Zero Energy Now

Our Journey to Production-built Zero Energy Homes

November 14, 2017
Bill Rectanus
Vice President, Operations
Thrive Home Builders

Founded 1992
Denver Based Niche Home Builder
- 193 closings in 2016
- Est 220 closings in 2017
- National builder dominated market
- Efficient, Healthy and Local
Thrive Home Builders

New Urbanist Builder
“For Sale” Affordable Housing

ULI Cover Project The New Shape of Suburbia
ULI Top X Affordable Communities in America
PCBC Gold Nugget Award, Best in the West
Thrive Home Builders

Green Building

- 2012, 2013, 2014 and 2016 Green Home of the Year, Denver HBA
- 2014 Green Home of the Year: Green Builder Magazine
- 2015 Best in Green, International Builders Show
- 2016 Builder of the Year, Green Home Builder Magazine
Thrive Home Builders

Pioneering efforts in the sales and marketing of Zero Energy
Thrive Home Builders

ZERO ENERGY

*ZERO ENERGY READY HOME*
U.S. DEPARTMENT OF ENERGY
Current Product Lines

Single Family
- Solaris III
- Vita
- Z.E.N. 2.0
- Panacea

3-Story Townhomes
- Conservatory Green
- RidgeGate

2-Story Townhomes
- RidgeGate
Solaris Single Family

Solaris Single Family at Stapleton

- 1,837 sf to 2,241 sf
- Base prices $419,900 to $464,900
- 2009
  - Standard Solar
  - Energy Star
  - Standard HERS 40-48 with 2.5 kW PV
- 2011
  - Zero Energy Option HERS <10 with about 10kW PV
Solaris Innovations

Market firsts:

- Standard solar
- Build with local beetle-kill lumber
- Zero energy option
- DOE Zero Energy Ready
- Learning how to sell it
- DOE Grand Winner Housing Innovation 2013
Z.E.N. Single Family

Zero Energy from a clean sheet of paper

2013

- 1,878 sf to 2,115 sf
- Base prices $472,900 to $491,900
- Developed with software from ORNL, Passive House, NREL, HERS
- HERS <10 with 7-8kW PV
- Three two-story single family floor plans with basements
Z.E.N. Innovations

Market firsts:

• HERS 40 without Solar
• Our partnership with Owens Corning
• Zero Energy as a standard feature
• DOE Zero Energy Ready Home
• DOE Grand Winner Housing Innovation 2014
Perrins Row Townhomes

Our first generation of DOE ZERH Townhomes

- 3 three-story floor plans
- 1187 sf to 1633 sf
- Base prices $260,000 to $370,000
- Standard HERS 24-31 with 3 kW PV
Perrins Row Innovations

Townhomes are a particular challenge
- Solar lease
  - Prepaid lease
  - Zero-down lease
- Party wall enhancement
- City involvement
- DOE Grand Winner Housing Innovation 2015
RidgeGate Townhomes

Our first generation of Zero Energy Townhomes

• 2 and 3 three-story floor plans
• 1226 sf to 1878 sf
• Base prices $327,000 to $456,000
• Standard HERS 24-31 with 3 kW PV
• Optional Zero Energy with 5 kW PV
RidgeGate Innovations

Getting to Zero in the Suburbs

• Staggered stud double 2x4 wall
• Our first location in the suburbs
• Our first target of aging boomer buyers
• DOE Grand Winner Housing Innovation 2016
How We Sell Zero: Meeting the challenge of evolving homebuyer demands

Our home buyer is a 35 year old woman who drives a Prius, shops at Whole Foods and has “Boulder-like” tendencies.

“The green consumer revolution has been led by women aged between 30 and 49 with children and better-than-average education. They are motivated by a desire to keep their loved ones free from harm and to secure their future.”

Your home should help pay your energy bill.

Ours does.

New Town Builders is now Thrive Home Builders.

Why settle for a little energy efficiency when you can have so much more? We build homes that help pay their own energy bills and reduce your impact on the environment. Plus, we’re the only builder that offers a series of homes that generate all the energy you need, right on the rooftop. Why do we do it? Because your home should do more.

Homes that do more.
Your home should make you healthier.

Ours does.

New Town Builders is now Thrive Home Builders.
Beautiful, thoughtful designs and the highest energy efficiency are what we’ve been known for.
But we’re changing our name to reflect a new, innovative focus; new homes that can be a healthier place for your family to live. We build healthy homes that improve well-being and help families thrive. Why do we do it? Because your home should do more.

Homes that do more.
Your home should be built by your neighbors.

Ours are.

New Town Builders is now Thrive Home Builders.

