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When committing yourself to sustainability, start with a phone call to an architect

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There has been much discussion about "green" and "sustainable" architecture - so much, in fact, that I fear acres of forest have been lost to printing stories about the subject, and tons of fossil fuels consumed driving the servers that produce electronic versions of these stories.

We sometimes misapply what sustainable means - using the word as a proxy for "renewable."

I prefer to think of it as "do-able."And "durable."

And by that standard, there is less sustainable design and construction going on than meets the eye.

Consider the green roof, for example. Yes, it's green (especially in season) and might score some LEED points, but is it sustainable? What happens when all the costly extras that go into such an installation begins developing problems.

Will the work be maintained - i.e., sustained? Or just quietly neglected?

I'll spare you my prediction, and urge my readers to apply the do-able/durable standard toward any project that aims to put a focus on sustainable green architecture.

And that means efforts that the market will support.

Despite the advances on the bleeding edge of environmentally-sensitive design, these measures are not actually sustainable. They are experimental, expensive, and unproven in terms of service life.

The expense makes them not do-able for most of us, and the jury is out on durability. In other words, it's an open question whether these measures are actually sustainable.

So the most important places to focus right now are the same as they were years - even decades - ago.

Highly efficient heating (and where necessary cooling) systems that consume fuel with the lowest carbon footprint is the first place to look. A socially responsible aspect of this will also consider the environmental impact of extraction methods though there aren't many good ones.

Thermal density, principally cladding, insulation and energy-efficient fenestration, is the key to keeping all that heated (or cooled) air inside the building envelope.

Here the materials used are part of the calculation. A compressed wood product, man-made materials, or high-wear composites of recycled material have different profiles in terms of maintenance, which consumes energy, and durability.

Thus a surface with a higher carbon impact when new, may, over a 30 year span, prove to be the more sustainable - and green - choice when other factors are considered.

Perhaps the most environmentally efficient technology - when it comes to existing facilities serving the same purpose - is to renovate, rather than tear down and rebuild. No matter how energy efficient the design, the carbon impact of teardown and replacement will never be recovered.

Here is where a good architect and a knowledgeable construction firm can upgrade a facility inside and out, with maximum benefits in terms of sustainability, low consumption of new materials, extremely high rate of materials reuse, maximum visual update, and almost certainly the most affordable solution. It is sustainable at every point.

There is an area of the world from which we can learn a lot, and that is western Europe.

Living standards are identical to ours, yet through a combination of engineering, efficiency, and innovation, they consume roughly half the per-capita energy of the U.S.

You might find that a more expensive European product will prove more sustainable than a lower cost product more readily available here. One can only wonder why we have not yet seen the washing machines with super high-speed spin, which results in a load of wash that needs only 15 minutes in the dryer (or an hour in the sun).

And here is a word of caution to all of us: we need to be alert to the Jevons paradox.

This proposition, formulated in the mid-1800s by British economist William Jevons, theorizes that increases in energy efficiency or supply will result in increased energy consumption, not less.

To cite recent examples, as more carbon fuels have come online since the 1970s, and our technologies have become more efficient, we did not store those efficiencies. Instead, we produced bigger refrigerators, bigger cars, more highways, and massively bigger houses.

Instead of consuming less carbon energy, we are consuming more of it - and at higher rates.

It took millions of years to store carbon energy in the earth's crust. It has taken a mere few centuries to release vast amounts of it back to the atmosphere.

Architects are at the forefront of sustainable design - both the 'do-able' kind of sustainability, as well as the technically advanced kind.

When committing yourself to sustainability of either kind, you simply can't do better than starting with a phone call to an architect.

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