

Students Build Ecosmart ICF & SIPS House at Montana State University



Construction began in April 2010 on an energy efficient home at Montana State University in Bozeman, MT. The project is a collaboration between MSU graduates Bill Hoy, an architect in Washington, D.C., and Kitty Saylor, president and CEO of REHAU North America. REHAU is a German firm that deals with innovation and manufacturing of polymer-based products and systems. "We see this as a pilot project for many more to come," Kitty Saylor said, "We'd like to replicate the project with lessons learned."

The project, dubbed the REHAU MONTANA Ecosmart House, will specifically focus on sustainability, low energy usage and disability design. The residence will serve as a real-world learning and teaching tool for MSU students and as a source of valuable data for those in the construction industry looking for the best ways to meet the latest LEED, NAHB and IBEC certification standards. In its entirety, the three-year project includes research, design, and construction followed by an additional two-year period when the house will be monitored for system performance and research. A key objective of the research is to determine how the various building systems can

best be integrated to optimize energy consumption, comfort and life-cycle costing. Findings will be posted to the web as they become available.

The house will feature a number of sustainable building technologies, including:

- Insulating Concrete Forms
- Structural Insulated Panels
- Ground-Air Heat Exchange
- Vinyl Door and Window Frames
- Solar Thermal Energy for Hot Water
- Geothermal Ground Loop Heat Exchange

The Ecosmart House was designed and is being built with the help of 20-30 students from MSU. For example, mechanical engineering students have used computers to model air exchanges and the effectiveness of various building materials. Film students are also shooting a documentary of the construction of the house with a focus on the energy efficient techniques being used. ■



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