We build houses we’d want to live in – because we do. We’ve been building in Stapleton since the beginning, and we know how to integrate beautiful design and building science to create homes that add lasting value for their owners and for the community. Why do we do it? Because your home should do more.
Your home should help you thrive.

Ours does!

New Town Builders is now Thrive Home Builders.

Thrive is about making your home do more for you. Like making you healthier. We have partnered with the US Environmental Protection Agency’s Indoor Air Plus program, which means our homes minimize harmful chemicals and get constant filtered fresh air. Or making you wealthier. Our energy-efficient homes help pay for themselves, and they are built to standards that far exceed today’s building codes, so they won’t be obsolete when it’s time to re-sell.

All from a local builder who cares about creating homes that are of lasting value for you and your community.

Homes that do more.
Speaking In Our Home Buyers’ Language: How We Sell Zero Energy Ready

Lives better.

HEALTHFUL ENVIRONMENT
Every DOE Zero Energy Ready Home has a comprehensive package of measures to minimize dangerous pollutants, provide continuous fresh air, and effectively filter the air you breathe.

COMFORT PLUS
Superior insulation, windows, air sealing and space conditioning systems included in every DOE Zero Energy Ready Home surround you with even temperatures, low humidity, and quiet in every room on every floor.

Works better.

ADVANCED TECHNOLOGY
Every DOE Zero Energy Ready Home begins with solid building science specified by ENERGY STAR for Homes, and then adds advanced technologies and practices from DOE’s world-class research program, Building America.

ULTRA EFFICIENT
Compared to a typical home, an ultra efficient Zero Energy Ready Home is inexpensive to own. In fact, every DOE Zero Energy Ready Home is so energy efficient, a small solar electric system can easily offset most, or all, of your annual energy consumption. We call this Zero Net-Energy Ready.

Lasts better.

QUALITY BUILT
Advanced construction practices and technologies are specified for every DOE Zero Energy Ready Home. Then they are enforced by independent verifiers with detailed checklists and prescribed diagnostics.

DURABILITY
The advanced levels of energy savings, comfort, health, durability, quality and future performance in every DOE Zero Energy Ready Home provide value that will stand the test of time, and will meet and exceed forthcoming code requirements.

LEARN MORE AT: buildings.energy.gov/zero
Speaking In Our Home Buyers’ Language: How We Sell Zero Energy Ready

The Power of An Amazing Industry Partnership
## How We Sell Zero Energy

### The Power of Zero Energy Expenses

\[ \text{PITI} + E = \text{Principal, Interest, Taxes, Insurance} + \text{Energy} \]

<table>
<thead>
<tr>
<th>Home Type</th>
<th>Purchase Price</th>
<th>Energy Costs</th>
<th>Total Monthly Payments</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Resale Home HERS 130</td>
<td>$402,000</td>
<td>$260</td>
<td>$2,272</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Insurance $75</td>
<td></td>
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<td>Taxes $305</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>Principal and Interest* $1,632</td>
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</tr>
<tr>
<td>Typical Stapleton Home HERS 70</td>
<td>$419,000</td>
<td>$150</td>
<td>$2,277</td>
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<tr>
<td></td>
<td></td>
<td>Insurance $75</td>
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<td></td>
<td></td>
<td>Taxes $354</td>
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<tr>
<td></td>
<td></td>
<td>Principal and Interest* $1,698</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Town Z.E.N. Home HERS 0</td>
<td>$454,900</td>
<td>$400</td>
<td>$2,273</td>
<td>You can pay $50,000 more for a Z.E.N. home, and still have the same monthly payments.</td>
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<tr>
<td></td>
<td></td>
<td>Insurance $75</td>
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<tr>
<td></td>
<td></td>
<td>Taxes $354</td>
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<tr>
<td></td>
<td></td>
<td>Principal and Interest* $1,844</td>
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</tr>
</tbody>
</table>

*Based on 30 year, 4.5% interest rate fixed first mortgage for 80% loan.

Zero Energy homes are defined as homes that achieve a HERS index of 10 index points or lower. The energy used in a home can vary greatly depending on the behavior of its occupants. Solar customers and Z.E.N. Home owners are not completely exempt from the charges to all electric customers, even when you produce more electricity than you use.

Price, features, specifications, availability and other terms and conditions are subject to change without notice.
Take-Aways

Don’t go it alone
• Industry partnerships
• Third party programs

Designing it: Evolution vs. Clean Slate
• We learned in an incremental way, starting with Energy Star
• Then we had the confidence to start from scratch

Building it: Build your team first
• Innovation is hard. You need a team that wants it.

Selling it
• Third-party credibility is essential