Mainstream Green

Five-O So Green Hawaii Homes

Green goes mainstream with these comfortable and affordable new models.

By Mindy Pennybacker

FIND OUT MORE ABOUT THE NEW HAWAIIAN HOME:
biahawaii.org

Photo Courtesy of: BIA-Hawaii
The idea that green living can be accessible to everyone is fast becoming a reality in Hawaii. This month, homeowners are moving into Kaupuni, a sustainable community built by the Department of Hawaiian Homelands (DHHL). In another new green subdivision, Haleakea by Gentry, Tom and Jo Booking recently bought a gracious green home on the golf course. “Green was our No. 1 priority, and this was the only development that offered photovoltaic [PV] panels as a standard feature,” Tom says.

If you’ve been thinking that you might go green for the future savings, but have thought the price point was out of reach, you’re in for a pleasant surprise: You can now build a green home for about the same price as a conventionally built home of comparable size and quality, according to Nick Bossert, of Bossert Builders, who recently completed a custom green home in Kailua’s Enchanted Lake neighborhood.

Check out the following five innovative and affordable projects, designed to help bring green-home technology to everyone. Ranging in scale from whole neighborhoods to a single-home prototypes, all observe the six elements of green building, as recommended by The Building Industry Association (BIA) of Hawaii.


It takes a village to raise a green home for the future, and that’s precisely what’s happening as The New Hawaiian Home (TNHH) goes up in the heart of old Kaimuki. The two-story home is a state-of-green-art prototype sponsored by the Building Industry Association of Hawaii (BIA-Hawaii) in partnership with Hawaiian Electric Company (HECO) and the state Department of Business, Economic Development and Tourism (DBEDT).

“The New Hawaiian Home represents a groundbreaking collaboration to provide an ongoing learning tool for industry and consumers, showing how practical and affordable green homes and lifestyles can be,” says Karen Nakamura, president of BIA-Hawaii. The BIA team, Nakamura notes, includes more than 80 member companies who have donated green materials and services for the house. The New Hawaiian Home is being built to fulfill both LEED’s top platinum and ANSI’s (American National Standards Institute) silver national green-building standards.

In addition to providing lots of inspiration, this show home is going to be lived in. The buyers, Lori Ann and Daniel Ambrosewicz, are set to move in this summer with their two young children. They inherited the Kaimuki lot with an old family house, which was disassembled and donated to ReUse Hawaii, fulfilling the green building principle of environmentally responsible site development.

In lieu of an indoor dining room, TNHH has a large, covered lanai with a 12-foot sliding door that’s double the standard width to facilitate indoor/outdoor living. One key green innovation is an adaptable roof design, says Daniel Sandomire of Armstrong Development, a member of the design steering committee, along with architects from Green Sand Inc. (who provided sustainability consultation), Group 70, Gentry Homes and a sustainability manager from Kamehameha Schools.
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“There are many roofs, all of them sloped to accommodate solar-energy systems,” Sandomire says. In TNHH, the PV and solar water panels occupy the southwest-facing slopes of the main-house roof and the roof of the lanai, respectively. If the prototype is built on a lot with a different orientation, “the solar arrays can alternatively go on the master bedroom or garage roofs, depending on which way the house faces,” he explains.

Perhaps most significantly for a green prototype, TNHH will be net-zero energy, with almost no carbon footprint, as long as the Ambrosewicz family refrains from turning on the A/C. “They shouldn’t have any use for it, because of natural ventilation, a whole-house fan and insulation,” Sandomire says. The Ambrosewicz family has agreed to let their energy consumption be monitored.

BIA-Hawaii has committed to providing the homeowners with training in the use of TNHH’s many sustainable components, from energy and water-catchment systems to aquaponics, composting and edible landscaping. BIA’s goal also includes educating the public and the building industry about the practicality and affordability of green products and design. BIA estimates that TNHH will cost about $650,000, $25,000 above the Hawaii median home price of $625,000. The purchase price will be donated to BIA-Hawaii’s construction training center. “Our members are getting hands-on learning in how to identify, price and work with sustainable materials,” Nakamura says, adding that this project is proceeding on time and is well on the way toward fulfilling its goal: the widespread adoption of sustainable building in Hawaii.

