



Building Green

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What to look for in a green building

■ *Critical consumers should ask questions and judge for themselves whether a building meets their standards.*

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The American economy is all about consumption.

Striving for sustainability in the green building sphere has brought that into sharp focus, as we try to address the use of natural resources, the waste, pollution and inefficiencies inherent in the construction industry as a result of our lifestyle and expectations. It has become a civic responsibility to be a critical consumer.

We are becoming accustomed to influencing the manufacturers and suppliers of our products with our dollars.

If we don't want to pay high gas prices, we buy fuel-efficient cars, ride bikes or take public transportation. If we don't want high fructose corn syrup in our food, we don't buy products

that use it. If enough of us follow suit, product offerings change

Green buildings are no different. Ten years ago sustainability was dismissed as a fad by many serious industry practitioners. Today there are thousands of green buildings representing millions of square feet.

To be a critical consumer of green buildings means to become educated about the context. There are only two ways to claim a green building — to have a certification from a green building program or to demonstrate specific sustainable measures were incorporated.

No matter which program, it is better to have a green building certification than to merely claim to have designed and constructed to a sustainable standard. And for the very same reason, it is better for a certification to be third-party verified than merely voluntary.

Projects that are third-party certified are at a minimum demonstrating their willingness to go through a verification process. Trade-offs and compromises are a fact of design and construction. Sustainable measures are often at the top of the value engineering list unless feet are held to the fire by certification compliance.

If certified, how long ago was the building rated? Building codes and rating systems get more stringent over time.

Older certifications may indicate less strict standards for compliance. And of course, how high was the level of achievement? But keep in mind a higher certification level does not automatically equate to a greener building. It all depends on the nature and quality of the sustainable measures incorporated.

Ask for a list of the project's environmental benefits so you can judge for yourself. Sustainability is by definition a long-term measure of performance that only begins with the design and

construction of the building. Operational measures that encourage ongoing energy efficiency, good indoor environmental quality, water conservation, and occupant education and feedback are all essential to a truly high-performance green building.

Here's some context about common green building measures to aid your critical evaluation:

Close to infrastructure

Urban locations are well rewarded in green building programs. The advantages of being within walking distance of public transportation and community services are obvious in terms of convenience and reduced automobile emissions. A project that does not have the advantage of a good location will have a challenging time achieving the highest levels of green building ratings.

Waste diversion

To divert construction waste cost effectively, a network of haulers and receiving facilities must exist in the surrounding area to provide the necessary infrastructure to haul heavy loads to local facilities that have recycling methodologies in place.

Here in Seattle, unlike the Midwest or even Eastern Washington, we have little available land for parking let alone landfills. Any project that doesn't claim at least 75 percent construction waste diversion has an unusual context or wasn't trying. Ninety-five percent diversion is not impossible to achieve.

Low-emitting materials

Using products manufactured with little or no volatile organic compounds (VOCs) or formaldehyde limits the amount of toxins that off-gas into the indoor air after design and construction is complete. Low-VOC paints and adhesives, Green Label carpet and FloorScore flooring, no urea-formaldehyde casework and doors, and Greenguard furniture are all readily available with a range of price points and aesthetic options.

Practices that protect indoor-air quality during construction by keeping dust and particulates to a minimum and out of HVAC systems are becoming an industry standard, and are commonly implemented by most local general contractors. But flushing out remaining toxins with a large volume of fresh air after construction is complete and before occupancy, which can have a major impact on construction schedules, is less often performed.

Good indoor-air quality quickly degrades without operational measures in place. Green cleaning and pest-control methods with nontoxic chemicals, entryway systems that remove dirt and particulates, high-quality air filtration, and good ventilation are all essential to maintaining a healthy indoor environment.

Recycled content

Building materials consume a lot of resources and then compound that by transporting them all over. The use of materials made of recycled content relieves demand on virgin resources, while sourcing products harvested and manufactured locally reduces greenhouse gasses from transportation and contributes to local economies. We have a wealth of available local building materials in the Pacific Northwest.

Green power

Green power funds the development of renewable sources of energy. It creates future capacity for everyone, but it confers no specific benefit on the project itself.

It can simply be a premium paid by the owner to earn points toward green building certification. Or it can demonstrate a commitment to underwrite local renewable-based power projects. Ask whether the green power provider is the local utility or a third-party renewable energy certifier, which funds projects worldwide.

Low-flow fixtures

Potable water is a precious common resource. Reduced water use also means lower utility bills, particularly with respect to sewer charges.

High-quality, low-flow water fixtures have come a long way and are readily available at affordable prices. Rebates encourage their use. There really is no reason not to incorporate them.

Energy efficiency

Energy efficiency can be represented by many measures. Look for the kind of demand reduction strategies that reduce the need for energy in the first place.

These include good insulation in slab, walls and roof; high-performance windows; occupancy sensors on lighting in garages and intermittently occupied areas; good access to daylight and daylight controls to reduce the need for lighting; a light-colored roof to reject solar heat gain; high-efficiency HVAC with variable speed drives; efficient lighting fixtures with dimmable ballasts and low-mercury lamps; and occupant controls for lighting and thermal comfort.

The majority of these measures can be incorporated into a project's design cost effectively.

Commissioning of energy systems is essential to a properly functioning building. Complicated interrelated systems need to be put through their paces and tested to be sure that they are working as intended. A fundamental level of performance testing is often a mandatory requirement of green building programs.

On the operational side, proactive maintenance programs, building automation systems and submetering strategies, and user engagement can help ensure that energy efficiencies continue into the future.

No green building can incorporate every possible initiative. Sustainability is best applied regionally and still faces regulatory challenges. Renewable energy, for example, is rarely cost-effective in the Pacific Northwest, requiring significant investment in infrastructure relative to our affordable electricity rates.

Some projects face major regulatory hurdles, such as those that handle rainfall on site without conventional detention and sewer infrastructure or incorporate graywater systems to collect and reuse rainwater or blackwater systems like composting toilets or "living machines."

Whatever the sustainable approach, each project had choices to make. Some achievements simply reflect location, local facilities and infrastructure, energy code, local practices or corporate commitment to green goals. Some represent the overcoming of substantial obstacles or truly innovative thinking. Some conferred direct financial benefits, and some only added to the bottom line.

The measure of a green building's sustainability is subjective. It is a function of local climate and geography, of available goods and services, and of personal expectations and popular demand. It varies from building to building and from region to region. As a critical consumer, a green building is in the eye of the beholder: you.

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