

Nathan Kahre –
Thrive Home
Builders

Leo Jansen – Energy
Efficient Homes
Midwest

Rachel Romero –
National Renewable
Energy Laboratory

Preparing the Next Generation of High Performance Home ~~Builders~~ Professionals

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.

High Performance Construction

- Appealing Mission & Vision
- Challenging & Varying Work
- Opportunity for Growth

Younger Generations

- Technology Savvy
- Will Challenge the Status Quo
- Passionate About Effecting Change

How do we bring more young people into construction?



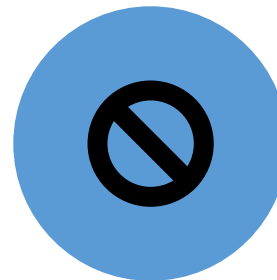
Showcase the mission – Build a better home for everyone



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

RESNET[®]

**Emerging
Leadership Council**

Cultivating a New Generation of Leadership in the HERS



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 | • Insulation Manufacturers |
| • HERS Providers | • Research and Consulting |
| • HERS Quality Assurance | • Diagnostic Equipment Sales |
| • High Performance Builders | • Professional Organizations |





What is our focus?

- 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.



Task Group Organization

- 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



New Rater / Recruitment Content 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 boarder 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



Existing Rater / Retention Content Task Group

- **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)



ELC Fellows Program Task Group

- 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.
- <https://www.resnet.us/conference/scottsdale-2020/fellows/resnet-2020-building-performance-conference-emerging-leader-fellowship-application/>



ELC Video Competition Task Group

- 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-elc/videocompetition/>



Standards Working Group

- **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.



ELC Volunteer Event Task Group

- 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.
- Will be held weekend before 2020 RESNET Conference, Feb 21st - Feb 23rd, 2020.



FOR MORE INFO

Visit our site on the [RESNET Professional Site](https://www.resnet.us/raters/emerging-leadership-council-elc/) for more information.



<https://www.resnet.us/raters/emerging-leadership-council-elc/>



THANKS!

Questions:

leojansen@eehmidwest.com



U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON

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)

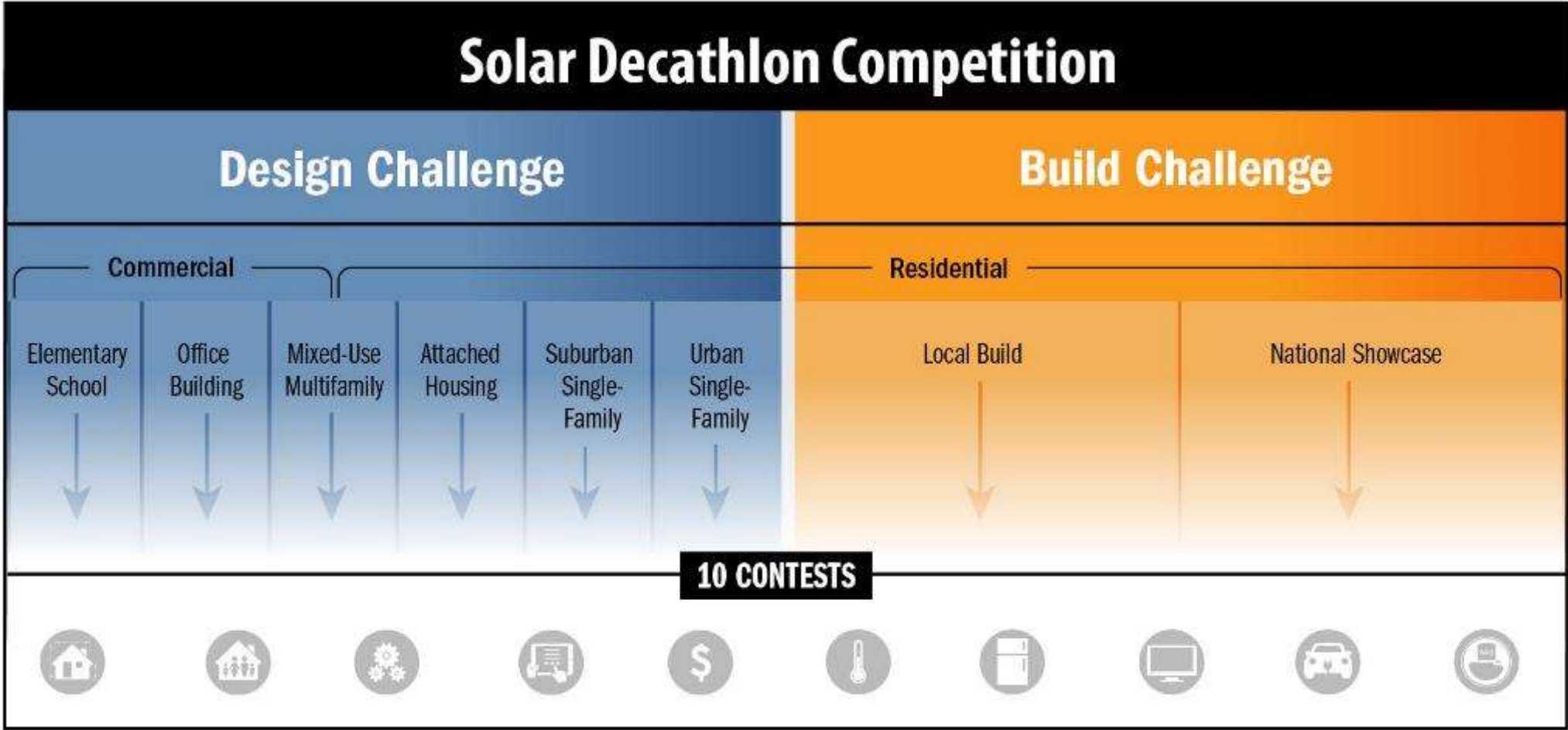
October 2, 2019

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



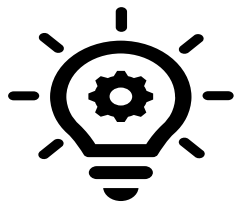
Solar Decathlon Design Challenge Mission