Open, Spacious
Green Living:
Haleakea by Gentry

Gentry Homes’ new, 40-home, Haleakea community in Ewa is Hawaii’s first mainstream development to provide 1-kilowatt (kW) PV panels as a standard feature. Another green feature distinguishing these homes is central A/C with a 24.5 SEER (seasonal energy-efficiency ratio) rating that far exceeds the SEER rating of at least 13 required by the federal government, says Rick Hobson, Gentry Homes vice president of sales and marketing. Spray-in, low-VOC Icynene foam insulation locks in energy savings. Even so, these tightly sealed homes are also wonderfully ventilated, open and spacious. It’s no wonder Haleakea’s Pupukea model won the 2010 BIA-Hawaii Parade of Homes “Grand Champion” and “Best in Show” Oahu awards, and also garnered a gold-level Hawaii Built Green award. It’s also no wonder the homes are selling fast.

Buyers can choose from among three two-story models with up to 2,300 square feet of living space. Half the homes are situated on the 27-hole Hawaii Prince golf course, the others on quiet culs-de-sac. All have four bedrooms and three baths and are priced starting in the mid-$600,000s.

These high-quality, solidly built homes deliver a lot of luxury at the median Oahu home price. Deep, covered, backyard lanai are standard. Front doors are solid wood with beveled-glass inserts, and walls have 5-inch baseboard trim all around. Staircase banisters are stain-quality wood; balusters are wrought iron. Nine-foot ceilings, upstairs as well as down,
permit tall, 6-foot windows instead of the standard five, Hobson points out. All windows are trimmed out and fully encased in wood, protected by low-VOC, semigloss paint. Master bathrooms have separate tubs and showers, as well as dual vanities. Kitchen floors are ceramic, the large, stainless, farmhouse-style sinks are by Kohler, and there are GE built-in ovens, microwaves and cooktops. All buyers love the large pantries and laundry rooms, plus lots of storage space, Hobson says. In addition, all cement used in construction is recycled content and the enclosed, two-car garages have outlets for charging an EV.

To accommodate Hawaii’s multigenerational households, Haleakea’s interior layouts are flexibly designed. All three models have large family rooms and a downstairs bedroom/office “flex” space with full baths, providing private space for “extended family or a child who’s moved back,” Hobson says.

With Haleakea’s standard 1 kW PV panels and other energy-efficient features, “You’re probably cutting your energy costs in half every month,” Hobson says. You can also buy extra PV for $7,500 per kW. The Bookings added another 1 kW. “We went to HECO,
Our strength comes from over 40 years of moving and storage experience.

Hawaii’s First Net-Zero-Energy Neighborhood

The 19 homes in the Kaupuni subdivision all enjoy views of the majestic Waianae Valley. What’s equally impressive are the photovoltaic (PV) panels arrayed on every high-reflecting, top-quality metal roof. This pilot project is a standout in many ways, but what sets Kaupuni apart is a whole-community design that combines traditional Hawaiian lifestyle values with the ultimate high-tech green goal: net-zero energy. “That means, in a given year, each house will produce as much energy, with PV and efficiency, as it uses,” says David Miyasaki, architect with Group 70, the firm responsible for Kaupuni’s design. The three- or four-bedroom homes cost approximately $260,000 and $322,000, respectively.

“Hawaiian Homes moved quickly to adopt the state’s Clean Energy Initiative because sustainability is so connected to Hawaiian culture and tradition,” says Kimo Kai, project manager for DHHL, adding that the homebuyers also appreciate that “savings in energy equal savings in their pocket.” While every house comes with ENERGY STAR®-approved central A/C, “they’re designed so they don’t need it,” Miyasaki says. Blown-in, low-VOC foam insulation has sealed even the tiniest cracks. Solartube skylights illuminate interior spaces with bright daylight. All ENERGY STAR® lighting and appliances come standard, and garages have electric vehicle (EV)-accessible outlets.

Hawaiian Electric Company has provided each household with The Energy Detective (TED), a hand-held monitor that measures energy savings when appliances or electrical equipment are turned off. It also registers at what temperature people start to turn on air conditioners. The Energy Detective program serves a principal goal of Kaupuni as a pilot project informing future development plans.

