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Green Buildings

Letting the city breathe

Buildings heat up in the summer and lose heat in winter. Vienna's 'greening facades and roofs' initiative shows that planting on urban surfaces helps regulate the temperature inside houses, as well as improve the overall CO₂ balance of a city.

Positive planting

Dense urban areas heat up intensely during summer heat waves, resulting in an 'urban heat island'. Vienna is piloting a project where 'greening' urban facades helps mitigate the rise in temperature both inside and outdoors.

Leading by example, three years ago the city greened the facades of the department for waste management (MA 48 building) in central Vienna. Nearly 3,000 running metres of planters were mounted on 850 m² of façade, carrying around 17,000 plants, mainly shrubs, grasses and herbs. From spring to autumn they provide an impressive expanse of plants and colours.

Several research projects carried out by the Vienna University of Natural Resources and Life Sciences from 2010-2013 gave evidence of the positive climatic impact of greening facades, both in summer and winter. In summer, evaporation by plants is equivalent to 45 air conditioning units at 3,000 watts running for eight hours. And in winter, the building's heat loss was reduced by up to 50%.



In the heat of summer, planted walls have a cooling effect and bind dust. They provide a habitat for songbirds and insects and so contribute significantly to the quality of life and nature in the city.



Karin Büchl-Krammerstätter, head of environmental protection, Vienna

cities in action

September 2013

where: Vienna, Austria
what: environment
when: 2010+

City support

Vienna has set up a funding scheme to encourage residents to green their own buildings. Citizens can apply for a grant of €2,200 for both façade-related ('living wall systems') and soil-related greening (climbers grow from the soil or from containers on the ground).

Over the past year the city has accepted around 25 applications for roof greening. The façade greening fund was only launched a few months ago, and no applications have yet been received.

This may be partly down to criteria such as tenants' consent, which can take time.

However, homeowners that have 'greened' are generally satisfied with the results.

Gathering information

Further analysis and evaluation is currently being carried out on the MA 48 green wall. The results are being used as a basis for microclimatic simulations, and the outcomes will be important to support strategic processes.

The scientific approach is based on cooperation across various disciplines. The project includes a mix of planning, urban ecological, socio-scientific and economic methods.

Reliable information and convincing data are essential for the success of greening buildings. The legal prerequisites for greening facades can be complex. To help citizens better understand the requirements, EcoBuy Vienna (an instrument for sustainable procurement) has published guidelines together with Vienna's environmental protection department. It offers advice to citizens, planners, stakeholders, policy makers and other decision makers on the different systems available, advantages, technical, ecological and economic criteria. It also gives best practice examples.

Other partners and institutions are getting involved to help promote greening. The environmental advice service (Umweltberatung) is available to answer citizens' questions on façade greening. Meanwhile, the environmental protection department (MA 22) provides information through excursions, university courses, lectures, council meetings and cooperates in various scientific projects and programmes. Together these provide a comprehensive information network to help citizens understand and take up greening.

