

DOE Zero Energy Ready Home Sixth Leading Builder Roundtable Summary

November 2018



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DOE Zero Energy Ready Home

Sixth Leading Builder Roundtable Summary

Meeting Date: October 15th, 2018
Meeting Location: San Diego, California

Prepared for

DOE Zero Energy Ready Home Program

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1 Roundtable Meeting Information

Participants	
ZERH Builders: <ul style="list-style-type: none"> • Jeremiah Butler, Brightleaf Homes • Chris Spannagel, C&B Custom Homes • Anthony Maschmedt, Dwell Development • Tadashi Shiga, Dwell Development • Don Ferrier, Ferrier Custom Homes • Michael Sollitto, Habitat for Humanity South Sarasota County • Jay Epstein, Health E Community Enterprises of VA • Morgan Epstein, Health E Community Enterprises of VA • Kiere DeGrandchamp, High Performance Homes • Steve Weise, Leading Force • Geoff Ferrell, Mandalay Homes • John Sarter, Off the Grid Design • Sue McFadden, Revive Properties • Dave Phillips, Philgreen Construction • Steve Kamrass, Sareth Builders • Craig Johnson, TC Legend Homes • Thad Johnson, TC Legend Homes • Bill Rectanus, Thrive Home Builders • Rick Wertheim, United Way of Long Island 	DOE/ZERH Program Staff: <ul style="list-style-type: none"> • Sam Rashkin, DOE • Marissa Morgan, Energetics • Sam Bowles, Newport Partners • Jamie Lyons, Newport Partners • Joe Nebbia, Newport Partners
	Meeting Host: Structural Insulated Panel Association (SIPA), Jack Armstrong
	Observers: <ul style="list-style-type: none"> • Michael Baechler, PNNL • Theresa Gilbride, PNNL • Pat Huelman, University of MN • Eric Werling, DOE

Purpose

The nation is on the cusp of a dramatic movement to zero energy ready homes. This includes doubling of constructed homes, statewide codes, large developments, and a growing amount of commitment to the DOE Zero Energy Ready Home program. Much of this progress can be attributed to a small contingent of our nation’s leading builders who are demonstrating the technical, cost, and design feasibility for this level of excellence. At this meeting, the winners of the DOE Housing Innovation Awards will gather and share lessons-learned and key challenges moving forward.

Desired Outcomes

- List of challenges/lessons learned currently experienced by ZERH builders
- List of key solutions by leaders constructing Zero Energy Ready Homes
- List of what DOE can do to better support ZERH builders

Roundtable Agenda

Time	What	Who/How
10:00 - 10:30 am	Agenda/Introductions	Sam Rashkin Around the Room
10:30 - 11:00am	Review of DOE FY 2018 Actions	James Lyons
11:00 am – 12:00 pm	ZERH Lessons Learned: Challenges	Cards/Sorting/Ranking
12:00 - 1:00 pm	Lunch	SIPA Host
1:00 - 1:30 pm	ZERH Business Context: Five Housing Crises	Sam Rashkin
1:30 – 2:30 pm	ZERH: Key Solutions to Challenges	Cards/Sorting/Ranking
2:30 – 3:00 pm	What Actions Recommended for DOE	Cards/Sorting/Ranking



Figure 1: Leading Builder Roundtable Meeting Participants

2 Zero Energy Ready Home Lessons Learned: Challenges

Participants were asked at the beginning of the meeting to identify “Lessons Learned” regarding key challenges building Zero Energy Ready Homes. The intent was to uncover direct builder partner feedback regarding what has been most important to their success. Some of the key technical challenges identified include problems finding low load HVAC equipment that meets program requirements, choosing effective ventilation strategies, and identifying the most effective new insulation and air sealing techniques. Looking to technology integration, builders noted that smart home technology still needs a standard control platform that can manage all devices and systems throughout the home.

Outreach, education, and training were identified as challenges critical to continued ZERH growth. This requires communicating value with clear and simple messaging to diverse audiences including trades, real estate sales professionals, homeowners, and the general public. On the construction side, builders identified the lack of knowledgeable trades and cited experiences where they push back where work is outside their “norm.” More training and education directed towards the trades will help address this resistance, improve construction efficiency, and help to increase the number of competent trade professionals available. On the sales side, education is needed on how to communicate the true value of Zero Energy Ready Homes to consumers. One related challenge noted here is that homeowners expect perfection when builders market a “Zero” home to a higher standard. Once in the home, homeowner education is critical to help optimize their experience and effectiveness conveying the value of their homes to others.

