

Renewable Power and the Design of Everyday Life

# GOOD ENERGY



Foreword by Walter Hood

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# Grow Community

Bainbridge Island, Washington, United States



**LEFT** The solar-powered homes at the Village, which are seen in the foreground, are detached to provide light and air on all sides but are also close enough to each other to create a walkable community. Houses are rotated at an angle to ensure maximum privacy for homeowners.

**OPPOSITE** The exteriors are clad in low-maintenance and durable prefabricated fiber-cement panels, sustainable locally harvested woods, and steel siding. Larger windows were placed on the south side of each house to maximize solar gain, while smaller windows on the north protect homeowners' privacy.



**“People want to live in a way that** reduces their carbon footprint. People are also tired of living in anonymous places; they want a sense of community. Net-zero energy communities provide both,” explained Jonathan Davis, the architect who designed the first phase of Grow Community on Bainbridge Island, a ferry ride across Puget Sound from Seattle. According to Davis, models for walkable, socially enriching net-zero energy communities already exist; it’s simply a matter of meeting demand and finding the right developers to build more of them.

The original phase of Grow Community, which is called the Village, was built in 2013 just as the building

industry was coming out of the recession. While perhaps risky at the time, the development—which includes 22 closely packed, detached single-family houses, clustered into “microhoods” of six to eight houses, along with 20 apartments organized in two multifamily buildings—sold out in a year. The Village is about a 10-minute walk to downtown Winslow and the commuter ferry to Seattle.

Airtight building envelopes and thick layers of insulation help reduce energy use, which is offset by arrays of rooftop PV panels on the homes. “Residents who are conscious of their energy use can easily live within their energy budgets,” says Davis.

Residents who purchased the 22 detached houses took out mortgages that not only covered the cost of the buildings, which ranged from \$299,000 for a two bedroom to around \$575,000 for a three bedroom, but also the cost of the rooftop solar arrays, which averaged \$32,000 per home.

Davis, who owns a house in the Village himself, said a federal tax credit covered 30 percent of the cost of his solar panels, reducing the initial cost by more than \$9,000. Washington State also offered an incentive of 54 cents for each watt of solar energy he produced. Given Davis generates up to 8 megawatts annually, he received a check for about \$3,500 to \$4,000 from the state

each year. “After seven years, the solar panels paid for themselves, and I don’t pay any energy bills.” The entire development produces approximately 176 megawatts annually, meaning significant savings for all the homeowners.

Grow Community is one of the few in the US planned and designed with One Planet Living’s 10 principles. Pooran Desai, a cofounder of Bioregional, a London-based development firm, started One Planet Living because he believed sustainability and well-being are inextricably linked. His approach has created communities that achieve not only net-zero energy use, but also zero waste, sustainable water use greater social interaction, food production, and lower greenhouse gas emissions from transportation.

Davis purposefully curved the paths, named Seed, Root, and Sprout, through the nearly 3-acre (1.2-hectare) site to

encourage neighbors to interact. For the same reason, there are no parking spaces in front of homes. A common parking area next to the Village instead requires residents to walk through the community to their homes. “When I’m late for dinner, my wife knows that I bumped into a neighbor and got into a conversation,” Davis said.

But perhaps the primary way the Village encourages a greater sense of community is the shared love for growing food. There are raised beds for vegetables and common gardens, which include blueberry bushes, strawberries, herbs, and apple trees. The 20 or so raised beds, located throughout the community, are used by almost all residents to grow vegetables, such as kale, cucumbers, carrots, and lettuces. The community, which includes retirees and empty nesters, singles and families with

kids, organizes community dinners once or twice a year: “We harvest in the morning and eat together what we cooked that evening.”

The second phase of Grow Community, designed by Bainbridge-based architect James Cutler, added another 5 acres (2 hectares), offering 50 townhouses and condominiums in multifamily buildings organized around central green spaces. Grow Community is now the largest planned net-zero community in Washington State.

For Davis, the lesson learned from the project is that “these communities aren’t a big deal. Net-zero doesn’t cost that much more. You just need to do some planning in advance.”



**The airtight building envelope, blow-in fiberglass insulation in the walls and attic, and double-glazed windows and sliding glass doors help significantly reduce energy use. These measures allow the home to be heated with just one mini-split ductless heat pump. A whole-house heat-recovery ventilator refreshes and distributes the air. Materials were selected for their low impact on the environment and human health. Interior floors are made of sustainable, renewable cork, and a recycled rubber and cork composite.**



**Almost all homeowners and renters in the Village community grow vegetables in the raised beds spread throughout the homes. While Davis doesn’t call Grow Community an “agri-hood,” as only a small portion of the total landscape is dedicated to food production, he argues that growing food together has not only helped build intergenerational community connections but also cut down on the greenhouse gas emissions associated with the transportation of food.**

**The Village’s setup encourages low-carbon and social forms of transportation, like walking and bicycling, over getting in a car. The three main paths through the Village—Seed, Root, and Sprout—purposefully curve to encourage neighbors to bump into each other and start conversations. The parking lot is alongside the edge of the development.**

