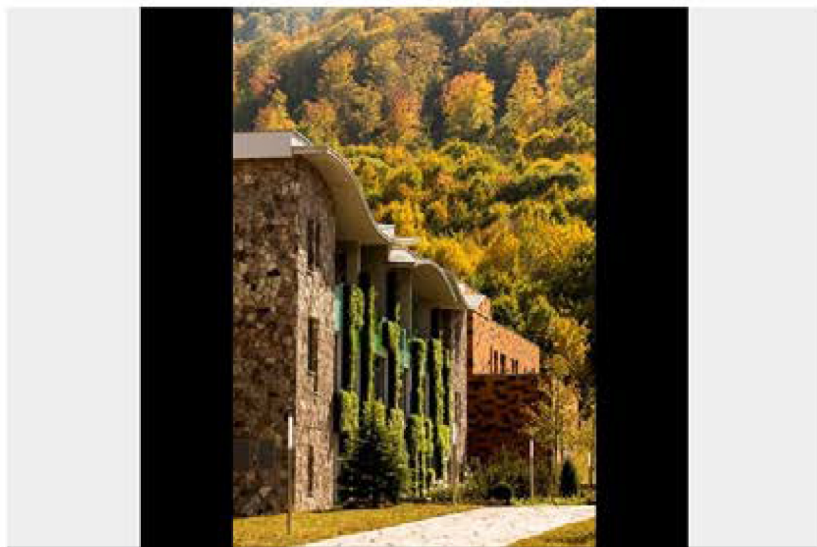


Green roofs are slowly gaining ground

1 July, 2015 | By Peter Sheard



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Green roof experts gathered in Istanbul recently to share best practice, Peter Sheard reports

The [International Green Roof Association](#) (IGRA) recently organised a congress in Istanbul with the objective of promoting good practice and technical expertise whilst benchmarking excellence in green roof design. Attended by over 400 people, the April event attracted experts in landscape, engineering and architecture, all focused on examining where the science of green roof provision is now and could be in the years ahead. Cities like Basel and Stuttgart lead the way on green roofs through a careful combination of mandatory requirements and subsidies

The most important factor is regulation and policy. It's all well and good for UK urban ecologist Dusty Gedge to speculate that 'there's 24 times the size of Richmond Park in flat roofs in London, which could be green tomorrow'; but how does one achieve that degree of change? The answer is very slowly. Cities like London and Manchester have 'soft policy' approaches to green roofs and walls, promoting green space and green infrastructure, but fall short of regulation.

The experience is rather different in other cities, as a study by the University of Utrecht revealed. It surveyed five cities to see how green roofs could help to 'climate-proof' a place and how public and private institutions could cooperate in their provision. London is as above; Chicago has a mix of mandatory regulation and grants; Rotterdam a subsidy and communication campaign; whilst in Basel and Stuttgart, a well organised system of mandatory requirements, subsidies and rebates are monitored, evaluated and linked to further subsidies. In all the cities, public sector involvement was a primary motivator in the early stages of development but tailed off as the market took precedence.

A mismatch in objectives and ambition, a general lack of awareness and knowledge, combined with a private sector reluctance to collaborate, often lies at the heart of poor green roof provision. So what is the best combination of 'carrot-and-stick'? The answer is in the figures of course: Basel leads with 25 per cent of its eligible roofs green; Stuttgart 22 per cent; with Chicago and London less than 1 per cent. Rotterdam is slightly better but has only had a policy of encouraging green roofs since 2008. Tellingly Basel's policy began in 1996; with Stuttgart leading the field in 1986. A combination of 'stick-and carrot' is best, together with gradual introduction of mandatory requirements.

In response, IGRA are launching a Green Roof City Network to showcase best practice and provide a toolkit of policy instruments to promote green roofs: regulation, incentives and marketing. Hamburg has a €3 million budget and a target to provide 1.8 hectares of green roofs in the next five years, backed by a compelling communications strategy. Paris has an ambition to green all its municipal buildings and to provide agri-roofs for a third of its green roofs including schools; an internet platform engages citizens to vote on future green initiatives.

The IGRA Congress exhibited no shortage of buildings bristling with green.

Revisiting its approach at Montreal Expo's Habitat 67, Safdie Architects' Sky Habitat, currently on site in Singapore, is a 508-unit structure stacked into two connected towers. Most units have gardens and terraces, and three green bridges form part of the building's communal space. Despite its imposing scale, the towers owe much of their appeal to the democratically distributed green space.

Green roofs play an iconic role in Jewel Changi Airport in Singapore, currently on site and due to complete in 2018, also by Safdie Architects. A series of stepped green roofs under a colossal glass dome will form an attraction at the heart of the airport linked to its retail offer. Its carefully arranged indoor landscape is dominated by a 40-metre tall waterfall cascading from the dome's oculus.



Safdie Architects' Jewel Changi Airport, Singapore, currently on site

London-based Tim Flynn Architects' United World College in Dilijan, Armenia was the most inspiring project presented and won the IGRA's Trendsetting Architecture award. Set in a sensitive landscape of forested hills, this philanthropic school incorporates 4700 square metres of curving green roofs that evoke the surrounding hills. Local skills for green roof installation were limited but paradoxically this became a strength of the finished scheme. All the substrate and plants for the project were prepared, harvested, grown and planted by local farmers, businesses and school children.



Green roofscape at Tim Flynn Architects' United World Colleges building, Dilijan, Armenia

In summary, green roofs can be a credible and viable part of a city's roofscape helping mitigate climatic fluctuation and increase biodiversity. But it takes time. Germany leads with the greatest area of green roofs, but this reflects 40 years of effort after considerable initial scepticism. Paris' ambitions are laudable in that they are trying to re-cast the roof as 'public realm'. This may never entirely succeed, as user and owner are often at odds, but sociologically it's a fascinating concept. As fashion icons and eco-marketing tools, green roofs remain as compelling as ever and the mood at the IGRA Congress suggests that their nascent role as true green open spaces in cities of the future is slowly gaining ground.

Peter Sheard is a freelance landscape architect