

Oregon BEST

Green Building Working Meeting – 2/17/09

Materials – Barrier Inventory

What are the key barriers to widespread commercial adoption of green building materials that could be addressed through University Research?

- Technology transfer from research to field. Better practitioners, contractors, specifiers, government agencies to work with, get comfortable with, use and specify new, sustainable, durable green materials. Appropriate testing of green building materials to ensure desired long term properties. Use of field trials is key
- Metrics for performance (actual) and reliability. Economics
- Cost
- Knowledge of availability. Training for installation/construction; actual long term impact and durability. Many firms are less likely to specify a new product on the market if they don't know its proven performance (that 10-year litigation window looms). So, any way to provide proof that a product performs as promised & understanding its impacts over time; creating guidelines for responsible industry – other than timber, mining, and other extraction and industry-based products. One area that was not discussed was the toxicity of some of these new technologies. Long term, these substitutes will only be of use if they do not compromise health. Recommend better integration of the Precautionary Principle (as it relates to nanos in particular).
- Costs; lack of understanding (developers/contractors) and experience
- Regulations and product test/approval
- Oregon seismic issues – engineering required for materials that are already used in other regions; Investor confidence – the money behind the buildings needs to have more tolerance for experimentation – lawsuit issues, etc.; Feedback loop – what has worked well – how to let others know; new building materials designed in standard sized units to be more easily interchanged – example solar panels – every manufacturer equipment is sized and shaped differently – can't build on each others.
- Educating the construction industry – better partnerships with unions and community colleges...the only way they will implement recommendations made by architects
- Material performance assessments in 'real' buildings – outside laboratory research; architectural application and integration of materials within the building

- Durability of green materials must be verified and assessed (in controlled lab environment); life cycle assessments that are unbiased (cradle to grave); focus on making currently used products greener (asphalt, concrete); construction processes for green materials needs to be developed
- Need baseline standards for what equates as “good and sustainable design”; define and utilize benign materials
- Testing platforms, Better ICA, certification
- Perceptions of higher cost, lower performance, lower durability
- Testing facilities – make known to industry (i.e. OSU could test the nanopaint material with our BEST funded new apparatus); certification of materials and testing procedures (how to?); plastics recycling – cooperation of state, local and industry
- Performance assessment and confidence for new materials meeting owner expectations for performance
- Overload of marginal product certification systems, resulting in skepticism; perceived cost delta; limited variety/selection; how can we make manufacturing energy efficient; waste heat from ‘heat/beat/treat’ cycle could provide power or hot water to a district or neighboring facility
- Better understanding of what products offer the best benefit for our climate, region, and energy mix, in regards to cost, benefit, sourcing and life cycle
- Truthful, trusting (3rd party) information on how a material really performs