

# DOE Zero Energy Ready Home

U.S. DEPARTMENT OF  
**ENERGY** | Energy Efficiency &  
Renewable Energy



## Zero Energy Ready Homes Leading Builders

**Geoff Ferrell**  
Chief Technology Officer  
Mandalay Homes



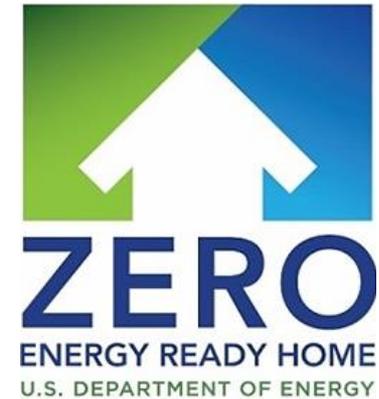
## Leading Builders Series



- Founded in 1999 by Dave Everson - CEO
- Building single family homes throughout Arizona
- Build exclusively Zero Energy Ready Homes since 2012.
- Average HERS without renewables of 47.
- Market our ZERH at cost neutral price point to Energy Star 3.0 builders in our market.
- Industry leading air tightness benchmarks. 0.67 ACH50 average.
- Standardizing on a grid optimized renewables and energy storage platform standard.

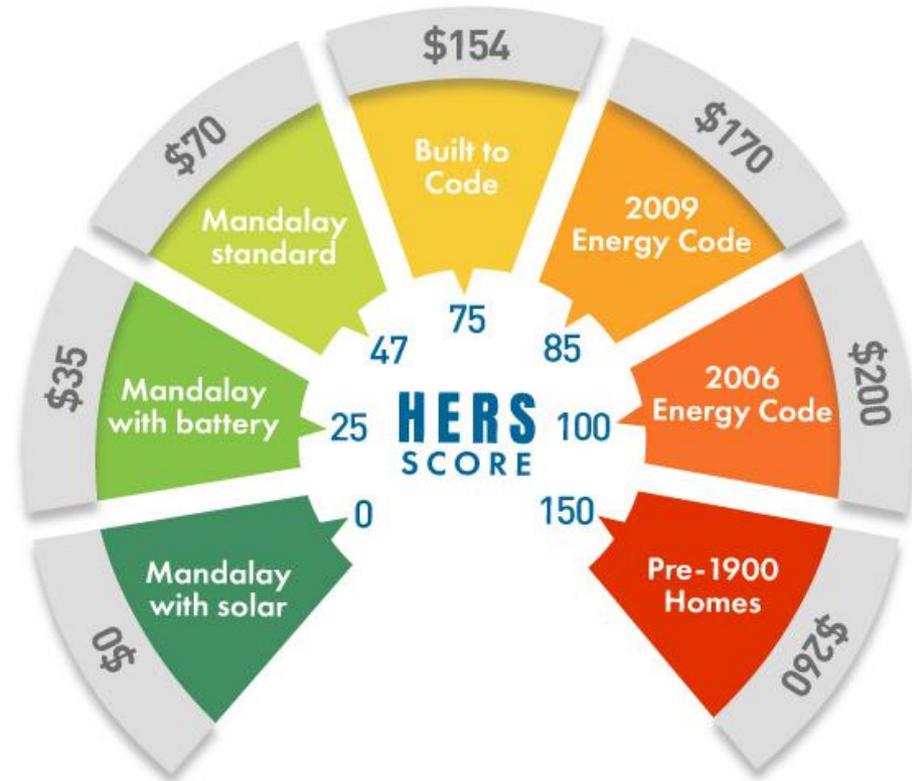


## Ratings Used at Mandalay



# Marketing Zero Energy Ready Homes

- Create emotional connection to our homes through different strategies
- Demonstrate a real value proposition for our homes over the competition
- Appeal to as wide a spectrum of potential buyers as we can through targeted messaging.
- Use of relatable info graphics both Internal and 3<sup>rd</sup> party sourced to validate value.

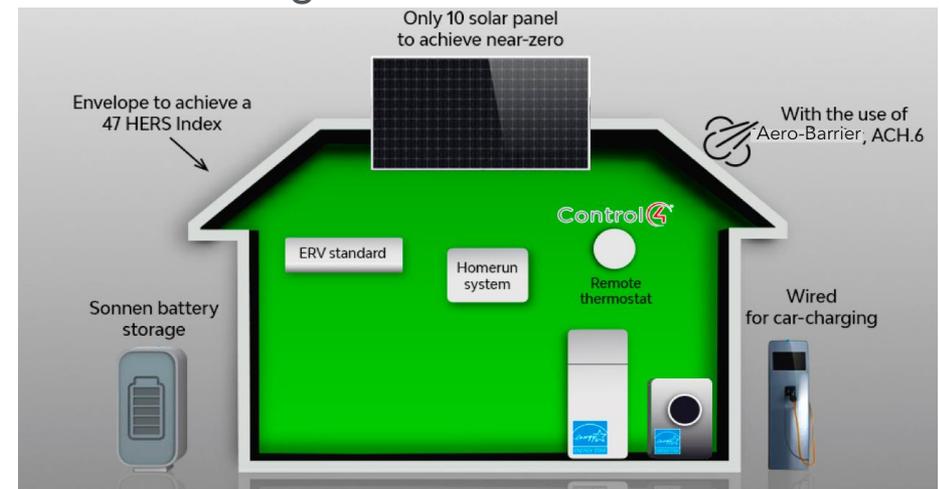


## Challenges

- Price and availability of exotic or non-standard components to boost efficiency.
- Reliance on HERS as a selling and marketing tool.
- Trade base skill when applying new technologies or practices.
- Translating complex to simple for the buying public.
- Bringing higher efficiency, healthier, more durable homes to market in a production environment.

## Successes

- Key partnerships with innovative vendors and manufactures to drive adoption.
- New products that work better, but that are easy to adapt to the field.
- Tools from DOE and like to help builders validate their products.
- Consumer knowledge growth and an increasing demand for a better home.



# Technical Strategies



# Technical Strategies



- For our climate zone, full depth insulation in the wall cavity does not provide proportionate thermal value, so we negotiated to purchase spray foam insulation by the inch.
- At 3.5" of thickness we maximize performance and value as opposed to 5.5".
- This savings gets traded into a higher performing HVAC

- We adopted a shear product with weatherization layer built into it.
- Nearly \$3500 in labor and materials got traded into a better performing weatherization layer and continuous exterior insulation.

- 3 years ago, ERV cost over \$1500
- Today, the cost is \$495.
- This \$1000 in savings gets traded into new technologies such as sealing and windows.

# For More Information

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## Website

[www.MandalayHomes.com](http://www.MandalayHomes.com)

## Facebook

[www.facebook.com/mandalaycommunities/](http://www.facebook.com/mandalaycommunities/)

## Twitter

[@Mandalay\\_Homes](https://twitter.com/Mandalay_Homes)

# Thank You!



## Resources:

[www.buildings.energy.gov/zero/](http://www.buildings.energy.gov/zero/)

- Take the Tour of Zero
- Become a Partner
- Review ZERH Specs
- Access Tech Training Webinars
- Use the Marketing Toolkit

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