

Pasajes

arquitectura y crítica

Over the murmuring streets of New York, a not-for-profit organization named Earth Pledge is developing a staggering solution for the environmental problems of the city, taking advantage of its unutilized rooftops.

Earth Pledge promotes the installation of green roof infrastructures as ecological solutions for some of the environmental problems and thermal impacts on densely populated urban areas

All over the world, urban areas find themselves under the pressure of a wide catalog of environmental and health problems. The temperatures in cities like New York are 3 degrees warmer than its surrounding areas and the “urban heat island effect” leads to a high consumption of electricity and is also a major contaminant to our atmosphere as well as respiratory illnesses and high rates of relative heat.

The more densely populated areas of the city need adequate management of its rainwater and wastewater system. In cities where both systems are combine before they reach treatment facilities, the elevated volumes of water runoff from roofs and streets throughout a rainstorm can flood its treatment plants, causing the crude residues to discharge directly into the nearest river.

Before these dilemmas and problems, the existence of green roofs would make cities more habitable, transforming barren, wasted rooftops into green urban areas. In the end, these rooftops would be quick systems of water retention and filtration designed to sustain vegetation that protects the impermeable membrane of a roof. The natural capabilities of cooling, water retention and filtration, and vegetation would make green roofs an elegant first line of defense against pollution from water runoff and also mitigating the heat island effect and improving the air quality.

In this sense, while in many European cities, green roofs are used to reduce urban temperatures and control ground water contamination from water runoff. In the US, the implantation process of green roofs is late in getting established. Since 2001, Earth Pledge has positioned itself in the forefront of green roof development, demonstrating its benefits and coming closer to the influential spheres and tools to help in its implementation as well as exploring its benefits through demonstrations, scientific investigations, and innovative marketing strategies.

But the development of green roofs has been especially slow in the US due to a list of reasons. For one, the gubernatorial representatives have been very parsimonious when it comes to engrossing the list of local data over installations. Another reason is they haven't figured the mechanisms that prognosticate the impact of green roofs. Earth Pledge has designed and installed a research station with the objective to compare the cost of energy and the rainwater management between a green roof and a conventional roof. The research station is located in New York's largest green roof, Gratz Industries. Over its surface, they have installed a

monitored system – energy and rainwater – to measure the results over a green area of 3,000 m.

In parallel, Earth Pledge has developed a Green Roof Stormwater Modeling System to help the limited politics with their incentive to install and explain the characteristics to architects and designers, and at the same time, demonstrate the elevated amount of rainwater retention you get with a green roof installation. Also, its versatility makes this model a valuable tool in exploring the political options and standardize the necessary parameters to develop a green roof infrastructure.

The Viridian Project, Earth Pledge's central axis and final program for green roofs, is centered on affordable housing. Given the severe environmental and health problems that we are exposed to, these zones tend to suffer from low air quality due to the absence of green space without having any sufficient resources to improve the conditions. To manage this entire process, Earth Pledge has created the Viridian Loan Foundation, through which it administers as the epicenter of its work, the implantations of green roofs.