Preparing the Next Generation of High Performance Home Builders Professionals

Nathan Kahre – Thrive Home Builders
Leo Jansen – Energy Efficient Homes Midwest
Rachel Romero – National Renewable Energy Laboratory
What is the state of the residential construction industry?

- **Need for Affordability Market Wide**
- **Increased Demand for High Performance Homes**
- **Increasingly Stringent Energy Codes**
- **Lack of Skilled Labor**
- **Aging Workforce**
Common misconceptions about residential construction

Greedy production builder

“Dumb plumber” syndrome

Too educated for construction
Where are Millennials and Gen X working?

Jobs that require technical skills and/or a college degree:
- Statistician
- Financial Analyst
- Physician Assistant
- Web developers

Jobs that require no degree and include on the job training:
- Bartender
- Firefighter
- Emergency Services

Jobs where the highest percentage of workers are millennials based on BLS data.
Why High Performance Construction and Younger Generations are a Perfect Fit.

<table>
<thead>
<tr>
<th>High Performance Construction</th>
<th>Younger Generations</th>
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<tbody>
<tr>
<td>• Appealing Mission &amp; Vision</td>
<td>• Technology Savvy</td>
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<td>• Challenging &amp; Varying Work</td>
<td>• Will Challenge the</td>
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<td>• Opportunity for Growth</td>
<td>Status Quo</td>
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<td>• Passionate About</td>
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<td>Effecting Change</td>
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How do we bring more young people into construction?

Showcase the mission – Build a better home for everyone

Disprove the misconceptions – The reality and diversity of the industry is much better than portrayed on TV.

Layout the long term opportunity – Not a handout but show the path

Forget the stereotypes – Most of them are wrong
What is EEBA NextGen working on?

Bringing students to training and networking events

Partnering with like minded organizations and events

EEBA Blog Series
What could the future of EEBA Next Gen?

- Developing materials to help builders recruit & retain young talent
- Getting EEBA Curriculum into High Schools & Colleges
- EEBA Sponsored Internship Program
- Next Gen Meet Up
Want to get involved? Give me a call. Shoot me an email.

Nathan Kahre
nkahre@thrivehomebuilders.com
615-957-1289
Cultivating a New Generation of Leadership in the HERS Industry
What is the ELC?

- Formed in 2016, the RESNET Emerging Leadership Council (ELC) has the mission to help recruit, mentor, and motivate the future leaders of RESNET and the home building performance industry.
- Open to any member of RESNET or organization with MOU with RESNET (i.e. HPIP, EEBA, etc.), regardless of age or experience level.
Who we are

• Currently have 17 active volunteer members and 2 RESNET staff liaisons.
• Membership experience ranges from 2 years to 30+ years in building performance industry, with an average of 7 years, from many different fields.

• HERS Rating Companies
• HERS Providers
• HERS Quality Assurance
• High Performance Builders
• Insulation Manufacturers
• Research and Consulting
• Diagnostic Equipment Sales
• Professional Organizations
In keeping with our charter’s mission to focus on recruit, mentor, and motivate the next generation of HERS Raters, as well as taking ideas from amongst our membership to work on, we have agreed to focus on the following priorities:

- Recruitment of New Raters
- Retention of Existing Raters
- ELC Membership Opportunities
- The ELC has organized into 7 Task Groups that independently work on these priorities and report back monthly to the main group.
In 2019, the ELC unanimously voted to approve a new Task Group Policy, which requires involvement in at least one Task Group to be considered for membership.

**Recruitment of New Raters**
- New Rater / Recruitment Content Task Group

**Retention of Existing Raters**
- Existing Rater / Retention Content Task Group
- ELC Fellows Program Task Group
- ELC Video Competition Task Group

**ELC Membership Opportunities**
- Standards Working Group
- ELC Volunteer Event Task Group
- RESNET Conference Sessions Task Group
• **Task Group Focus:**
  • Focus on recruitment efforts of younger individuals still in school, helping them see the earnings potential available in different markets and to identify potential avenues for employment or self employment available to someone with a Building Science education.
  • Focus on efforts that appeal to broader demographics like women and minorities, not just white males.

• **Task Group Initiatives:**
  • HERS Recruitment Toolkit
  • Large Rating Company Questionnaire
  • Personal Story Marketing Snapshots
  • Advertise EEBA Complimentary Tickets
  • Trade School Database
Task Group Focus:
- Focus on those individuals or companies that are new to the Rating Industry, creating content to help them succeed.

Task Group Initiatives:
- Conduct Providership Survey to Identify Challenges in Rater Retention
- Develop lists of costs to become HERS Rater (non-biased towards any manufacturer or training program)
Task Group oversees Fellows Program, which is designed to provide up to three up-and-coming HERS industry professionals with fewer than five years of experience complimentary registration and lodging to the 2020 RESNET Building Performance Conference.

Participants in contest must be members of RESNET, and complete an online application no later than October 11th, 2019.

