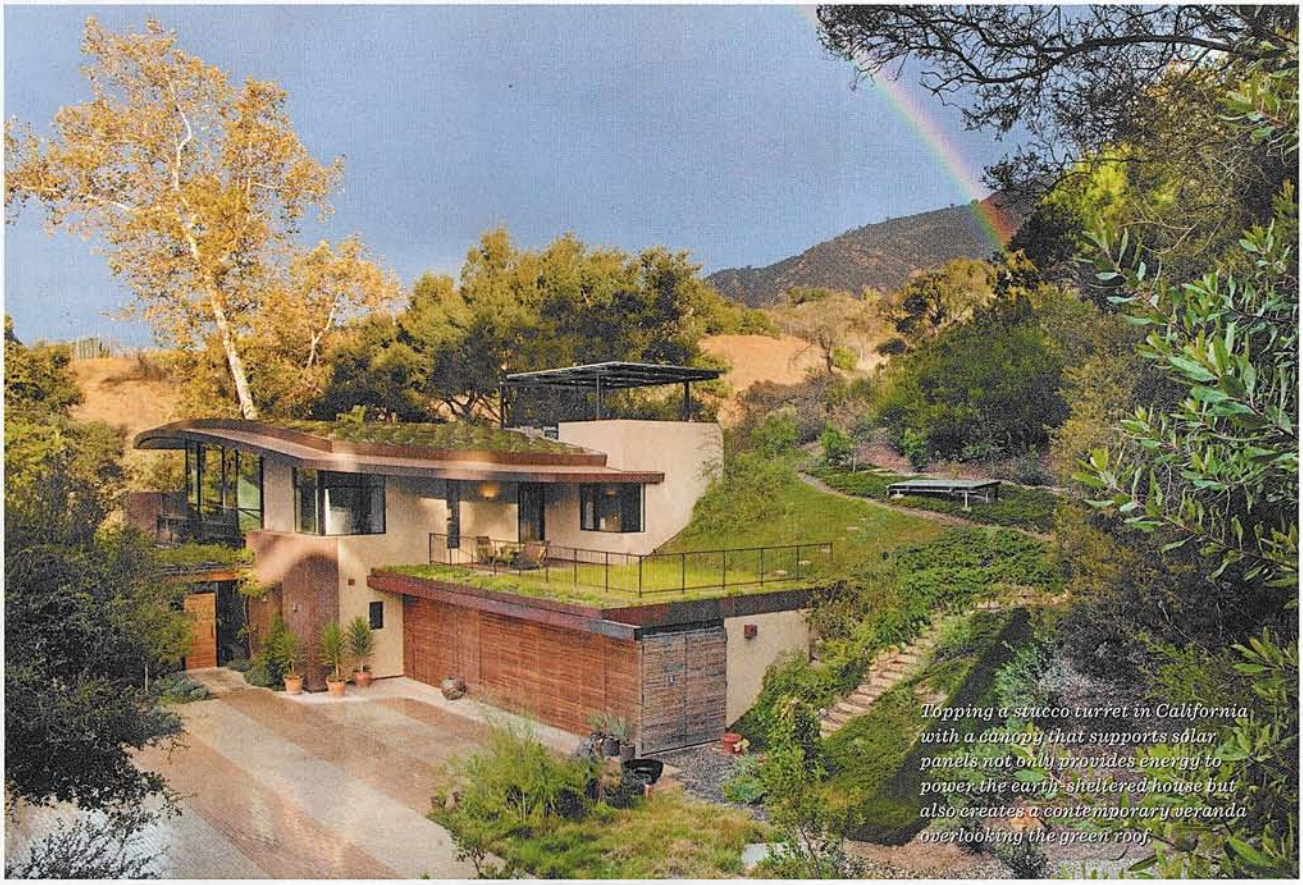
Harvesting the Sun



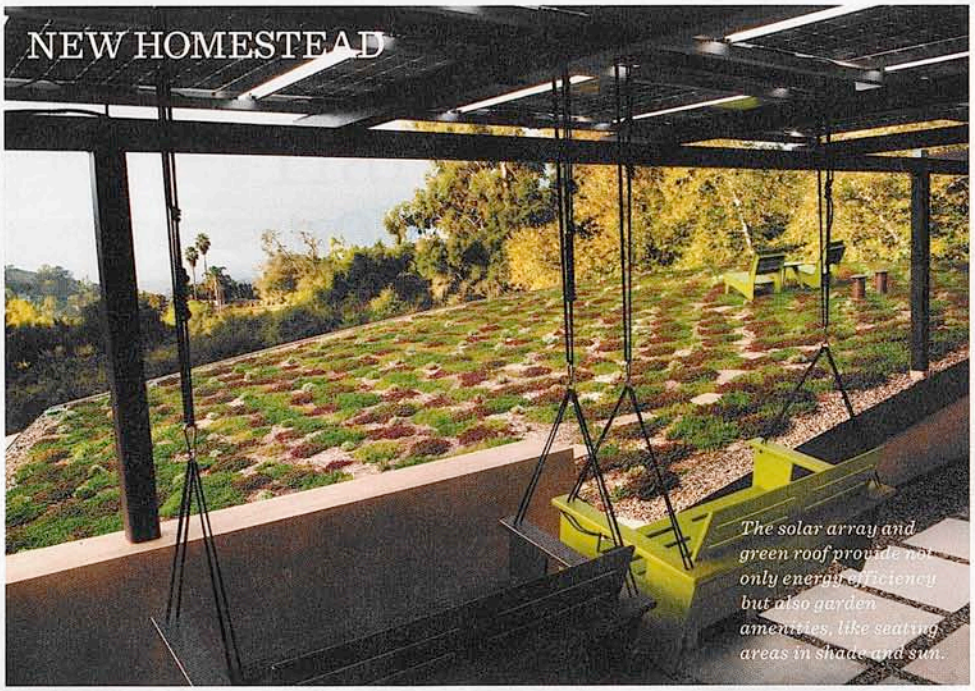
Topping a stucco turret in California with a canopy that supports solar panels not only provides energy to power the earth-sheltered house but also creates a contemporary veranda overlooking the green roof.

Solar energy is positive in many ways, but making shiny silver solar cell panels disappear into a landscape is not the easiest thing to do. People with enough land often don't even try, placing solar panels in massive backyard arrays or mounting them on vertical stands that rotate with the sun. However, for those living on small lots in close-knit, tree-lined neighborhoods, where land and sunlight are at a premium, we need to find a way to elegantly integrate these units into the landscape, while still gaining all the rays necessary to make their use efficient.

There are two basic types of solar panels. Solar hot-water panels are made of translucent acrylic and equipped with pipes that heat the water and disperse it into a holding tank in the basement. The other type, photovoltaic or PV panels, usually have a handsome rainbow sheen that reflects light and attracts the eye. Photovoltaic panels can be tied to batteries or wired directly into the home's existing energy system. Arranging them in a grid—either staggered, aligned, or offset—on an existing south-facing roof can keep them relatively low-profile, while creating an attractive reflective focal point.

If you have the resources, framing solar panels with turf or green roofing systems can combine an eco-landscaping trend with energy efficiency; green roofs, too, are a way to harness water runoff and divert it to garden use rather than storm drains. Until recently, green roofs made much use of drought-tolerant sedums, and although well suited for a low-water-use, they set up a monocultural landscape. Sedums are now giving way to all manner of plantings, including brightly colored perennials, ornamental grasses, mosses, and ferns. In my landscape architecture practice, we even scatter wildflower mixes onto a green roof matrix to give more texture, color, and bloom period around the solar panels.