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...
 - 3,100+ students inspired
 - 218 finalist teams from 88 collegiate institutions
 - More than 50% growth in participation
 - Dozens of industry partners engaged as sponsors, mentors, and expert jurors
 - Building science curriculum enhancement disseminated cost-effectively
 - 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
 - On-demand videos for students
 - Access available upon receipt of updated team roster
 - 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
 - *Designing for Zero Energy: Using Modeling to Make Decisions
 - *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: VirginiaTech, Attached Housing

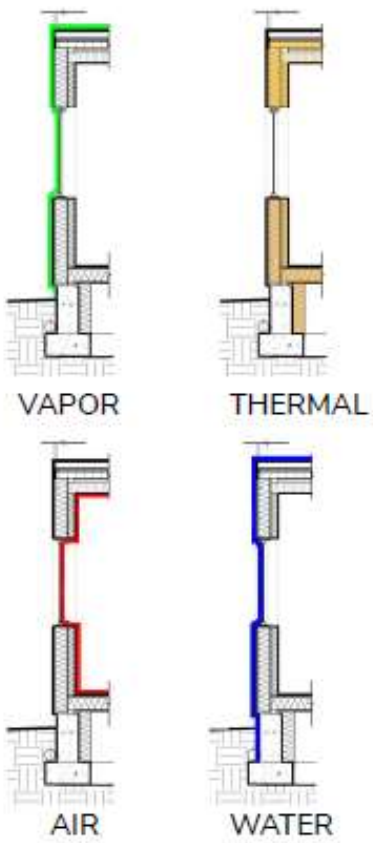
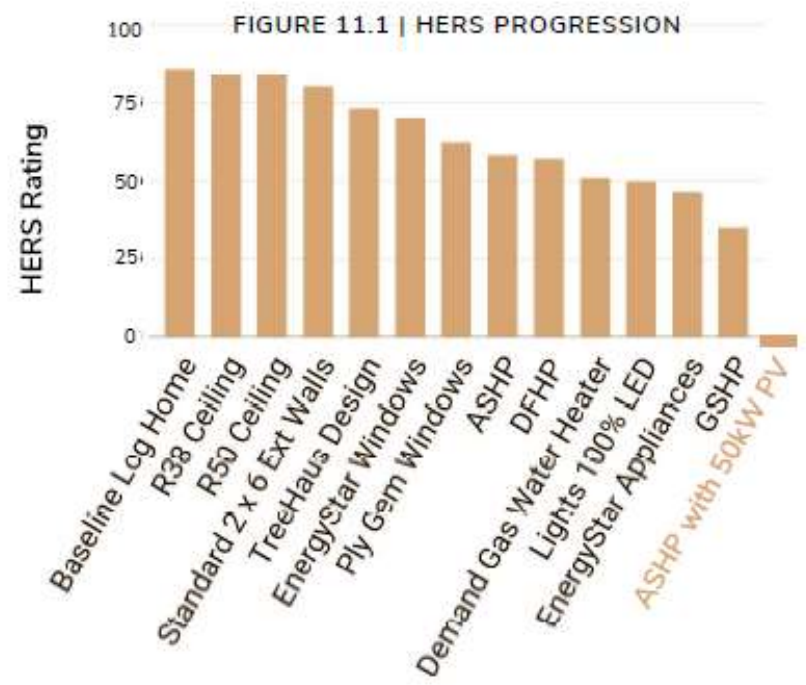


FIGURE 16.3 | ENVELOPE LAYERS



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

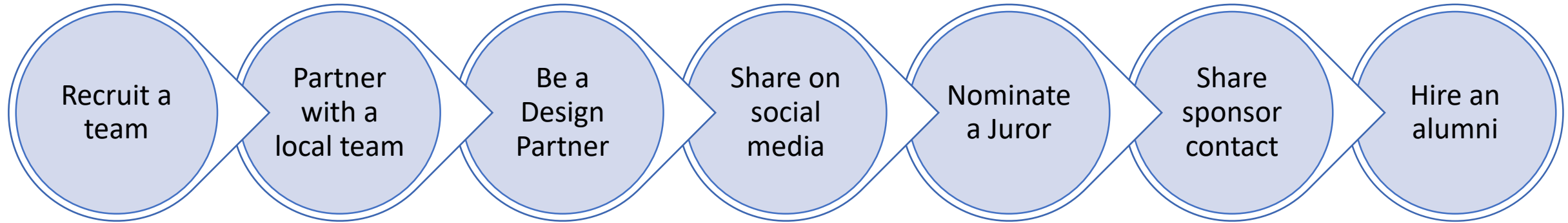
Presenting to the Experts



“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!



#SolarDecathlon

Share the excitement!

[Facebook](#)

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[Instagram](#)

[Flickr](#)



Questions?

SolarDecathlon@nrel.gov

THANK YOU!

www.solardecathlon.gov



Now your turn

Builders in the Room

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?