The table on the next page summarizes the detailed comments from this discussion.



Figure 2: 2018 Leading Builder Roundtable Meeting

Category	ZERH Lessons Learned: Challenges
Technology Gaps	<ul style="list-style-type: none"> • HVAC <ul style="list-style-type: none"> – Technical challenges with new equipment and low loads – Available HVAC equipment does not meet requirements – Hard getting heating and cooling systems to work properly • Envelope <ul style="list-style-type: none"> – Challenge constructing air-tight party walls • HVAC & Ratings <ul style="list-style-type: none"> – Mechanical QI efficiency benefit not yet recognized in HERS • Mechanical Ventilation <ul style="list-style-type: none"> – Ventilation not maintained with exhaust only bathroom fans where buyers turn them off without automatic control – Challenge identifying effective ventilation strategies – Need cost-effective balanced ventilation strategy – Need effective integration/control of heating, cooling, ventilation, and dehumidification • The use of closed cell foam under slab is expensive • Need effective air sealing techniques to meet standards
Smart Home and Technology Integration	<ul style="list-style-type: none"> • Technology integration with a reliable standard platform • Smart home management systems that assure homes work as needed/designed • Comprehensive smart controls (all systems integration) is needed
Marketing and Outreach	<ul style="list-style-type: none"> • Simple and clear marketing language is vital • Homeowners expect perfection when market to higher standard
Training and Education	<ul style="list-style-type: none"> • The importance of homeowner education regarding maintenance • Early education of realtors/brokers/public key to market success • Quickly, clearly and convincingly showing homebuyer prospects long range cost savings vs. traditional building methods • Need to educate building officials with zero knowledge on ZERH
Trade Contractors	<ul style="list-style-type: none"> • Bringing subs into ZERH development team is critical before starting construction (e.g., Group kickoff meeting!) • HVAC contractor not willing to take responsibility for load calculations because it's outside of their norm. • Trade growth needs to start early • Initial learning curve tends to slow subs down when asking them to improve their installation. This results in a cost increase. • Challenges dealing with unskilled labor • Working with HERS rater in the ZERH design phase to understand cost of bad vs. good performance that is affordable and efficient

3 Zero Energy Ready Home: Key Solutions to Challenges

After identifying challenges, builders were asked to brainstorm solutions to those challenges. These solutions in some cases represent what a builder is currently doing, but more often are new ideas. Many in the room indicated that collaboration amongst builders, manufacturers, and other partners would be beneficial in overcoming technology challenges. In particular, sharing their experiences with different products and systems, and what they may have found to work and/or not work, would be of great value.

There was a lot of discussion around integrating new innovations and smart home technology into homes. As homes and the systems in them become increasingly automated, the ability to offer “Smart Home Ready” solutions is increasingly important. Developing, or improving on, currently existing smart home platforms so that all systems and devices can talk together seamlessly is a task builders, designers, manufacturers, and the major players in the home automation market (Amazon, Apple, etc.) need to work on together.

Marketing solutions are needed that focus on communicating value, but keep the message simple. It’s not easy to explain why the home is better if it’s something the buyer cannot see or understand. Builders also expressed desire to have more direct marketing for homebuyers come from manufacturers. For instance, simple labels all over the home that state “[manufacturer name] is proud to be a part of this Zero Energy Ready Home,” might synergistically help to raise consumer awareness and value for the label. All stakeholder groups working together can play a vital role marketing and raising awareness of the program.

The table on the next page summarizes the detailed comments from this discussion.



