SHADE

THE ROLE OF TREES IN OUR FUTURE

HOW TREES *Impact Energy*

SUSTAINABILITY *Leads the Way*

URBAN AND COMMUNITY FORESTRY

Creating Public/Private Partnerships

SHADE

THE ROLE OF TREES IN OUR FUTURE

IN FULL BLOOM

6 Sustainability: Today's choices impact tomorrow's needs

Communities benefit when there's a collaboration of economic, environmental and social initiatives. Bonus: Trees play a central role in that relationship.

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Georgia Urban Forest Council (GUFC)

MISSION

To sustain Georgia's green legacy by helping communities grow healthy trees.

VISION

To be a broad-based leadership resource in promoting the importance of trees throughout Georgia by leveraging user-friendly technology, influencing the policy-making process and providing cutting-edge programming.

ACKNOWLEDGMENTS

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GREEN *Goes Skyward*

Look up, and you might see green on a maze of roofs. More and more, when buildings are touted as "going green," it is meant in the most literal sense.

Though still lagging behind Europe, where green roofs have been accepted for decades, North America is starting to catch on to the green roof craze. In 2011, the industry grew by 115 percent over the previous year — the largest growth rate yet recorded here.

"Green roofs are one of the fastest-growing segments in the roofing industry," says Trey Whitley, southeast district sales manager for American Hydrotech, a waterproofing and roofing company.

Green roofs can be divided into two categories: extensive and intensive.

An extensive green roof is built primarily for its environmental benefits and less as a human habitat. It requires two to five inches of soil and is more suitable for retrofitting onto existing roofs, according to Whitley. Extensive roofs tend to require very little maintenance.

Intensive roofs are widely used on commercial buildings and are suitable for human habitat. They require a soil depth of at least six to 12 inches and can incorporate all types of plants, from ground covers to small trees. These types of roofs, particularly in the Southeast, require a good bit of maintenance, especially up front.

"In the Southeast, if you get behind in getting these roofs established, you'll always be chasing them," says Whitley. "For that reason, we require a water source, irrigation and a maintenance plan before we'll install a green roof. Once they get established, they'll do great, but it can take a lot of irrigation and maintenance to get them established."

Both types of green roofs offer many benefits to building owners and to the public.

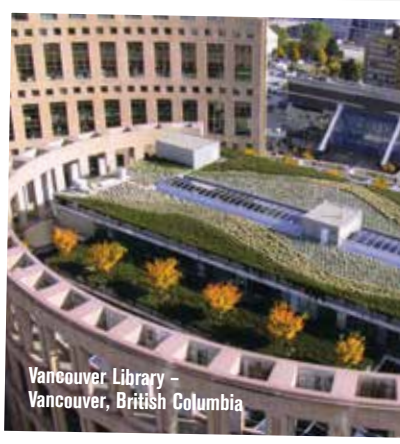
A MYRIAD OF OWNER BENEFITS

✔ ***Increased life expectancy.*** Although green roofs cost more to install than their traditional counterparts, they are made to last. "If you look at the life cycle cost analysis,

Green roofs thrive all across North America.


Mashantucket Pequot Museum – Mashantucket, CT


Providence Everett Medical Center – Everett, WA


Vancouver Library – Vancouver, British Columbia

you'd have to replace your original roof every 15 years or so," says Whitley. "But there are some green roofs that have been out there for 30 and 40 years. It's a permanent roof, and the design intent is to last the life of the structure."

✔ ***Energy efficiency.*** Green roofs are terrific insulators. They can help keep the building cooler in the summer and warmer in the winter. Their insulation prowess also helps to filter out noise, which is particularly valuable in buildings near airports, factories or busy freeways.

✔ ***Additional usable space.*** Intensive green roofs allow owners to use otherwise unusable space. They can serve many purposes, from gardening to restaurant terraces and from playgrounds to walking paths. "I've seen all kinds of unique uses," says Whitley. "Some schools have put vegetable gardens on their roofs and used them to teach students about gardening."

✔ ***Tenant benefits.*** Research has shown that workers who look out onto green settings enjoy a boost in productivity, and patients who can see green from their hospital window recover more quickly.

✔ ***Increased marketability.*** Going green is a great sales tool, and a green roof is a very visible statement of your green intentions. Green roofs have been shown to facilitate sales, lease-outs and employee recruitment.

✔ ***Building incentives.*** More and more municipalities and other government agencies are providing incentives that can help offset the cost of a green roof. Although no such incentives exist in Georgia at this time, Whitley says they may appear in the future, especially if they are linked to reducing storm water management.

HIGH MARKS FOR PUBLIC BENEFITS

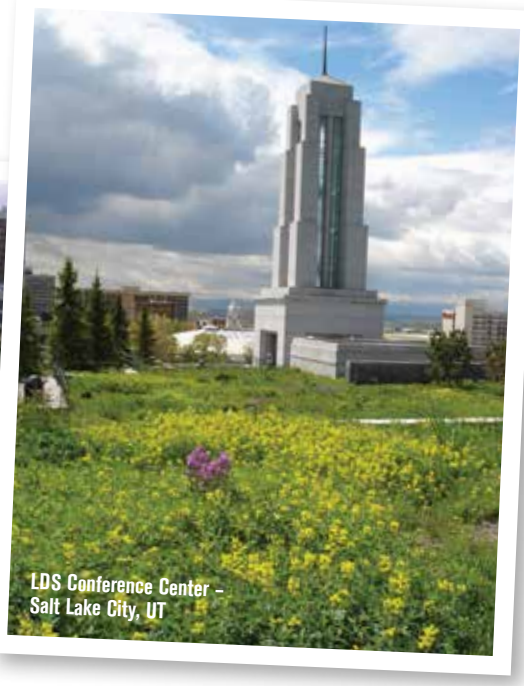
✔ ***Mitigates urban heat island.*** Plants on a green roof absorb light that would otherwise be converted into heat energy. They also cover some of the hottest surfaces in the urban environment — black rooftops.

✔ ***Reduces dust and smog levels.*** Green roof vegetation helps to filter out dust and smog particles. Nitrates and other aerosol contaminants are absorbed out of the air in rainfall and bound within the soil.

✔ ***Encourages storm water retention.*** Depending on the design, a green roof can typically reduce storm water run-off by 50 to 90 percent. Additionally, the peak flow volume is greatly reduced, and the peak flow period is delayed by as much as 4 hours, minimizing the impact on existing sewer systems.

"Georgia Tech is a great example of this," says Whitley. "There is no room to build at Tech, so if they put up a new building, they have to be able to capture the storm water. In one recent project, they installed a buried cistern that captures 100 percent of the water for the entire site and reuses the gray water in the building."

Given the many benefits green roofs offer, Whitley expects to see their continued growth. "Green roofs are already a mainstay in commercial roofing, and we are only going to see the numbers grow," he says. "The issue at hand is maintenance after the installation and long term. When that has been addressed, we have seen great success!"



LDS Conference Center – Salt Lake City, UT

Millennium Park – Chicago, IL

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