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MONTANA HABITAT FOR HUMANITY BUILDS HIGH-PERFORMANCE HOMES FOR THE FUTURE

Mark Leland, Garrett Roberson, and Jason Gutzmer are three Montana builders working with their local Habitat for Humanity chapters who are leading the charge within the high-performance, affordable home-building space in the state. BetterBuiltNW had an opportunity to sit down with them and learn more about their unique building strategies.

HABITAT FOR HUMANITY OF HELENA: ENERGY EFFICIENCY FOR LONG-TERM AFFORDABILITY

Despite not being an official policy, high-performance home design has become the standard for Habitat for Humanity of Helena. According to Mark Leland, the organization's construction director, practices shifted naturally to align with home quality and affordability. "Spending more in the short term on efficient equipment saves homeowners in the long run."

In addition to choosing energy-efficient technologies like heat pump water heaters and ducted heat recovery ventilators (HRVs) to help homeowners manage utility costs, Leland opts for double-stud walls to increase the insulation in the walls of the home. He also installs ductless heat pumps as the primary heating and cooling source, along with high-efficiency electric resistance heating as a backup to ensure indoor comfort in extreme cold weather.

To Leland, the simpler the home design, the better. This allows him to focus more on the finer details that complement energy performance. "Not every above-code home needs to be a 'boutique project,'" he said. "Find out what strategies and methods you can easily replicate. Then do it."

Ductless heat pump outdoor unit at a Habitat for Humanity of Helena home.

HABITAT FOR HUMANITY OF HELENA

Above-code features:

- Double-studded walls with high-quality insulation
- Ductless heat pumps
- Heat pump water heaters
- Fully ducted HRV
- 100% LED lighting

HABITAT FOR HUMANITY OF FLATHEAD VALLEY: HIGH-PERFORMANCE HOMES BUILT TO LAST

Garrett Roberson, Habitat for Humanity of Flathead Valley's construction manager, wants to change how people perceive the homes his organization builds. "There's a stigma about what a Habitat house looks like," he said. That's what inspires Roberson to push the envelope and prioritize quality in all aspects of his homes, starting with strategy. "It's a matter of quality," he said. "Better practices result in a home that lasts longer."

From insulated concrete-form block foundations to rigid exterior insulation, Roberson's high standard for products results in homes that exceed energy code. "I take great care in selecting the right materials for the job," he said. "Making sure these homes won't cost a lot of money to operate."

To speed up construction and minimize waste, Roberson takes advantage of shop space at his local Habitat for Humanity ReStore for constructing advanced wall framing. Not only does this reduce the amount of time spent on site, but the conditioned shop space also allows projects to move forward when poor weather conditions would prevent progress otherwise. "The framing components fit together like blocks once we get them on the site," said Roberson. "This has been a game changer for us."

HABITAT FOR HUMANITY OF MISSOULA: GOING ABOVE CODE WITHOUT GOING OVER BUDGET

In his work with Habitat for Humanity of Missoula, Jason Gutzmer, of Beyond Building, looks for lessons from nature to solve the problems he encounters. "I'm sort of a design geek," he said. "I get excited about integrated systems and the symbiotic relationship between people, their homes, and the environment." Gutzmer steps outside of the status quo by replacing run-of-the-mill materials with more efficient alternatives, showing that strategies that sound expensive can be affordable.

In place of more traditional foam or fiberglass insulation, Gutzmer uses insulation made of recycled wood chips mixed with locally grown hemp and straw plant-fiber waste or commercial dense-pack cellulose insulation. Besides being eco-friendly, this type of insulation can achieve an R-value of nearly 4 per inch at a lower cost than other types of high-performance insulation.

Gutzmer has also incorporated high-efficiency energy recovery ventilation (ERV) and air-to-water heat pumps paired with hydronic radiant floor heating in his Habitat for Humanity of Missoula builds to further support overall energy performance. While some of his design choices aren't common, they serve a purpose. Gutzmer says it's well worth the effort to get partners and trades on board early when you're doing something new. "It's so important to communicate that high energy performance doesn't equate to more expense," he said.

Habitat for Humanity of Flathead Valley's pre-production area where volunteers construct wall framing.

HABITAT FOR HUMANITY OF FLATHEAD VALLEY

Above-code features:

- Double-studded walls with high-quality insulation
- Ductless heat pumps
- Heat pump water heaters
- Fully ducted HRV
- 100% LED lighting

Close up of insulation made of wood chips mixed with straw and hemp fiber.

HABITAT FOR HUMANITY OF MISSOULA

Above-code features:

- 2x6 walls with 2x2 strapping and dense-pack cellulose insulation
- Air-to-water heat pump for space heating, cooling, and domestic hot water
- ERV/HRV
- 100% LED lighting

THINK OUTSIDE THE BOX TO START BUILDING HIGHER-PERFORMING HOMES TODAY

The homes these builders produce for Habitat for Humanity are proof that comfort, efficiency, and affordability aren't mutually exclusive. "Efficiency is achievable," said Leland. "Knowledge, even just a little, can really inspire you and make your homes better."

Strategies that work for affordable housing projects are also applicable for market-rate housing. That's why Gutzmer encourages builders to bounce ideas off each other and come up with solutions to energy performance challenges. "Talk to other builders and establish solidarity. The more affordable, high-performance homes out there, the better," he said.

Need inspiration for your next project? Review BetterBuiltNW's resources, like articles on bringing ducts inside and factsheets on continuous insulation, to learn how you can boost home energy performance.

Keep an eye on BetterBuiltNW's event page for training opportunities in your area to grow your knowledge of above-code building strategies.