



# PRESENTATION

## D8 SUBMISSION

UNIVERSITY OF WYOMING (UWYO) US  
DEPARTMENT OF ENERGY SOLAR DECATHLON  
BUILD CHALLENGE 2023

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### I. Communication and Marketing Strategy

After several previous student-contractor collaborations, our team once again used this competition to further build the relationship with Cory, the general contractor and owner of Timshel Construction. Cory shares our team’s commitment to using the latest green technology while remaining practical and accessible for the average Lander homeowner.



*Figure 1: A collaboration between University of Wyoming faculty and Timshel Construction that was completed in 2021. The Wind River home does not feature an exposed ventilation system as shown; however, the hydronic heating and cooling systems and industrial, mountain modern aesthetic used in this project became incorporated into the Wind River home.*

Our audience, “the average Lander homeowner,” was defined by our interactions with community leaders and members throughout the process. Two members of our team, our contractor and a student, are Lander natives and were one of our initial links to the community. Our engagement grew as the team made frequent site and town visits, reached out to local vendors for specifications, and connected with tribal leaders, City of Lander officials, and the Homeowner’s Association to extend our invitation for a dinner with the team and open up new channels of communication. Our team asked direct questions to

these leaders, and to community members at an information session hosted by the Lander Climate Action Network (LCAN), to gauge the average Lander homeowner's lifestyle, priorities, and living preferences.

The Lander community is open to new ideas in design, engineering, and construction, but doesn't necessarily embrace the idea of a sustainable lifestyle without additional non-environmental benefits. Incorporating those ideas, such as installing an Arctic heat pump or using passive solar design, into a new standard for building and applying them in existing homes requires a wider understanding of how they function and what tangible benefits those ideas can offer. This competition offered us a unique challenge to provide for a curious yet cautious clientele by reaching out to convey the possibilities: contemporary aesthetics, financial energy savings, high air quality, occupant comfort, and minimal impact on the environment. Outside of the information session and direct communications with community leaders, we partnered with the University of Wyoming's social media team to amplify our message and have had a combined 553 post interactions in the last 28 days. Our graphics were created through a multiple internal ideation process, which strategically highlighted the house's form and its regional characteristics through the logo. The mountain, the sun and the wind river house have all been encapsulated through our design.

Every energy efficient home built between University of Wyoming students and Timshel Construction has relied on local vendors. Having people who can build the systems that are designed is just as important as the design itself. Through collaborative projects, our team has built relationships with the vendors in the Lander area, as well as with new companies and businesses. This has led to all these vendors becoming involved in innovative technologies like hydronic heating and cooling, electric vehicle charging, and solar PV installation and generation. The incumbent industry was self-learned by the local trades industry in the Lander area. This speaks to their curiosity and drive to continue to learn about new technologies. The city of Lander also cares deeply about environmental initiatives and has formed the group LCAN. LCAN uses their influence on bill initiatives and educates residents on various aspects of sustainable living. Community leaders are dedicated to creating a city with this focus. As we approach the open house dates and a more completed home, we will be working with the community leaders and LCAN to promote this home as a showcase of technologies that can be implemented into all newly built homes and some that can be retrofitted.



*Figure 3: Pictured above is a public information session at the Wind River home on October 22, 2022.*

Other community leaders that are important to the Lander area are the Native American leaders on the Wind River Reservation. While our home is named after the nearby mountain range, Native Americans who live on the reservation have a deep connection to the land and community. Lander is a community that accepts and respects the Native Americans and their culture. On the Wind River Reservation there are 2 tribes, Eastern Shoshone, and Northern Arapahoe. Both tribal business councils, the High Plains American Indian Research Institute, and the university were extended an invitation to meet and have been in communication with our team.

While this house will be eventually be sold on the market to one owner, we view the Wind River home as an inspiration to the Lander community as a whole and have made an effort to distribute our message that creating an energy efficient home is a pragmatic decision.



## II. Execution

As a marketing team, it was important to present unified and cohesive materials to the public and do so when most relevant to the public, which created the logical split into two phases. Phase 1 focused on the outreach to vendors and material suppliers.