Figure 3: 2018 Leading Builder Roundtable Meeting

Category	ZERH Key Solutions to Challenges
Technology Gaps	<ul style="list-style-type: none"> • Pooled database of technology gaps • Integrating disruptive forces • Take cues from and partner with tech leaders for other related and integrated services
Smart Home and Technology Integration	<ul style="list-style-type: none"> • Work with innovation partners on shared controls protocol for HVAC, plumbing, lighting, and energy monitoring • Pre-wire homes for smart home management system that comes online in the future – “Smart Home Ready” • Single control language needs to be implemented • Plug and play controls • Elect utility and municipal boards that support net metering and renewable energy
Marketing and Outreach	<ul style="list-style-type: none"> • Don’t broad stroke buzz words • Marketing resource with expert images from DOE database, drop-in messaging, and testimonials • Work to develop manufacturer-direct marketing to home buyers • Manufacturer label “proud to be part of ZERH”
Training and Education	<ul style="list-style-type: none"> • Training for craftsmen and trades getting them back in school • Incentivize trade careers • Showcase how we build the home, “behind the walls” • Web-based training certificates by trades/modules <ul style="list-style-type: none"> – Trade partners/principals need to do a better job training employees, have them attend conferences and seminars, and create buy-in with new techniques and products
Trade Contractors	<ul style="list-style-type: none"> • Designing with the trades in mind and integrate them in the process • HVAC System integration solutions by climate zone • More automation • Digitize the building experience • Quality of construction • Control building cost

4 Recommended DOE Actions

The last part of the meeting asked builders to suggest the most important actions DOE can do to improve their experience with the program and effectively address key challenges. The DOE ZERH team uses this input to drive decisions for program implementation next year. Most of the actions discussed related directly to the “Key Challenges” and “Key Solutions” discussed earlier...as they should. Increasing training and education for trades and real estate agents through certification programs was suggested by several builders. Many also discussed the desire for more collaboration and to set up a platform where they could pool their voices and share resources and experiences regarding technical issues and solutions.

With regards to marketing, the focus should be on developing consumer education campaign to increase brand awareness. This includes both small and big efforts from developing more sharable content for partners to distribute via social media and leveraging the ZERH logo in new and creative outreach opportunities, to getting ZERH on Television and into mainstream media. Ultimately, partners would like the ZERH logo to be as recognizable as ENERGY STAR. Included in marketing and outreach were recommendations that ZERH engage related programs including integration with more state Qualified Action Plans as well as local and utility energy efficiency programs.

Lastly, innovation in building products and systems isn't going to slow down and there is a real need to have the builders, architects and designers work closely with home technology innovators. Whether it's renewable energy, storage, or smart home technologies, having both groups understand each other's viewpoints, challenges and opportunities will help to make new technologies better and seamlessly integrate into homes of the future.

The table on the next page summarizes the detailed comments from this discussion.

Category	Recommended DOE Actions
Technology Gaps	<ul style="list-style-type: none"> • Hold summit with potential disruptors • Personally engage with the HVAC companies to help understand the gravity of the disconnect between HRV, HVAC, Filtration and IAQ monitoring and control systems • Help develop advanced technology designs for “mass customization” of homes and commercial buildings that integrate: <ul style="list-style-type: none"> – High performance rapid deployment homes – ZNE energy and storage systems – Electric share mobility services • Pool all voices to share and drive collaborative innovation • LinkedIn for technical topics and trade issues • Use LinkedIN to pick a topic for deeper dive discussions
Smart Home and Technology Integration	<ul style="list-style-type: none"> • Explore micro-grid ready homes and buildings • Recognize that net metering campaign is important • Support net metering
Marketing and Outreach	<ul style="list-style-type: none"> • Develop media content, mass media recognition • Initiatives to increase consumer awareness • Marketing that gets customers to ask builders about ZERH • Make ZERH as familiar as ENERGY STAR • Mainstream marketing • Clothes, logo stickers, job site signs • Beef up Facebook with shareable content • Continue making Zero brand and recognition higher • Leverage innovation partners to sponsor consumer marketing campaign, builder certification, trades training and research • Continue to increase public awareness • Marketing materials that utilize DOE database on past winners • Testimonials, videos, and marketing pieces • Provided a script for sales agents to help explain ZERH value • Continue to get the ZERH message to the general public • Get on TV, ZERH building comp • Instagram “Stories with Sam”, more social media • Improved marketing, web content, technological improvements • Introduce ZERH to state and municipal building departments • Get Colorado and other states to include ZERH in State QAPs • Keep fighting the good fight
Training and Education	<ul style="list-style-type: none"> • Partner with EEBA on builder certification program for net zero pros • More real estate training classes (e.g., Ft. Collins) • Develop real estate professional training • More or updated info on IAQ • Green appraisal training
Trade Contractors	<ul style="list-style-type: none"> • Online virtual supervisor training • Work with national partner to develop training certification programs • Leverage innovation partners to sponsor trades training

