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Opinion: Don't overestimate value of green building

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The Pacific Northwest, especially Portland and Seattle, has led the way on finding solutions to the global climate crisis. Over the last decade, I have watched as many initiatives started here in the Northwest and spread across the country, like the early implementation of USGBC's LEED program, innovative and restrictive zoning and energy codes, community based initiatives, and so on.

Just recently the National Trust for Historic Preservation announced it is placing its Preservation Green Lab in Seattle, well outside the beltway of Washington, D.C. With the lab's focus on research and innovative policy making, and its planned collaboration with the Clinton Global Climate Initiative, the Pew Center on Climate Change, and the Brookings and Athena institutes, Seattle will continue to be one of the leaders in formulating ideas and, hopefully, solutions to our growing crisis.

But are we on the correct path? Have we succumbed to "green wash?" Can we make a difference? My answer is it's a mixed bag.

We were a rapid adapter of the LEED system, and even included it in our land use codes before other cities, but is this the best approach for success in the future?

One recent speaker at the Greenbuild conference was quoted as saying that in 20 years our country will replace more than 30 percent of its building stock with greener, more energy-efficient buildings, and inferred that we were saving the planet through this process.

That sounds like a noble goal, but is it really a sensible approach? Should we focus our efforts solely on new buildings?

Wouldn't it make more sense to look at the issue more holistically, and consider the amount of the embodied energy in buildings we would waste by removing and replacing them?

Wouldn't it be even better to fix components of homes like windows and doors, rather than focus on replacing them with products that might be more energy efficient from a superficial perspective, but fail to consider the true cost of creating that product and its full life cycle? To me, that is "green washing."

For example, let's say that we as a community decided to tear down the King County Courthouse, a building with more than 500,000 square feet of space, and replace it with a LEED platinum building. This appears to be a good thing on the surface, but our perspective would be flawed. We all assume the energy saved moving from the older building to a newer building would be substantial. But we'd be wrong.

According to a recent study from England, it would actually take between 35 to 50 years in energy savings from a LEED building to equal the loss of embodied energy residing in the average older building. And did you know that buildings built before 1920 have lower energy costs as a whole than buildings built from 1920 through 2000 based upon a study by the U.S. Energy Information Agency?

So what is embodied energy? Let's take the courthouse and break it down. The amount of energy embodied in the courthouse is about 800 billion BTUs. That's the equivalent of about 6.5 million gallons of oil. If the building were to be demolished, all of that embodied energy would be wasted.

What's more, demolishing the courthouse would create about 40,000 tons of debris. That's enough to fill more than 250 railroad boxcars, a train nearly 2.5 miles long, headed for a landfill that's almost full already.

Finally, building a new 500,000-square-foot building on the site would release about as much carbon into the atmosphere as driving a car 30 million miles or 1,200 times around the world. These facts should make us think.

I'm not saying we should abandon our LEED efforts, but we should recognize that they play a very small part in the overall solution to our crisis. Our codes should start focusing on existing structures, and find ways to assist home and building owners in increasing their energy efficiency.

We don't need the strictest energy codes, we need the smartest and most creative. In Seattle, does it really make sense when rehabbing an older building to be forced to tear out and replace the older windows? The answer is no.

Let's also boil it down to pure economics. Dollar for dollar, rehabilitation creates more jobs than new construction. Several studies and an economic input-output model developed by Carnegie Mellon University demonstrate that preservation activities create more jobs than new construction. For example, one study found that \$1 million invested in rehabbing an existing building creates 9 to 13 more jobs than the same \$1 million invested in new construction. Why? Quite simply, rehabilitation activities are more labor-intensive than new construction — they require more time and fewer materials. This has implications for the conversation about sustainable development as well: An economy that is more labor-intensive and less materials-intensive is a greener economy.

According to The Pew Center on Climate Change, 43 percent of America's carbon emissions derive from the operation of buildings and this doesn't include the carbon that is generated by extracting, manufacturing and transporting building materials to create them. If nearly half of the carbon we send into the atmosphere comes from building operations, it's clear that any solution to climate change must include being wiser about how we design and use our existing built environment, as well as our new buildings.

While we in the Pacific Northwest should be proud that we started down this path before others, and continue to lead our country in many global climate change endeavors, let's reflect on exactly where we're leading. Sustainability begins with preservation!

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