Phase 2 focused on the education and engagement of the public. In phase one, our team was writing letters and calling local and national companies for any building materials we needed. In some ways this influenced the products we used but also gained the attention of vendors and material suppliers. Among the local vendors, as we started to contact them, many would say that they have heard about our project, one benefit in building in a small town. Our next focus was creating a cohesive and attractive website (<https://www.uwvosolardecathlon.com>) and social media to share the larger milestones that occur during construction. We wanted to create these platforms and utilize them most when there was a tangible home and active construction. This helps the public visualize these activities and helps them follow along with the process after the bones are completed. Many popular new-build construction videos or blogs are during the middle and end of construction. Views and interactions are typically low for posts about the beginning phases of construction like framing and insulation. The public cares about construction innovations and the finishes of the home. This is why in the second phase of marketing, educating the public is the most important focus. In this second phase, we can also follow up on the promise to our vendors who sponsored us to give them credit for their work. At each phase and each introduction, our project story and message is retold.

Here's the timeline of the project from our website, where we have shared all the photographs of the building evolution:

**2021: Initial Designs & Site**

**2022: Final Design & Construction**

**2023: Construction & PV Installation**

## III. Community Outreach Activities

With our site being about four hours away from our university and mostly inaccessible during the winter because of dangerous snow conditions, in-person community outreach activities have been a challenge.

Due to these factors, every site visit has been meticulously pre-planned to execute a specific purpose. The first site visit our team took was before the home started construction and adjustments were still being made to our design. This visit was meant to acquaint our team with the town of Lander and the surrounding area. We went to a musical performance by a local artist and toured other net-zero homes that our contractor has built, including his own. Another site visit was done on a smaller scale, but a similar agenda after the end of the summer break to help our evolving team understand the project story and area. Each time the team visited, we ate at different restaurants and made a point to find activities in town to continuously experience the Lander community.

The day before the approval to proceed competition began, our presentation team presented for the Civil and Architectural Engineering and Construction Management Industry Advisory Board (CAECM IAB). This board consists of 15 elected professional members, 80% of which are alumni of the university and live across Wyoming and Colorado. They advise the department on the curriculum and ensure accuracy and updates within the industry. The board typically ends their meetings with a presentation of student projects. We presented for the board twice, the first being the day before the approval to proceed on the NREL (National Renewable Energy Laboratory) campus. The second was a mid-semester update in the fall of 2022. In between these presentations, elections were held and so several new professional members were briefed on the project and the technology within the home.

The next site visit was to familiarize new faculty advisors with the site and Michael Young from the organizer team with the project. During this site visit, our team also hosted LCAN. Approximately 40 people attended and quizzed us on various aspects of our home from the interior design to the mechanical and structural systems. Because our home was just framed at this point, we created handouts with the most essential information about our home and the innovations within it. This event was extremely successful because it gave us a



well-educated audience who cares about the details of the systems. LCA members and other people in the Lander community were intensely curious of the ability to retrofit systems to their own homes. Some were couples who were getting ready to build their own home and were trying to get ideas. After a quick introduction, we spent approximately two hours answering questions and meeting the members. From our team's view, this helped us understand the different target markets for advertising as well as the types of questions we would potentially be getting come the final tours. We found that the flyers (Figure 4) were especially helpful for those preparing to build their own home as well as ignite questions for those who felt overwhelmed.

The last site visit occurred in early February to introduce the project to our completely new Solar Decathlon team.

The team spent time touring the home, looking for places to update our as-built plans, and asking our contractor any questions about the design of the house or the construction of the house. The team visited the Lander History Museum and hiked in the Red Canyon, a critical inspiration for the interior design color palette. We were also able to tour the different net-zero homes that have been completed and ask homeowners about their experience living in a net-zero home.

The heavy snow in the winter has made this the last site visit for the team until the measured contest periods and has forced most of our engagement to be digital. However, our marketing strategy is to take advantage of every visit to the site when possible. During our measured contest periods, a journalist with the Cowboy State Daily will be there to help spread our story and our open house dates. The College of Engineering marketing specialist as well as the head of Internal Communications have been working with us through press releases for large milestones and announcements spread throughout the Alumni network and students across the university. Recently, we have also partnered with the University Social Media Strategist and Coordinator from Intuitional Marketing to continue to diffuse our message across the university's massive platform. We know that the best way to quickly spread information about our house is to work with the university and their networks as we strengthen the prominence of our own network. Our marketing strategy is and will continue to be in full force as we finish the competition.



Figure 4: The 2023 Solar Decathlon team and contractor, Cory (left)