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DOE Zero Energy Ready Home

**Zero Energy Ready Home Newsletter:
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The 'Zero' Movement Begins with Housing Innovation Award Winners

Sam Rashkin



First a review. The U.S. Department of Energy (DOE) believes a Zero Energy Ready Home is the home of the future...today. That's because each and every one of the program's key building blocks has a compelling value proposition:

- **Optimized Thermal Protection** meets and exceeds the next generation code making each home **Future Ready**;
- **Whole-House Water Protection** effectively manages potential leak and mold problems making each home **Moisture Ready**;
- **High-Performance Heating and Cooling** ensure both energy efficient equipment and professional installation making each home **Comfort Ready**;
- **High-Efficiency Components** typically come with improved performance, quality, and durability making each home **Tech Ready**;

- **Comprehensive Indoor Air Quality** includes all the requirements of the U.S. Environmental Protection Agency Indoor airPLUS program making each home **Health Ready**; and
- **Solar Ready Construction** minimizes the cost and disruption of adding solar in the future making each home **Zero Ready**.

DOE believes these building blocks will deliver a superior experience that each and every homeowner would want...once they try it. Moreover, a Zero Energy Ready Home can deliver this superior experience for lower cost of ownership, where monthly utility savings easily exceed the small increase in the monthly mortgage attributed to the high-performance measures. Significant market penetration of U.S. Department of Energy (DOE) Zero Energy Ready Homes has the potential to save homeowners ~\$350 billion in utility bills, add ~120,000 persistent new jobs that cannot be outsourced, and reduce carbon emissions by ~3 million metric tons. But it won't happen without leading home builders willing to take the leap designing, building and selling Zero Energy Ready Homes.

And that brings us to the 2016 Housing Innovation Award winners.

It's going to take special leadership by the best in the housing industry to begin the 'Zero' movement. DOE is using the [Housing Innovation Awards](#) to recognize this leadership. An independent jury process is used to select the winning homes which are then placed on the Zero Energy Ready Home 'Tour of Zero.' Now, the DOE team is working with the depth and breadth of the high-performance product industry to help engage consumers to take the tour.

I know it's easy to be cynical about awards. But not this time. The award-winning builders and their homes are truly paving a path to the future and deserve special recognition. Let the movement begin!

Below are short profiles on the Grand Winners from the 2016 Housing Innovation Awards as well as a complete list of winners. For more information on each of these homes, check them out on the [DOE Tour of Zero!](#)

Grand Winner for Innovation in Affordable Homes

United Way of Long Island – United Veterans Beacon House – Deer Park, NY

“While the not for profit business model differs from the for profit builder model, the results remain the same – homeowner’s or occupants happy and comfortable with the result,” says Rick Wertheim, Senior VP of Housing and Green Initiatives for United Way of Long Island. “Operational costs and sustainability are becoming more of the driving force for decision making and project budgeting vs. just upfront square foot building costs. It costs LESS for nonprofits to own a ZERH than a code built home.”

Project Info:

- Layout: 4 bedrooms, 2 baths, 2 floors + basement, 1,890 ft²
- Climate Zone: IECC 4A, mixed-humid

Modeled Performance Data:

- Hers Index: without PV 32, with PV 9
- Projected Annual Energy Costs: without PV \$2,283, with PV \$676

- Projected Annual Energy Cost Savings (vs home built to 2009 IECC): without PV \$873, with PV \$2,567
- Projected Annual Energy Savings: without PV 4,364 kWh, with PV 12,833 kWh
- Added Construction Costs: without PV \$17,000, with PV \$44,500

Grand Winners for Innovation in Multifamily Homes (Tie)

Philgreen Construction - REVIVE Sustainable Multifamily Living - Fort Collins, CO (Tie)

“We keep copies of utility bills from home owners in the sales office to show prospective buyers. People will take copies of the energy bills with them because they are so unbelievable,” says Dave Phillips, President of Philgreen Construction. As an example, Phillips points to a recent monthly bill; “the home earned \$91.55 and carried a \$322.58 credit.”

Project Info:

- Layout: 2 bedrooms, 1.5 baths, 3 floors, 1,160 ft²
- Climate Zone: IECC 5B, cold

Modeled Performance Data:

- HERS Index: without PV 42, with PV 5
- Projected Annual Energy Costs: without PV \$824, with PV \$155
- Projected Annual Energy Cost Savings (vs home built to 2012 IECC): without PV \$952, with PV \$1,586
- Projected Annual Energy Savings: with PV 15,928 kWh
- Added Construction Cost: without PV \$0, with PV \$8,000

Thrive Builders – Row Homes at RidgeGate – Denver, CO (Tie)

“Designing a multifamily product with sufficient roof space for a meaningful [PV] system can be more than challenging,” admits Bill Rectanus, Vice President of Operations for Thrive Builders. The RidgeGate townhomes were designed with large monolithic roof planes that allowed Thrive to maximize the space for PV panels on each residence. Thrive employed an innovative design feature. Regardless of whether the unit faces south or north, the roof truss design can be “flipped” so that the shed roof is optimally oriented toward the sun, without affecting the home’s floor plan.