With some ingenuity, traditional solar panels can be turned into a useful and beautiful part of your landscape. California architect Ken Radtkey and landscape architect Susan Van Atta fashioned their photovoltaic solar panels into a useful and elegant veranda that sits atop their 2,500-square-foot home nestled into a Montecito hillside. Rather



The solar array and green roof provide not only energy efficiency but also garden amenities, like seating areas in shade and sun.

than wasting the space underneath the panels, they chose to hang two swinging benches made of recycled plastic, one in green to represent new growth, and one in brown to meld with the wooden elements on their house. From this perch, they can see across the arched green roof planted in sedum and dudleya that seems to merge with the surrounding landscape all the way to the Pacific Ocean. The LEED Platinum house is designed to be highly efficient, so the PV and solar hot-water panels set nearby meet all the electrical and hot-water needs of the household.

Solar energy is most effective when integrated into an efficient design. Radtkey and Van Atta designed their home with an abundance of energy-saving and sustainable features. First, they donated the materials and appliances from the existing house to not-for-profit organizations in the area. Lumber from 12 nonnative eucalyptus trees that were cut down during construction was used for the house trim, garage doors, front door, stair treads, bookshelves, and even a dining room table. And during construction, they protectively worked around the existing sycamore and native coast live oak trees that provide shade from the harsh western sun.

Another promising development in the realm of solar energy is the solar shingle, used to replace asphalt or slate roof shingles. These can cover an entire roof or selected parts. Dow's Powerhouse line turns sunlight into electricity through an inverter box that comes with the package. The black-on-black design of Apollo II solar shingles from Certainteed blends seamlessly with surrounding roofing material.

