

1.1.1. Green facades

In Germany there has long been a tradition of planting ivy on the facades of mills, which served as an additional insulation layer to cool the industrial machinery inside. In the early 20th century it became fashionable to grow climbers up the facades of buildings in order to make a seamless changeover between the house and garden. The use of green facades declined in the 1930s due to new building techniques and people's concern about possible consequences on wall stability, only to remerge again in late 1970s Berlin, where species such as English ivy (*Hedera helix*) and Boston ivy (*Parthenocissus tricuspidata*) were planted throughout the city as a cost saving measure, since they obscured the stucco facades which otherwise would have needed to be regularly repainted. The recognition of the contribution of green facades to the ecological enhancement of cities in the early 1980s fuelled a widespread grassroots campaign for inner city greening, which in turn led to the development of incentive programs in about 35 German cities. 245,584 m² of green facades were installed between 1983 and 1997 in Berlin alone, where the Biotope Area Factor (BAF) was developed as an urban planning tool in order to improve ecosystem functionality and promote the development of biotopes in the city centre. The BAF puts into concrete terms the following environmental quality goals: safeguarding and improving the microclimate and atmospheric hygiene; safeguarding and developing soil function and water balance; creating and enhancing the quality of the plant and animal habitat; and improving the residential environment. The tool is designed to increase the amount of green spaces in new developments, by setting targets for the desired ratio between vegetated surfaces and the total site area, and allowing developers to select from a weighted menu that includes green roofs, vertical greening systems, and tree planting [1].

Some architects started to incorporate vegetated facades into their designs for new builds; perhaps the most iconic building of this period is the Hundertwasser House in Vienna, designed by Friedensreich Hundertwasser and built between 1983 and 1985 [2]. The stainless steel cable system for green facades was first introduced in 1988.



Figure 1: Hundertwasser House, Vienna

Source: https://upload.wikimedia.org/wikipedia/commons/b/b9/Hundertwasserhaus_Bad_Soden_Autumn.jpg

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