

1.4 The different types of vertical greening systems and their relative sustainability

1.4.1 Green facades

Green facades use evergreen or deciduous climbers that either attach themselves directly to the building surface, or are supported by steel cables or a trellis structure. Climbing plants can only grow to a maximum of 25 metres in height, and it may take several years for the green facade to achieve the desired effect.

1.4.1.1 Direct green facades

Self-clinging climbers such as Virginia creeper (*Parthenocissus quinquefolia*), Boston ivy (*Parthenocissus tricuspidata*) and climbing Hydrangeas (*Hydrangea petiolaris*) are planted in the ground or in containers next to the building. The plants climb the facade by attaching roots or suckers to its surface. Occasionally these types of climber can cause structural damage to the building. Irrigation is carried out using an irrigation system at the roots of the plants or is left to natural processes.



Figure 10: Green facades in Bratislava, Slovakia
Source: https://pixabay.com/p-1138414/?no_redirect

1.4.1.2 Indirect green facades

Vines, leaf-twining climbers, and tendril climbers are planted in the ground or in containers next to the building. Suitable plants include vines such as Wisteria (*Wisteria sinensis*), Honeysuckles (*Lonicera*), Hops (*Humulus lupulus*) and Morning glory (*Ipomoea hederacea*), and climbers such as Passion flowers (*Passiflora*), Grape vines (*Vitis*), and Ampelopsis (*Ampelopsis brevipedunculata*). The plants climb the facade by attaching their leaf stems or tendrils to pre-stressed steel cables or stainless steel nets. Irrigation is carried out using an irrigation system at the roots of the plants or is left to natural processes. An example is the Jakob Rope System [1] which is used for facade greening as well as for free-standing steel constructions such as the MFO Park in Zurich (CH). An alternative system is the Jakob Inox Line [2].

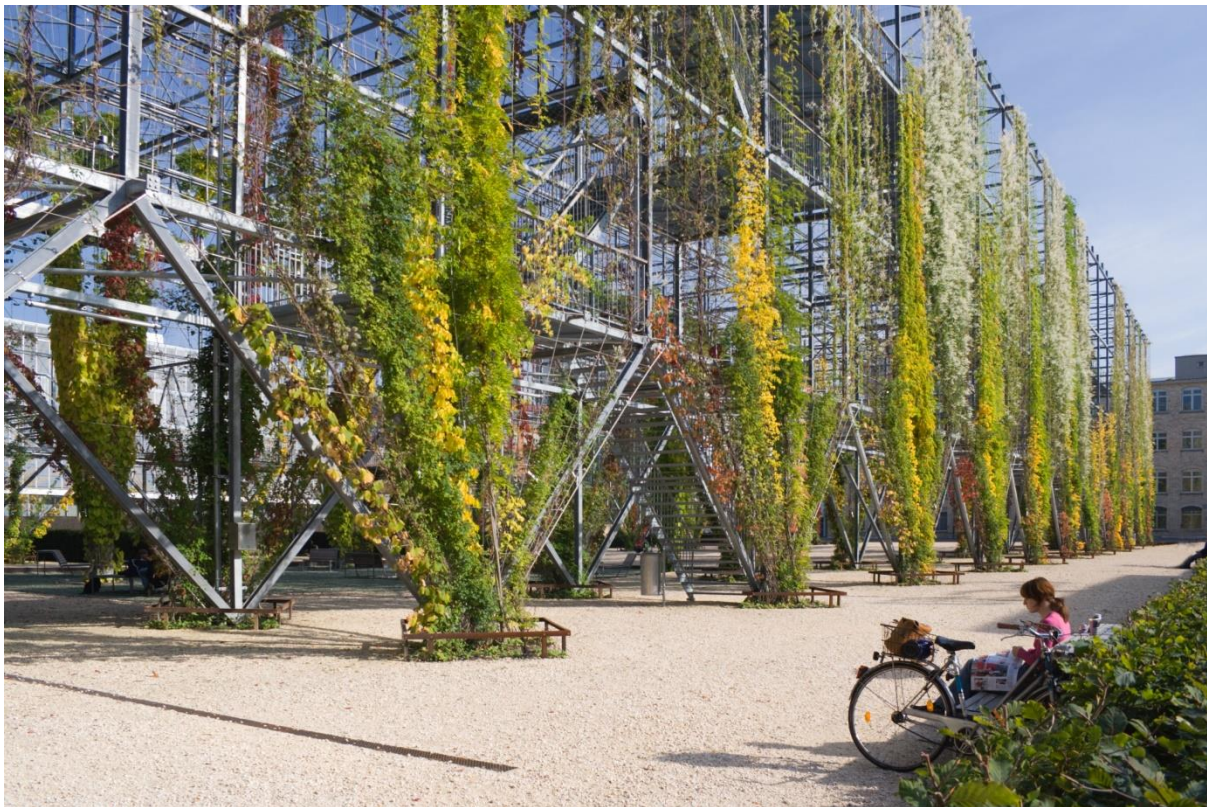


Figure 11: MFO Park, Zurich

Source: https://upload.wikimedia.org/wikipedia/commons/9/93/Zuerich_Neu_Oerlikon_MFO-Park.jpg

[NEXT CHAPTER](#)

[BACK TO INDEX](#)