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VISION 2020

Seven Key Green Building Trends

The Hanley Wood Sustainability Council offers up seven business opportunities and needs in high-performance design and building.

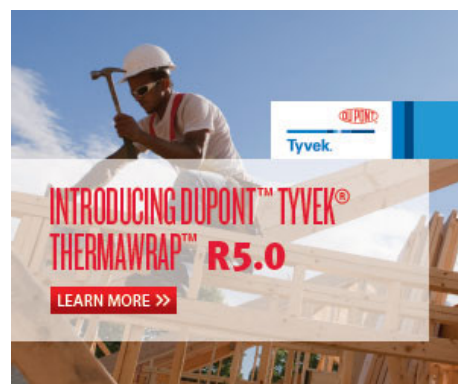
By Katie Weeks



Here are some things we have learned since we last convened the Hanley Wood Sustainability Council in February: Climate change is now being felt across the globe and has wide implications for the future, with stronger weather events happening more often and causing more damage. Sea levels are now anticipated to rise up to 10 feet or more as the West Antarctica ice sheet continues to melt. Our world is changing.

If we continue with business as usual, the energy demand from buildings will double, while carbon (CO2) emissions from buildings will increased by 50 to 150 percent by mid century. However, technological and knowledge advances provide opportunities to stabilize or reduce building energy use and emissions in the same time frame. Buildings can play a large role in addressing and mitigating future change

Last month we gathered our council members to talk about these and other sustainability-related issues, along with discussing key green building drivers, opportunities, and challenges between now and the year 2020. Among this cycle's developments that building professionals should keep in mind are:



1. **It's not just about 2030.** Architecture 2030 has long championed fossil fuel and carbon emission reductions by the year 2030, but now the organization has also charted out the pathway to 2080. In its *Roadmap 20/80*, the organization asserts that carbon emissions from fossil fuels need to peak by 2020 and reach zero by 2080 in order to avert a 2 C increase in climate. Continuing to advocate for the building sector to take the lead in emission reductions, the report outlines specific country targets for new buildings and renovations, and offers strategies for land use and infrastructure planning and development.
2. **Energy efficiency is being worked into homeownership calculations.** While there is still work to be done to have energy efficiency better worked into these costs, progress has been made over the past few months. The Federal Housing Administration (FHA) now requires new homes to meet the 2009 International Energy Conservation Code in order for potential homeowners to be eligible for a conventional FHA-insured mortgage. Last year, the FHA insured 700,000 mortgages, with about 10 percent of those going toward new home purchases. The efficiency required for these mortgages could help drive the market forward. On the multifamily side, in light of other market developments such as city-level benchmarking practices and legislation, it is reasonable to expect that tenant and occupant rent will begin to include and reflect a sense of total energy expenses and the values that go along with better efficiency, such as comfort and light.
3. **Interest in Walk UPs continues to rise.** Two years ago, Vision 2020 Sustainable Communities lead Christopher Leinberger championed walkable urban places (Walk UPs), and the economic and social benefits of compact, walkable urbanism continues to be researched and supported. Data from Leinberger's initial research on Washington, D.C., published in a report called the "Walk-Up Wake Up Call," has since been affirmed by studies on other cities such as Atlanta, Boston, and Detroit, with researchers finding a 112% rental premium for retail, residential, or commercial spaces in a walkable community.
4. **The reinvention of the suburbs continues.** Massive projects across the country are now examining what can be done with industrial and suburban office parks that average 500 to 1,000-plus acres each in size and have 20 to 25 percent vacancy rates. Recognizing that simply changing an area's zoning is not enough to revitalize these spaces, communities are trying to figure out what to do with these properties in a more sustainable way.
5. **Health is a hot button issue—and huge opportunity.** The intersection of design and health not only continues to be a growing interest in the building realm, but could be the next pathway in goal setting for green buildings. While in the past, people could be excited about green building by being the first or biggest green project of their type, or gaining the most third-party certification points available, many of these milestones have been reached and interest may lag. A focus on health may be a means of sustaining the passion for achieving high-performance green buildings.
6. **Resiliency is the other hot button issue—and huge opportunity.** Continued interest in resiliency—designing to both mitigate and adapt to changing environmental conditions and to prepare for and recover from catastrophic events—should inherently include discussions of energy efficiency and green building techniques. The most recent Intergovernmental Panel on Climate Change report confirms this, noting that "most mitigation options for buildings have considerable and diverse co-benefits in addition to energy cost savings." Several industry groups and professionals are taking advantage of these discussions to marry the two conversations, offering resiliency audits that are cross-bundled with energy and green building services and technologies. Can buildings be prepared to not only survive and recover from large-scale events such as Hurricane Sandy, but also address power service interruptions such as brownouts and occupant healthy and productivity? Can building professionals work with other service providers to increase resiliency and efficiency? For example, Verizon is looking to bundle fiber optic services that provide phone, internet, and TV service with capabilities to remotely gather energy performance data. Are there other partnerships that can be forged?
7. **Rethinking common materials can lead to new opportunities.** The interest in nature as a model and medium for design continues, and is providing opportunities to examine how small and creative mutations of existing materials can have profound implications. Following this train of thought, students are exploring how to take off-the-shelf materials and apply them in previously unimagined applications and how to take new materials and technologies to improve performance or process. Can a more effective curb cut or stormwater conveyance system have larger environmental, economic, and social repercussions?

What else is next? Stay tuned as Hanley Wood continues to explore the future of high-performance building between now and the year 2020 under the Vision 2020 program. This year's program will culminate in an exclusive Vision 2020 Sustainability Summit in conjunction with Greenbuild in New Orleans, and with a special fall edition of ECOBUILDING REVIEW.

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