Appendix A:

DOE Actions in Response to 5th Leading Builder Roundtable Feedback

Category	Builder Feedback on DOE Actions	DOE Progress
Marketing and Social Media	<ul style="list-style-type: none"> • Develop IAP/IAQ Marketing Content on benefits • Develop website template or content for partners to leverage • Shareable social media content directly from DOE ZERH • Market specific marketing campaigns (Different for Southeast compared to New England, etc.) • Continuously building marketing and brand awareness • “Home of the Month” feature on website and/or social media • ZERH plaques for each home to create “Legacy of Homes” • Include ZERH on Home Improvement Shows (HGTV) 	<ul style="list-style-type: none"> • Creation of Homeowner Resources • DOE ZERH Homeowner Guide • Testimonials • Populate Tour of Zero to ~200 homes • Dozens of trainings and webinars reaching 1000s of industry stakeholders • Inclusion of DOE ZERH within 4 state QAPs for LIHTC programs • 2x increase in ZERH certifications • Expert Marketing Meeting to kick-off consumer facing marketing campaign • Zero Energy Ready Home Builders Facebook Group
Program Growth and Development	<ul style="list-style-type: none"> • Lose the “Ready”, go all in on Zero • Simplify the process for more builders • Improved website 	<ul style="list-style-type: none"> • Contributed to RMI report on ZNE & ZERH Economics • Integration with RESNET registry for ZERH certifications • No major spec changes • Exceptions for QA-Certified HVAC Contractor bulletin & policy for “hardship” waivers • Ongoing effort to consistently improve website
Education and Training	<ul style="list-style-type: none"> • Education for younger generation • Connect trades with suppliers and manufacturers • Educate trade professionals on difference between code home and Zero Energy Ready Home • Education for realtors and real estate industry • Connect more with architects 	<ul style="list-style-type: none"> • Continued emphasis on ZERH within the DOE Race to Zero (now integrated with Solar Decathlon) • “Why ZERH for Trades” training • Leveraging Innovation Partners’ marketing expertise • Power messages • Strategies for collaborative outreach • Plan for collaborative campaign • Planned webinars in conjunction with National Association of Realtors

Appendix B:

DOE Actions in Response to Fourth Leading Builder Roundtable Feedback

Category	Builder Feedback on DOE Actions	DOE Progress
Networking & Social Media	Develop way for group to stay in touch on quarterly basis	<p>DOE Zero Energy Ready Home staff has made a concentrated effort to increase our social media footprint as much as possible. ZERH staff developed and submitted an application for a Zero Energy Ready Home Facebook page. ZERH staff has worked to coordinate with the DOE communications department on scheduling social media posts via the DOE social media channels on a regular basis.</p> <p>Zero Energy Ready Home staff created a members only Facebook page for ZERH builder partners to join and share information as well as receive information from ZERH staff. We consistently encourage our builder partners to make use of social media and to use hashtags such as #zeroenergyreadyhomes and #2017HIA to allow us to find and share content easily. Similarly, ZERH staff created a LinkedIn page for members to join and share information.</p>
	Share more material on social media from ZERH.	
	Leverage other social media sites (YouTube, Twitter, Snapchat) and incorporate builder social media posts on DOE social media sites	
	Create DOE ZERH Facebook Page	
	Set up a private ZERH builder member website	
	Increase brand awareness through social media	
	Host professional level information sharing (i.e. details on ventilation and IAQ)- more detailed than general audience	
	Create a map of all of the partners for them to refer leads to other active ZERH builders	
ZERH builders to host other builders to look at their products and materials.		
Marketing Tools	Keep the message for ZERH simple to generate a buzz and let people ask the questions. Get it on social media.	<p>ZERH staff is constantly working on new marketing materials and messaging to effectively communicate the value of ZERH homes to consumers. We have focused much of our attention on consumer education and awareness. The ZERH website now contains a separate section designed specifically for consumers with only the information that is most important to them and allowing them to skip all the technical jargon. Should they want more information, they can seek it throughout the website.</p> <p>Additionally, the ZERH staff is currently working on a script and layout of Consumer Video 2.0. The goal is to have our message connect emotionally with consumers and getting them to understand the true value of a Zero Energy Ready Home.</p>
	New ad campaign for all consumers not just those pre-disposed to Zero Energy Ready Homes	
	Have an easy interface with experience metrics- ability to add testimonials throughout the year, not just during Housing Innovation Awards	ZERH staff stays in constant communication with builder partners and is frequently asking for marketing samples from builders including testimonials (video and print), campaigns, etc.
	Keep raising awareness of Zero Energy Ready Homes	Whenever possible, ZERH staff promotes the ZERH brand, logo, and marketing materials at outreach events, and digital and print marketing materials.
	Better community visibility: <ul style="list-style-type: none"> Lawn sign (e.g., compare ENERGYSTAR home to ZERH) T-Shirt design Truck signage 	Several different file types have been added to the Marketing Tool-kit allowing our partners to access the logo several different ways and to include the logo on any type of print, digital, signage or other marketing materials.
Help us build a world-class website to tell our story; develop modules that builders can use.	ZERH staff consistently shares examples of builder partners who are effectively using the marketing materials available to all partners on their website. We encourage the use of our marketing materials in a variety of ways, not just simply print and distribute.	

