

Living Walls – A research project by Neubrandenburg University of Applied Sciences

Wall-mounted greenery, also known as “living walls”, have been in use in countries in mild climate zones for a number of years now. France has played a pioneering role in this regard. Neubrandenburg University of Applied Sciences investigated the benefits and practicality of greening that is attached to walls for two years, starting in December 2012. This work focused on the issues of ecological effects, durability, costs and implementation in countries with periods of frost. The first research results are now available.

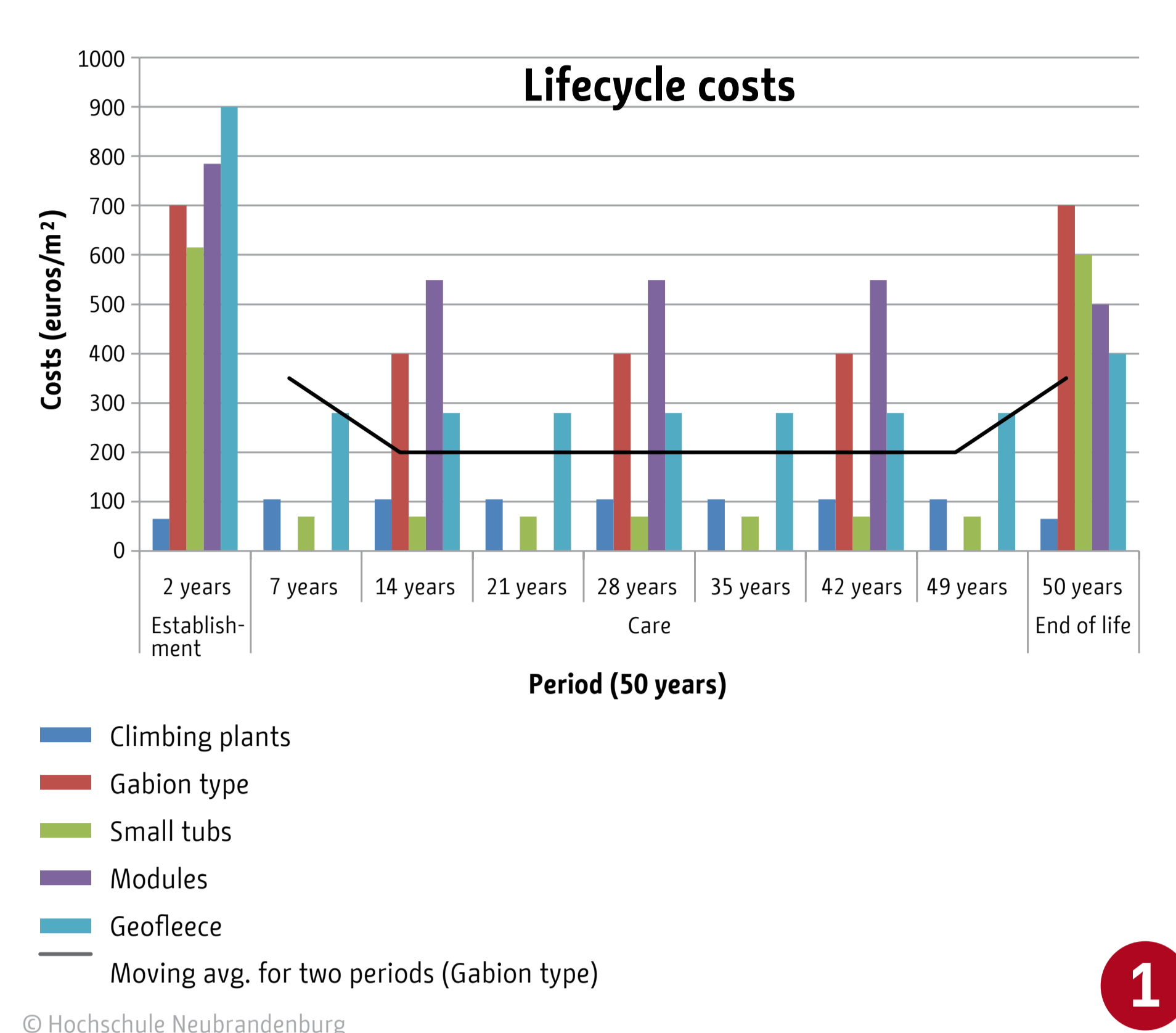
What is wall-mounted greenery?

Research into the greening of buildings with the aid of wall-mounted systems is being carried out in Neubrandenburg. These systems have to be affixed to the facade in a professional manner. Continuous watering, the addition of fertiliser and accessibility for care are necessary if the greenery is to thrive. Water-storing materials (foams, moss layers) are

candidates for use as plant substrates. The system consists of a plant layer, a moist vegetation-supporting layer and structural elements that are equipped with thermal insulation in certain cases. There is an air layer between the facade and the greenery. Automated watering is necessary.

Research results

Alongside the material tests, commercially available systems were also set up and tested in practice over a number of years as part of this research project. There are already 30 companies with their own products in Germany. 250 plant species have been tested in various systems in Neubrandenburg. 10 very robust species have been identified as base plants that can also survive periods of frost. In addition, it is to be expected that plants will be replaced once a year. In the ideal case, it will be possible to increase the insulating value of a building by up to 40 % thanks to wall-mounted greenery.



1 Simplified presentation of the initial and running costs of wall-mounted greenery over a notional total lifecycle of 45 years

2 Photo of the watering control unit for part of the experimental rigs

3 Detail view of plants



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www.gruendach-mv.de
www.worldgreenroof.org

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> **Buildings planted with greenery**