• Task Group oversees the ELC Video Competition, which is aiming to create crowdsourced video content that helps breakdown / explain RESNET standards.
• Submitted videos will be judged by a panel of non-biased subject matter experts.
• The winning video for each topic will be linked directly to the RESNET Standards Website for use by the entire industry.
• Participants may be any interested party in the building industry, and must submit video submissions no later than October 31st, 2019.
• https://www.resnet.us/raters/emerging-leadership-council-eln/videos/competition/
• **Task Group Focus:**
  - Conducting ongoing review of pending standard amendments out for public comments and submitting collective replies.
  - Collaborating to identify issues within standards and work to create solutions within existing standards process.

• **Task Group Initiatives:**
  - Identify and suggest ideas to RESNET Standards Management Board / Staff on ways to better explain / market standards to industry.
Task Group oversees the ELC Volunteer Event.

Goal is to partner with local organization in city where RESNET Conference is held to create a volunteer opportunity for RESNET Members.

FOR MORE INFO

Visit our site on the RESNET Professional Site for more information.

https://www.resnet.us/raters/emerging-leadership-council-elc/
THANKS!

Questions:
leojansen@eehmidwest.com
Preparing the Next Generation of High Performance Builders: Solar Decathlon Design Challenge

Rachel Romero, PE, Design Challenge Manager at the National Renewable Energy Laboratory (NREL)
What is the Solar Decathlon?

The U.S. Department of Energy Solar Decathlon® is a collegiate competition, comprising 10 contests, that challenges student teams to design and build highly efficient and innovative buildings powered by renewable energy.
One Competition, Two Challenges

Solar Decathlon Competition

Design Challenge
- Commercial
  - Elementary School
  - Office Building
  - Mixed-Use Multifamily
  - Attached Housing
  - Suburban Single-Family
  - Urban Single-Family

Build Challenge
- Residential
  - Local Build
  - National Showcase

10 Contests
Solar Decathlon Design Challenge Mission

Engage students in building science

Advance building science curriculum in universities

Inspire the next generation of buildings workforce
Design Challenge

- Complete a design project with integrated building science
- Meet zero energy ready building standards
- Present the design to a contest panel of industry expert jurors
10 Contest Categories

Energy Performance  Engineering  Financial Feasibility & Affordability  Resilience  Architecture

Operations  Market Potential  Comfort & Environmental Quality  Innovation  Presentation

Teams must do well across all contests to win!
Design Challenge Impact

• Since 2014...
  o 3,100+ students inspired
  o 218 finalist teams from 88 collegiate institutions
  o More than 50% growth in participation
  o Dozens of industry partners engaged as sponsors, mentors, and expert jurors
  o Building science curriculum enhancement disseminated cost-effectively
  o Six building types with addition of commercial buildings in 2018 (elementary school) and 2019 (office building)
Stars of the Challenge

Locations of Finalist Collegiate Institutions
2014–2019
Stars of the Challenge
# Industry Partners

## Partners
- Builders
- Architects
- City Officials
- Contractors
- Developers
- Energy Auditors
- Engineers
- Tradespeople
- Collegiate Alumni

## Areas of Assistance
- Site Development
- Codes
- Construction
- Building Materials
- Mechanical Systems
- Lighting Systems
- Financing
- Sales
- Appliances
- Interior Furnishings
Required Building Science Training

• Students must watch building science training videos
  o On-demand videos for students
  o Access available upon receipt of updated team roster
  o Completion certificate provided

  OR

• Faculty must attest to equivalent coursework at a collegiate institution at the time of the Project Progress Report
On-Demand Building Science Training

- Intro
- Enclosure Fundamentals
- Rain Control
- Air Flow Control
- Heat Flow Control
- Vapor and Condensation Control
- Roofs
- Ventilation and Air Pressure Management
- Windows
- Durable, Healthy, Efficient Housing
- *Unique Solutions
- *Multifamily/Multiunit Housing
- *Elementary School
- *Commercial Buildings
- *REM/Rate™ Training for the Solar Decathlon
- *Buildings and the Grid

* Indicates optional lessons without quizzes
Design Partners Pilot

• New in 2020!
• Design Partners work directly with one of our student teams to develop a zero energy ready design for a new or existing building in their portfolio
• 20 to 30 hours of consultation in person or remotely to provide design requirements and feedback
• Design Partners Pilot [Website]
Grand Winner: Virginia Tech, Attached Housing
Hands-On Experience

“It is a great competition that forces students to explore the depths of a project that they would not have otherwise explored.”

—2019 faculty advisor
Presenting to the Experts

“Witnessing the creativity of the students was my favorite part. It was inspiring to see the next generation of architects, engineers, and designers not only thinking about zero energy ideas, but absorbing them and finding creative ways to expand upon them.”

—2019 juror
Join Us for the Solar Decathlon Design Challenge!

- Recruit a team
- Partner with a local team
- Be a Design Partner
- Share on social media
- Nominate a Juror
- Share sponsor contact
- Hire an alumni
#SolarDecathlon

Share the excitement!

Facebook
Twitter
YouTube
Instagram
Flickr
Questions?

SolarDecathlon@nrel.gov

THANK YOU!
Now your turn
What has been your experience in hiring early career/entry level positions in your organization?

What are the skill sets you are not seeing in your new hires? What are the skills you expect?

What certifications would you expect a new hire to have?

Where are you looking for new hires? What sources are you using?
Students in the Room

What were your initial impressions of the residential construction industry? What about now?

What do you want from an employer?