Appendix B: DOE Actions in Response to Fourth Leading Builder Roundtable Feedback

Category	Builder Feedback on DOE Actions	DOE Progress
Program Support	Waivers for HVAC QA Certified Contractors	DOE is working with ENERGYSTAR on this issue and considering options for removing the requirement.
	Utility bill tracking- write model language for the homeowner to pre-sign	
	Secure tax credits for Zero Energy Ready Homes	DOE cannot lobby Congress on tax policy
	Publish the Green Appraiser List	The Appraisal Institute already publishes this
	Let architects create “Designed for Zero Energy Ready Home” plans.	
Technical Support & Education	Educate third-party raters	
	Conduct a transparent analysis comparing different design methods. <ul style="list-style-type: none"> Understand the nuances of how different software develops energy models 	RESNET recently completed and presented a comparative analysis of how 3 different RESENET-accredited software packages rate the same prototype homes.
	HVAC Contractor Training & Credentialing <ul style="list-style-type: none"> Don’t just drop these, replace it with something 	
	Operation & Maintenance Training <ul style="list-style-type: none"> Habitat for Humanity in North Carolina does a two-year maintenance program with HVAC contractor as part of the home’s sale 	
	Consumer education on how to live in a Zero Energy Ready Home	ZERH staff and Pacific Northwest National Labs (PNNL) has developed a customizable homeowner manual to educate homeowners on what’s in their home and how the home is supposed to work as a complete system.
	Find solutions for ventilation loads	
Future Meetings	Integrate discussion with lunch to make it more productive	
	Groups to break out by construction methodologies (Stick-built, SIPs, ICFs; etc.)	
	Go back to a full day or start at 10:00	
	One project to work on as a group. Submit ideas beforehand	
	Highlight a few builders to present their story	
	Visit one or more local DOE Zero Energy Ready Homes	
	Get together regionally with Zero Energy Ready Home builders- quarterly	

Appendix C:

