

Oregon BEST

Green Building Working Meeting – 2/17/09

Building Integrated Energy Generation Technologies – Barrier Inventory

What are the key barriers to widespread adoption of building integrated energy generation technologies that could be addressed through University research?

- Productive Area. Cost
- Balancing carbon footprint with production of new technologies
- Technology efficiency is the key to some technologies (PV, wind, wave)
- Cost, cost, cost, cost, etc. Biofuels need co-products that are profitable
- Activated facades
- Living building basically are limited by solar input
- BIPV plug and play products are most important. Higher performance and affordable tin filters.
- Time and knowledge are two key characteristics of University research that are not typically present in the commercial realm. Increased efficiencies (more “bang for the buck”), knowledge of assembly /construction. Variety of product types and locations for installation of the processes for water and energy efficiencies demand the roof area. The opportunity to remove these systems from the roof to other parts of the building can make for a much more successful project
- Need more efficient solar panels practical non-solar RL options for buildings – available roof area vs. footprint
- Integrated elements for the residential market. Include solar coping glazings, onsite heat exchange. Research about separation of electrical systems in the home, separate plugs for low volume usage appliances such as phones, radios and such that could easily be used with a PU system leaving high load appliances wired to the grid. Use of LV lighting in structures allowing full light generation without conversion when connected to a PU array
- Cost reduction. Efficiency. Demonstrated performance. Electrical integration. Existing buildings
- Regional applicability (i.e. solar mapping). Economic modeling
- Cost effectiveness. Funding models disincentivize integration (3rd party financing). Many waste streams (potential resources) overlooked as inputs
- Costs and complexity focus needs to be on “low hanging fruit” envelope and/or conservation first, then renewable generation next. Educating builders on how to implement advanced integrated systems that work and are durable (warrantable)
- Lighting lab accessibility? Residential individual projects are too small to afford the cost of integrating building codes and are driven by those selling lowest-first-cost
- Cost effectiveness. Training for operations. Site limitations. Efficiency
- Creating clear understanding of structural implications, core influences, variables on products selection and integration into design

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