It's encouraging to see the new solar products that are entering the marketplace in response to homeowner and designer demand. For instance, small 12-volt flexible solar panels that measure 10 inches by 3 inches, such as those made by Silicon Solar, are a thin but durable film of silicon on a plastic backing, which might be applied to archways, pergolas, fences, or even sculptures to power elements of the landscape. Other solar products already on the market include lights, stepping stones, fountains, wind chimes, string and rope lights, crystal balls, and electric fences. Invention will keep up with demand, and I predict that we will see designers' ingenuity and creativity burgeoning as well, with exciting results.
—Julie Moir Messervy

For more information, see Find It Here, p. 68.

A rooftop planting of red yarrow, aubretia, sedums, and dianthus softens the silvery sheen of solar hot-water panels in this modest eco-friendly garden setup.

Mini solar panels set on slender steel poles reach for the light just above tall ornamental grasses; used with panache, small solar units can add to the garden's imaginative decor.

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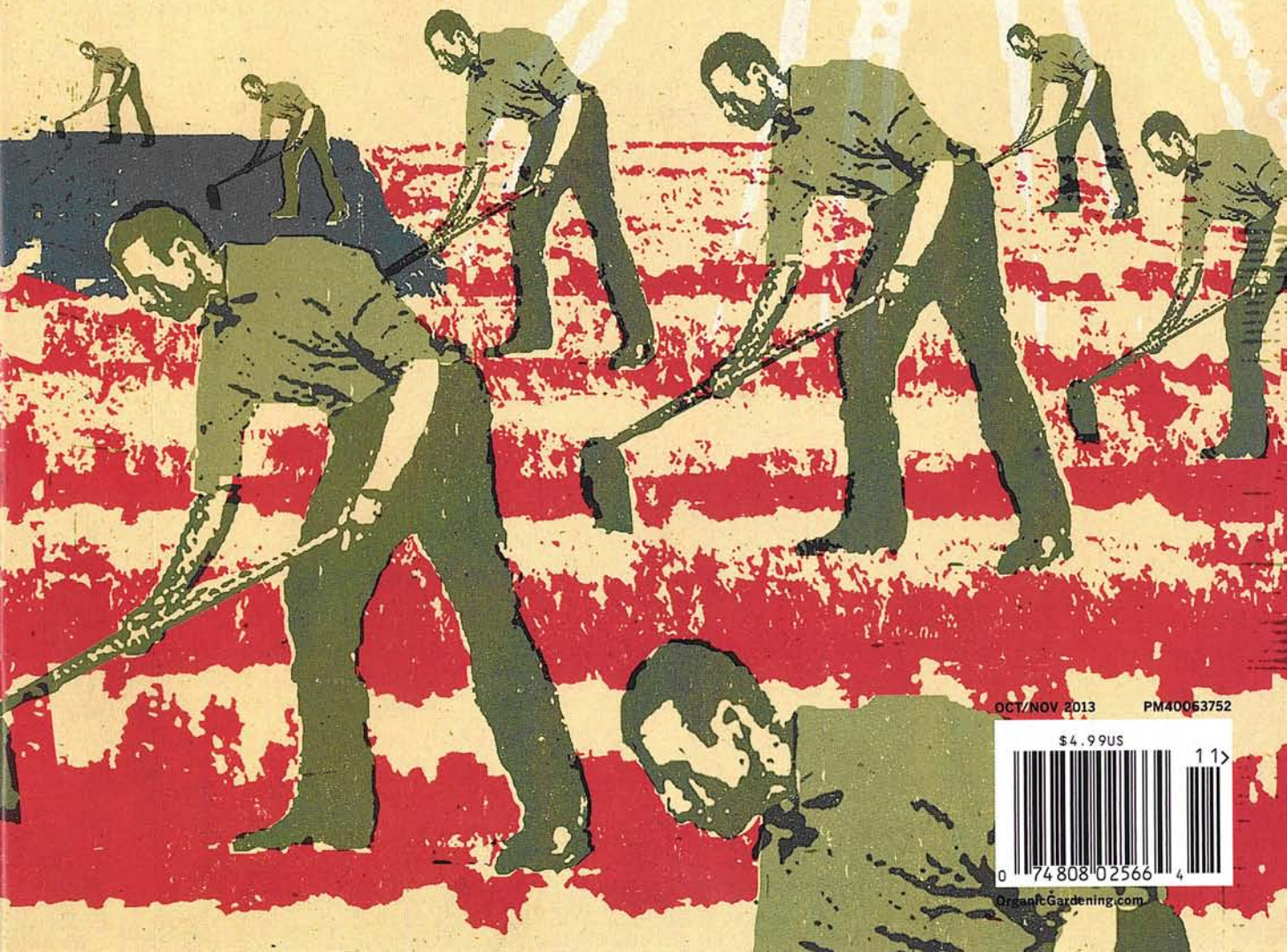

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