DOE Actions in Response to Third Leading Builder Roundtable Feedback

Category	Builder Feedback on DOE Actions	DOE Progress
Marketing Tools	Allow DOE Zero Energy Ready Home homeowner brochure to be more customizable	DOE Zero Energy Ready Home staff has focused on messaging going into the consumer video, which will in turn drive changes to the graphics and language in the homeowner manual. Once graphics are finalized we will be able to make individual graphics available to builders and add customizable features for the homeowner manual.
	Provide builders with info-graphics as individual images from homeowner brochure	
	Provide logos/graphics for DOE Zero Energy Ready Home like those in National Green Building Standard Silent Sales Person	
	Develop homeowner tips for living in a DOE Zero Energy Ready Home – able to be exported into builder materials	
	DOE Zero Energy Ready Home training for homeowners	The homeowner manual provides general tips for living in a DOE Zero Energy Ready Home. For specific tips staff is considering ways to work this into the final manual, including using the customizable pages suggested at the builder roundtable.
	Customizable page behind each page of homeowner manual	
	YouTube videos about how it feels to live in a DOE Zero Energy Ready Home	DOE Zero Energy Ready Home staff added a bonus category in the Housing Innovation Awards, encouraging builders to submit video or audio testimonials as part of their application. These testimonials are then incorporated into the Tour of Zero Profile for the home.
	Consumer Marketing tools – YouTube videos, web portal/homeowner section	Staff is developing a consumer website for ZERH, which, in combination with the consumer video, and Tour of Zero, represents a major first step toward engaging consumers. DOE has completed version 1 of the DOE Zero Energy Ready Home Consumer Video
DOE to build the brand/blow the horn – market, brand, promote, support DOE Zero Energy Ready Homes	DOE Zero Energy Ready Home launched the Tour of Zero and is actively recruiting industry association and manufacturer partners to promote the tour and the DOE Zero Energy Ready Home brand.	
Networking	Create a DOE Zero Energy Ready Home LinkedIn	DOE Zero Energy Ready Home LinkedIn site was launched and discussion topics were posted intermittently throughout the year.
DOE Communications	Make Program Email update subject lines specific	DOE Zero Energy Ready Home staff focused the newsletter approach to include descriptive titles on focused topics. The newsletters are shorter and sent more often.
	Make program newsletters more single-focused	
	More concise email newsletters with descriptive subjects so reader can “triage” inbox review	
	Send information more often	In addition to shorter, more frequent newsletters, DOE Zero Energy Ready Home expanded information sharing by promoting videos, articles, and other media about partners throughout the year as it becomes available through blast e-mail notifications.
	Send links to information. This often results in action. Otherwise, builder is too busy with day to day info	Whenever possible, we have added links to materials in newsletters to allow the requested actionable content.

Appendix C: DOE Actions in Response to Third Leading Builder Roundtable Feedback, continued

Category	Builder Feedback on DOE Actions	DOE Progress
Utility Bills and other Data.	Builder participant offered to share utility bill access letter template through DOE	DOE staff continues to consider ways to streamline utility bill data sharing as appropriate for the program
	Identify method – DOE or other – to aggregate and publish utility bill data	DOE continues to consider ways of doing this.
Appraisals	Push Congress to pass the SAVE Act	DOE Zero Energy Ready Home staff is not allowed to lobby Congress for specific policy changes.

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Appendix D:

DOE Actions in Response to Second Leading Builder Roundtable Feedback

Category	Builder Feedback on DOE Actions	DOE Progress
Technologies and Standards	Establish a means to share or disseminate information on efficient products/technologies	Made lessons-learned a key topic at third Builder Round-Table. New LinkedIn group can also address this topic.
	Create or share industry guidance on acceptable temperature and relative humidity range for consumers	Worked with specific builders who had questions on relative humidity and temperature stratification across floors. Also hosted multiple technical webinars on topics including high performance HVAC design, and ventilation design.
Mortgage Leadership	Work with banks to establish preferred terms in mortgages for ZERHs aligned with lower risk	DOE Zero Energy Ready Home launched the Lender Partnership that can be used with all homes certified compliant with Zero Energy Ready Home, ENERGY STAR, and PHIUS Passive House. For certified homes, lender partners are committed to providing a 'Green Appraiser' from the Appraisal Institute list and passing along a completed 'Green Appraisal Addendum Form' provided by the builder to the 'Green Appraiser'.
	Facilitate use of Green Appraisal Addendum Form with sales contract	
	Enhance DOE cooperation with HUD and White House on appraisal and lending processes	DOE continues to look for opportunities.
Education and Outreach	Increase communication on sales and other training opportunities	Frequent Newsletters on Training Opportunities Held multiple webinars and classroom trainings on sales process
	Create a Housing Industry blog or online forum for ZERH builders	Launched DOE Zero Energy Ready Home LinkedIn Group
	Develop education for Residential Plan Designers <ul style="list-style-type: none"> Create Building Science certification for architects/designers Leverage Passive House Consultant training 	DOE has developed Guidelines for Building Science Education that establish core competency requirements for over 30 workforce classifications including architects/designers. This resource will be further developed in 2016. DOE also continues to work with PHIUS to include ZERH in their program requirements and training.
Branding and Messaging	Write a press release on the round table, listing attendees	Round-table is an internal process to benefit our Zero Energy Ready Home partners and not well-suited for a press release. However, we do publically promote builder recognition such as Housing Innovation Awards. Roundtable participants can also reference this summary report to highlight their participation.
	Create messaging content for builders, including more performance metrics	Created Drop-in Messaging resource – pre-approved quotes applicable to DOE ZERH builders and homes that can be used by partners for outreach and marketing
	Increase DOE messaging and awareness to consumers	Created and launched to DOE Zero Energy Ready Home Tour of Zero – a consumer-facing portal which allows access to pictures, floor plans, homeowner testimonials and other details of built and certified DOE Zero Energy Ready Homes
	Create education materials for consumers on how to live in ZER Homes	Created the DOE Zero Energy Ready Home Homeowner Manual which explains the core values of the program in a consumer-friendly way, while offering tips and explanations of why their home is different and how to interact with it.
Improvements for Next Roundtable	Dedicate the next meeting to solve predetermined issues from polling group of builders	DOE is considering using this approach for the next Roundtable. The topics for the Third Roundtable were driven by issues and questions third Round Table focused on identifying partners issues that could be addressed in later meetings.
	Plan more time for discussion and less on presentations	Formatted the Third Leading Builder Roundtable completely around facilitated discussion.

