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GreenBuilder®

DEFINING GREEN

SPECIAL REMODELING ISSUE

Remodeling Renaissance

SIX MASTERFUL RENOVATIONS prove there's no time like the present to shift your firm into green remodeling. page 22

Blackburn Architects barn renovation, Leesburg, Va.

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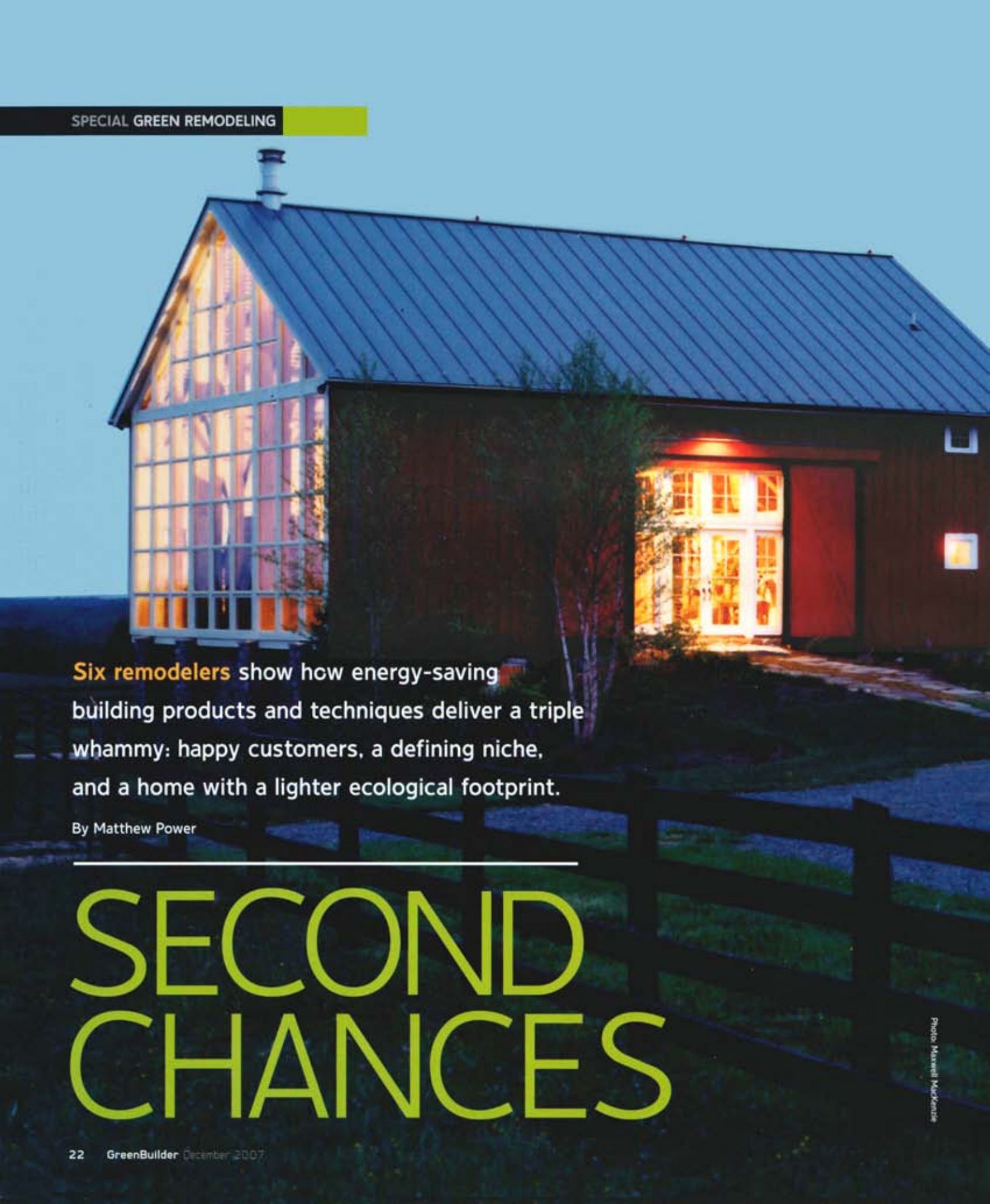
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Six remodelers show how energy-saving building products and techniques deliver a triple whammy: happy customers, a defining niche, and a home with a lighter ecological footprint.

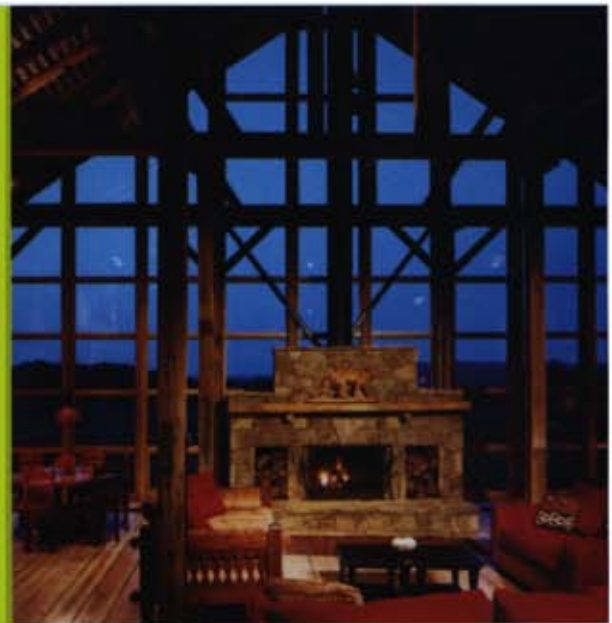
By Matthew Power

SECOND CHANCES

Photo: Maxwell MacKenzie



Deceptively traditional in its final appearance, this renovated barn, located in Leesburg, Va., overlooks the Potomac River and includes a dozen or so hidden green features and low-maintenance materials.