Project Info:

- Layout: 2 bedrooms, 2 baths, 3 floors, 1,815 ft²
- Climate Zone: IECC 5B, cold

Modeled Performance Data:

- HERS Index: without PV 50, with PV 30
- Projected Annual Energy Costs: without PV \$1,033, with PV \$552
- Projected Annual Energy Cost Savings: (vs home built to 2009 IECC): without PV \$720, with PV \$1,202
- Projected Annual Energy Savings: without PV 2,669 kWh, 413 therms, with PV 6,690 kWh, 413 therms
- Added Construction Cost: without PV \$10,900, with PV \$16,200

Grand Winner for Innovation in Production Homes

Mandalay Homes, Phoenix, Arizona

"We have worked relentlessly with our architects and engineers to reduce the amount of lumber needed in our homes through advanced framing techniques and some value engineering. We work with our trade partners to make sure they understand our priorities and we help them find ways to reduce waste and reuse bits that would otherwise go to the local dump. A marked reduction in the amount of material delivered to our sites is a great indicator of our efforts," said Geoff Ferrell, CTO with Mandalay Homes.

Project Info:

- Layout: 3 bedrooms, 3 baths, 1 floor, 2,207 ft²
- Climate Zone: IECC 4B, mixed-dry

Modeled Performance Data:

- HERS Index: without PV 47, with PV -2
- Projected Annual Energy Costs: without PV \$1,473, with PV -\$234
- Projected Annual Energy Cost Savings (vs home built to 2012 IECC): without PV \$897, with PV \$2,334
- Projected Annual Energy Savings: without PV 4,206 kWh, 392 therms, with PV 16,081 kWh, 404 therms
- Added Construction Cost: without PV \$2-3/ft², with PV \$6-9/ft²

Grand Winner for Innovation in Custom Homes

Dwell Development, Seattle, WA

"Zero days on the market and selling at the highest price per foot at the time for this neighborhood proved that what we are doing is working," said Anthony Maschmedt, Owner at Dwell Development. "Our goal and mission now is to have every home we build be Net Zero Energy. We get a ton of press and media coverage because what we are doing is good in so many ways. Good for the environment, good for the community, good for the economy, good for the built environment, and good for knowing and showing to everyone that you can design and build a Net Zero Home and be profitable!"

Project Info:

- Layout: 3 bedrooms, 3 baths, 3 floors, 2,117 ft²
- Climate Zone: IECC 4C, marine

Modeled Performance Data:

- HERS Index: without PV 45, with PV 0
- Projected Annual Energy Costs: without PV \$472, with PV \$51
- Projected Annual Energy Cost Savings (vs home built to 2012 IECC): without PV \$888, with PV savings \$1,628
- Projected Annual Energy Savings: without PV 9,896 kWh, with PV 18,090 kWh
- Added Construction Cost: without PV 10%

2016 Housing Innovation Award Winners

WINNERS FOR INNOVATION IN AFFORDABLE HOMES

- **Grand Winner: United Way of Long Island, Deer Park, NY**
- Carl Franklin/Green Extreme Homes, Lewisville, TX
- Clifton View Homes (CVH) Inc., Coupeville, WA
- Habitat for Humanity of Catawba Valley, Hickory, NC
- Habitat for Humanity, Grand Traverse Region, Traverse City, MI
- Habitat for Humanity South Sarasota County, Venice, FL
- Kalamazoo Valley Habitat for Humanity, Kalamazoo, MI
- Revival Homes, New Hartford, CT
- Sunroc Builders, Lakeland, FL

WINNERS FOR INNOVATION IN MULTIFAMILY HOMES

- **Grand Winner (tie): Revive Properties and Philgreen Construction, Fort Collins, CO**
- **Grand Winner (tie): Thrive Home Builders, Denver, CO**
- AquaZephyr, LLC, Ithaca, NY

WINNERS FOR INNOVATION IN PRODUCTION HOMES

- **Grand Winner: Mandalay Homes, Phoenix, AZ**
- Greenhill Contracting, Esopus, NY
- Revive Properties and Philgreen Construction, Fort Collins, CO
- Thrive Home Builders, Denver, CO

WINNERS FOR INNOVATION IN CUSTOM HOMES (For Buyer)

- **Grand Winner: Imery Group, Athens, GA**
- Addison Homes, Greer, SC
- Amaris Homes, Maplewood, MN
- Charis Homes, North Canton, OH
- DP Construction, Prattville, AL
- E2 Homes LLC, Winter Park, FL
- Greenhill Contracting, Esopus, NY
- High Performance Homes, Gettysburg, PA
- Insulsteel Building Enclosures, Charleston, SC
- Knaggs Construction Inc., Kearney, NE
- Mantell-Hecathorn Builders, Durango, CO
- Paul Torcellini, East Hartford, CT
- TC Legend Homes, Bellingham, WA
- Zero Energy Plans, Coupeville, WA and Pepper Tree Homes, Waitsfield, VT

WINNERS FOR INNOVATION IN CUSTOM HOMES (Spec)

- **Grand Winner: Dwell Development, Seattle, WA**
- Addison Homes, Greer, SC
- BrightLeaf Homes, Brookfield, IL
- Bundle Design Studio, Bellingham, WA
- DP Construction, Prattville, AL
- Element Design | Build, Henderson, NV
- Garbett Homes, Salt Lake City, UT
- Heath E Community Enterprise of Virginia, Williamsburg, VA
- Lifestyle Homes, Inc., West Melbourne, FL

See them all on the [DOE Tour of Zero!](#)

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