Appendix E: DOE Actions in Response to First Production Builder Round Table Feedback

Category	Builder Feedback on DOE Actions	DOE Progress
Independent Verification	Develop certification that will be trusted more than builder marketing efforts	DOE will continue leveraging a consistent message from sponsors and HERS raters that DOE and the label represent a trusted voice of authority.
	Conduct independent cost and performance estimates on DOE Challenge Homes	DOE has developed Zero Energy Ready Home Cost and Savings performance estimates and posted them on the ZERH website. DOE will continue developing aggregated savings impacts and conversions to other health and economic impacts.
	Promote the DOE Challenge Home label to provide comparisons that builders could not make on their own	Based on savings estimates noted above, DOE will develop comparisons of ZERH performance to ENERGY STAR Certified Homes v3 and existing homes that builders can reference.
	Work with modeling industry to more accurately capture innovation performance	DOE will continue to work through Building America to improve the accuracy of modeling tools.
Mortgage Leadership	Promote banks providing preferential products for DOE Challenge Homes	DOE is coordinating with the Environmental Protection Agency (EPA) on a joint financing partnership with lenders who agree to promote the Green Appraisal process including selection of appraisers from the Certified Green Appraiser list and ensure hand-off of HERS rater completed Green Appraisal Form to the appraiser.
	Promote the use of Green Addendum for appraisals	
	Conduct outreach to real estate professionals to gain buy-in	DOE will seek a presence at real estate industry events and start a sales training program in the summer of 2014 (see below).
	Support the SAVE Act	DOE cannot lobby on behalf of any legislation but will continue to offer any technical assistance as needed.
Education and Outreach	Deliver sales training	The sales training curriculum is complete, and program delivery will start the summer of 2014.
	Develop a real estate professional training module	A 45-minute presentation will be developed for real estate conferences; staff will look for the best venues.
	Publish case studies and testimonials – a virtual Parade of Homes	Templates are being developed, and website design is in progress. The key to launch is getting critical mass of ZERHs certified and profiled.
	Conduct media outreach	Media outreach is a continuous effort for DOE. Staff will provide a list of all media placements on the ZERH website.
Branding and Messaging	Make U.S. Department of Energy more prominent in name/logo	Per guidance from builders, DOE staff immediately secured a name change from DOE Challenge Home to the DOE Zero Energy Ready Home with a revised logo. Once the brand consultant has provided the final graphics, there was a formal announcement and a post on the website.
	Include "Zero Energy" or "Zero Energy Ready" as part of the program name	See note above.
	Solidify the Zero Energy Ready definition	DOE will continue participating in the Net-Zero Energy coalition to secure a definition with all stakeholders.
	Expand DOE Challenge Homes to gut retrofit projects	This is already possible now that the EPA has made accommodations for ENERGY STAR Certified Homes, v3. That said, gut rehabs will always be a heavier lift.
Building America	Help create opportunities to work on research projects with the world-class experts from Building America	DOE staff has informed Building America management that teams should consider top ZERH builders for potential projects. Builders should notify Sam Rashkin if they are not interested so he can remove them from the list before it is submitted.

buildingamerica.gov

buildings.energy.gov/zero

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