Outdoors, permeable walkway and driveway surfaces prevent runoff, according to Dean Alcon, of Alcon and Associates, Kaupuni’s construction management firm. Connecting with neighbors is a top priority for this community. The buyers participated in the planning process for Kaupuni, including its flagship Hale Kumuwaiwai community center, located in the center of the neighborhood, says Chad Johnston, project engineer for general contractor Hunt Building. Hale Kumuwaiwai consists of a large, open pavilion with an adjoining large kitchen, bathroom and office and storage spaces, and a community food garden, an aquaculture system, lawns, gathering spaces, barbecues and an imu. Residents asked for “tutu” porches overlooking the street, from which adults can supervise children riding bikes and skateboards, according to Miyasaki. While high-
tech features and green materials aimed at earning LEED’s top, platinum rating were a definite draw for Kaupuni homebuyers, all the high-tech bells and whistles didn’t detract from the sustainable practicalities and joys of daily life. “What they got most excited about was having outdoor clotheslines,” Kai says. “That’s the beauty of the community being involved in the whole process.”

Kumuhau: Green Design That Flows

At Kumuhau, a 45-home neighborhood in Waimanalo, everything flows. Sloping metal roofs, painted white to reflect the sun’s heat and keep interiors cool, maximize sun exposure to solar panels and conduct rainwater into a catchment system. Surface runoff is directed to a fenced-in basin that filters water into a natural stream. Covered lanai connect to airy, open carports with roofs held up by graceful white pillars. While buyers can also choose enclosed garages, “In Hawaii, as opposed to cold climates, you can make it so much more open, extending outdoor living space beyond just a lanai,” says Sandomire, whose company constructed Kumuhau (local firm Green Sand Inc. also provided sustainability consultation).

A key green feature of Kumuhau’s design is that there’s no central A/C; the homes are built to stay cool without it. The secret is plenty of high-quality insulation. Armstrong Development used a new fiberglass batting that’s formaldehyde-free, safer for homeowners to breathe and for workers to install. While sealing the house is crucial, so is controlled ventilation. Above the central staircase, a powerful whole-house fan produces a breeze on demand, drawing out heat (and any odors) and pulling in cool, fresh air. “We offered A/C as an option, but nobody went for it,” Sandomire notes.

Upon entering one of Kumuhau’s newly completed homes, you can expect to be bathed in brightness and airiness, thanks to the many windows, vaulted ceilings that rise from 9 to 11 feet in the living room/kitchen space and the absence of chemical odors due to the use of low-VOC (volatile organic compounds) paints, flooring and carpet. Floors in the bathrooms are made of resilient natural linoleum.

Upstairs in the 1,700-square-foot model are three bedrooms and a large, windowed landing that provides extra study or socializing space. All the bedrooms have exhaust
Kumuhau, another DHHL-sponsored project, features bright, homes nestled below a Koolau mountain range.

fans that vent directly to the outdoors, plus wiring for optional ceiling fans. Prices range from $225,000 for a two-bedroom home to $325,000 for a five-bedroom home. All five Kumuhau homes, one of each model, have been reviewed by the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) program and have received gold ratings.

NATURAL RESOURCES
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HELPFUL INFORMATION ON GREEN BUILDING AND RETROFITTING:
Buildinggreen.com

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Naturally Green: Bossert Builders

Bossert Builders co-owners Nick and Leanne Bossert specialize in custom homes, and prefer to build green. The company recently completed Hawaii’s first home to be certified green by the National Association of Homebuilders (NAHB) Building Standards program. The plan involved replacing an existing home, and Bossert was able to do a careful demolition that saved the foundation. This not only gained green points, but saved about $150,000 on what would otherwise have been a $600,000 price for the new, 3,600-square-foot home.

Like Kumuhau, this Keolu Hills, Kailua home goes without A/C. Instead, the placement of windows throughout the two-story house promotes ventilation from Hawaii’s trade winds. Spray-on foam provides insulation, and the roof is covered with ultraviolet (UV)-reflective solar shingles.

High-quality sustainable materials are beautiful. The stairs are a striking, tiger-grained hardwood bamboo; the glowing laminate flooring contains all-recycled materials. Cabinets are solid ash. The frames of the low-emissivity (low-e), double-paned windows are a composite of recycled plastic, tires and wood; framing lumber is engineered from reclaimed wood. Plywood is certified sustainable by the Forest Stewardship Council (FSC). Countertops are Silestone, a green, scratch-resistant, manmade quartz product containing post-consumer-recycled materials. In addition, “We try to buy local in almost everything,” Leanne says. NAHB also gives green points for landscaping elements, such as the drought-tolerant turf grass Bossert planted.

The homeowners are happy with the improvements. And they appreciate NAHB green certification and resource-saving as a legacy to be handed down to the next generation. 

Photo: Ryan Siphers