Few remodelers have the guts to call themselves "green," and with good reason. They fear that they'll be pegged as a one-trick pony and scare off customers. As much as 20 percent of small remodeling firms fail each year, so the odds are clearly stacked against them.

But as the firms in this piece illustrate, times (and consumer priorities) are changing. Green has become a currency understood by both upscale and mid-range clients. For example, many of these projects incorporate salvaged materials, which are an easy sell to clients. Design-minded buyers like the rustic look of exposed wood; green-conscious customers appreciate the environmental benefits of reusing resources.

The timing for shifting your firm into green remodeling couldn't be better. With an economic recession looming, climbing fuel prices, and an ongoing green media blitz, your energy-saving remodeling skills could become the most important part of your portfolio.

As Kermit Baker, senior research fellow at Harvard's Joint Center for Housing Studies in Cambridge, Mass., pointed out last October at the Remodeling Show in Las Vegas, remodeling doesn't face the dire problems of the overbuilt new home market. He expects annual increases in remodeling volume of 6 percent to 7 percent through 2011.

The forecast is not optimistic for all remodeling sectors, though. High-end retrofits, which compose about two-thirds of total remodeling dollar volume, have dropped off significantly as house prices have fallen. That means contractors must land more mid-range projects to survive the downturn.

How many of those projects will be green? That's up to you. As these exceptional projects show, clients will rise to the challenges and opportunities of a green remodel if you offer them an exciting project with clear benefits.



LEESBURG, VA.

SALVAGED BEAUTY

The daylighting and ventilation principles of traditional barn building provided green features for this unusual makeover.

As you approach this summer home from its winding driveway, you might not distinguish the structure from a vintage Mid-Atlantic barn. But Blackburn Architects (www.blackburnarch.com) of Washington, D.C., went above and beyond to rehab this structure into an energy-efficient, easy-to-maintain summer getaway.

"We've been designing barns for years," notes architect John Blackburn. "A horse is meant to live in the wild, so barns are always naturally lit and ventilated, and that's key to the health of the horse. We used some of those same principles here."

The owner of the barn, he notes, planned to simply knock down the old structure, but Blackburn gave him another idea. "Why don't we create a recreational space out of it?" I asked him. "We could use the basement for storing old cars, and the upper levels for entertainment, but keep it looking like an old barn."

It wasn't easy. "When you're working with an old

barn, you can't straighten it out," Blackburn says. "You basically have to make it rigid in place. If you try to move walls or the structure, you start breaking things."

The plan to preserving the original look made the task of "greening" the structure even more challenging. "We went into it looking first at making it more energy efficient," Blackburn recalls. "The old plank flooring is still there, but underneath it is hydronic heating. The walls and ceiling we completely overlaid with structural insulated panels."

Those SIPs disappear, he says, because contractors carefully covered them with salvaged planking on the interior. "We reused everything we could," Blackburn says. "All of that wood for the inside skin and the flooring is reused. What we do is pull all the nails and then screw the lumber back down. Some of that wood is extremely hard, so we pre-drill a lot. It's a little more time-consuming, but people really like the patina of the old wood."

By salvaging much of the additional beam structure and planking from an old barn, Blackburn Architects was able to meet the firm's own high standards for green building. The design, brought to life by general contractor Guy Gerachis of Gerachis Construction Group in Leesburg, called for a new, inner wall core of SIPs, carefully concealed by putting the original wood back in place.

Photo: Kenneth Wyner



GREEN PRODUCT HIGHLIGHTS

- > SIPs: Intellistructures (VOC-free)
- > Radiant floor system: Joist-Trak by Uponor
- > Gas furnaces: Carrier 410 Systems (two)
- > Windows and doors: Marvin

The architect also added a window wall on the northeast face of the barn. While this feature has might be a strike against the home's otherwise above average R-values, the builder notes that this home is not used year-round, so the low-E glass is enough to mitigate big heat losses. The glass also floods the interior with daylight, reducing lighting costs when in use.

"The home has a ducted heating system, but the owners never use it," Blackburn says. "The hydronic heat warms the whole house. ... It's an incredibly efficient building now, and it looks just like a barn."

Tips for SIPs

The key detail for residential use of SIPs, architect John Blackburn says, occurs where walls meet roof panels. "We run the roof SIPs over the top of the wall panels," he says. "but we don't extend them beyond. Instead, we add false rafter tails to create the overhang. Extending SIPs beyond the walls is the biggest mistake you can make. This way, you end up with what looks like a thin metal roof."

On the Barn Bank project, he adds, crews painted the interior side of the SIPs black, so that when faced with planks, the gaps between the boards would "disappear."