the surrounding streets by preventing the sun's rays from shining on pedestrians and pavements.

¹ source: http://www.mediachimie.org/sites/default/files/LYC-06_vegetalisation-villes.pdf

Last but not least, green spaces help cut air pollution by capturing the particulate matter we generate and reduce noise pollution by muffling the sounds of the city. A winning contribution, whichever way you look at it!

Cutting carbon and improving well-being

Not only does covering a building in plants encourage biodiversity, it also considerably boosts staff morale. [Numerous scientific studies](#) have shown that the presence of greenery in the workplace significantly reduces stress and anxiety, combats tiredness and increases staff productivity. Some escapist architects have actually designed [offices in the middle of a forest](#), like little bubbles between the trees where office workers can be at one with nature. Or, if you don't feel the cold, why not opt for a [portable desk](#) to strap around a tree trunk!

There's no doubt that the offices of the future will benefit both nature and employee welfare. And if they can take carbon dioxide out of the atmosphere at the same time, even better! In that regard, timber stands head and shoulders above any other construction material. Not only is it less environmentally damaging to produce than concrete or steel, it also captures carbon: one cubic metre of timber contains a tonne of CO₂² equivalent! All in all, choosing timber reduces the carbon footprint of a building project by 25%³. The IPCC promotes the use of timber as a construction material to mitigate climate change.

² source: <https://www.uneforetdepossibilites.com/construire-en-bois-cest-capter-du-co2/>

³ source: <https://www.lesechos.fr/thema/articles/immobilier-vert-nouveau-defi-du-tertiaire-1272313>