



By John Imes

# GREEN on the Roof

Green building techniques and materials can be used to make your home's roof not only look better, but work better for both you and the environment. And now innovative "green roofs" are available to help cities, businesses and homeowners address stormwater runoff and protect our lakes and streams.

When choosing building materials many things must be taken into account.

Roofing needs to be attractive, affordable, and durable. Multiple issues such as weather, climate and budget should be taken into account before you decide on the best roofing material for your needs. Moreover, know if your roofing material is recyclable or has recycled content, if it needs to be shipped a long distance (greater than 500 miles) and if it has a warranty of at least 40 years.

- **Asphalt:** Look for a warranty of at least 40 years and recycled content exceeding 25 percent.
- **Concrete tile:** Made from Portland cement and sand/aggregate to resemble clay tile. Look for recycled content and product warranties of 50 years or longer.
- **Fiber cement:** Made to look like slate or shingles, this material consists of Portland cement with cellulose fiber added for reinforcement and to make it lighter.

- **Metal:** Highly recyclable, reflects the sun, and can replicate the look of wood. Look for lighter colors and powder coat finishes which emit virtually no volatile organic compounds versus wet-applied finishes.
- **Recycled content:** Can replicate wood shakes or slate with recycled content provided by plastics, cellulose fibers, tires and industrial rubber.
- **Forest Stewardship Certified (FSC):** Look for third party certified wood shingles or shakes from sustainably managed forests.
- **Solar shingles:** Integrated photovoltaic roofing materials can protect your house from the weather and generate electricity at the same time.

## How about a green roof

Increasingly, policy makers, developers and even homeowners are looking to green roofs as an energy efficient and attractive way to minimize, absorb and cleanse stormwater runoff. Defined, basically, as any roof substantially covered with vegetation, green roofs can retain one or more inches of rainfall, reduce heating and cooling costs, double a roof's life, and contribute to a quieter, healthier, more sustainable urban environment.

Although the initial costs of installing a green roof are greater for than a conventional one, reduced energy costs and a longer

roof life offer a long-term benefit. Green roofs are generally classified as one of two types — extensive or intensive. Extensive green roofs use lightweight materials to support low growing plants like sedums and grasses. Intensive green roofs contain deeper soil layers to support a wider variety of plants and landscaping options. Of course, make sure to have a structural engineer inspect and certify that the structure can handle the green roof in addition to the snow load rating for your area.

To offset some of the initial costs, leading cities are beginning to offer incentives to property owners such as reduced fees or density bonuses for developers that incorporate green roofs. In New York City, for example, a new law provides “... a one-year property tax credit of \$4.50 per square foot of green roof to building owners who install them on more than 50 percent of their available roof space ...”

Here in Madison, one can imagine a “green mile” of roofs along State Street showcasing the potential to reduce energy use, restore habitat, slow and cleanse stormwater runoff to our lakes, and create a unique setting that attracts new jobs and investments. Finally, the new federal economic stimulus package could be tapped to jump-start green roof installations in cities and create well-paying jobs with opportunities for roofers, landscapers, agricultural workers, truck drivers, landscape architects, and crane operators, not to mention entry level jobs and opportunities to teach skills to disadvantaged youth. ▲

### Green-it-yourself resources

- Research, plan and then ask your contractor about ways to green your next home improvement or landscaping project. Use the Green Built Home™ program and online resources. The Green Built Home Remodeling Checklist has more than 330 ideas to save money, protect our natural resources and improve your family's health, safety and comfort. To learn more about Green Built Home visit [www.greenbulthome.org](http://www.greenbulthome.org)
- The California Integrated Waste Management Board operates an online directory of recycled content products including building materials such as roofing and siding. [www.ciwmb.ca.gov/RCP](http://www.ciwmb.ca.gov/RCP)
- Check out the Green Roof Resource Portal at [www.greenroofs.com](http://www.greenroofs.com)
- Xero Flor America has more than 35 years of green roof research and installation experience. Xero Flor green roof systems have been used on thousands of installations worldwide including the groundbreaking 10.4-acre Ford Motor Company Rouge Plant green roof (Dearborn, Mich.). [www.xeroflora.com](http://www.xeroflora.com)

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