



Environmental impact

Environmental Systems Inc. looks to be a leader in green building design with new headquarters facility in Brookfield's Gateway West

As a company that helps its clients with environmentally sustainable building solutions, Environmental Systems Inc. (ESI) was looking to create a new headquarters that would embody its culture while serving as a teaching tool for green building design.

Working in tandem with Hunzinger Construction, Sustainable Building Solutions and Stephen Perry Smith

Architects (SPS), ESI has developed a new 34,000-square foot facility in the Gateway West office park on Capitol Drive in Brookfield that strives for LEED certification for sustainable building design as defined by the U.S. Green Building Council.

More than a building that features the latest in cutting-edge environmental systems to save energy, Gateway West Sustainable 1 is intended to be a living, breath-

ing example where clients, green builders and students can go to see how the pieces fit together to make an integrated whole.

On the exterior, which was positioned to maximize daylight, photovoltaic cells placed on the roof turn the sun's energy into electricity. On the grounds, sustainable features include native plantings and water efficient landscaping and onsite stormwater purification. The building

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envelope incorporates high R-value insulation and energy efficient glass. On the inside, high efficiency HVAC and water-efficient plumbing materials and sophisticated daylight management lighting systems combine with other sustainable green design features that will yield 35 percent or more in annual energy cost savings based on a comparable building that is built to code.

Practical sustainability

“You get a lot of talk about alternative energy and renewable energy, but it has to carry through to the ongoing operation of the building, otherwise it’s sustainability lost,” says ESI president Paul Oswald, whose firm designs, installs and supports commercial building systems for clients nationwide.

“We are not throwing things in here just to get the LEED (an internationally recognized green building certification system) credit unless it has value to the business,” says Oswald, who relocated the firm’s headquarters from Pewaukee. “There are a lot of people who are just throwing money at the word sustainable without having any tie-back to the value that drives the business.”

Practical sustainability means looking at the savings achieved by incorporating sustainable mechanical systems and building design features and looking at the total energy savings over the life of the facility, says Matt Mano, lead architect on the project for SPS Architects.

“With this project, we exhausted every effort to try and incorporate as much of the latest cutting-edge technology in the building,” Mano says. “Some of it made it in, and some of it didn’t. I would say that everything that got put in here has a 10-year or less payback period.

“With our clients, every design decision is driven by “what does it cost now?” Mano says. “Paul asked us to consider lifecycle costs. We had some discussion about certain elements that I had never seen that were put in here, but it made sense.”

Adds Oswald: “From Day 1, one of the objectives of this team was to design this building with a different mindset. So, if it drove business value, then it was in.”

LEED system drives collaborative design

According to Hunzinger Executive Vice President Jim Hunzinger, the LEED protocol system drives a collaborative design process that helps everyone involved understand how the many sustainable design features work together and contribute to a building’s ultimate performance.

“We all know a lot about building construction, but what we don’t necessarily know is when you put all of these things together how they react and where the cost benefit is,” Hunzinger says, explaining that computer modeling played a large role in determining how

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the various building components will work together to achieve energy savings.

The ultimate goal in the design, construction and operation of a green building is to strive for the highest rating under the LEED certification system, which starts with basic certification ascending to silver, gold, and platinum levels. LEED certified buildings often provide healthier work and living environments, which contributes to higher productivity and improved employee health and comfort.

“As you ascend to these higher levels, they are harder to get and there are more hoops that you have to jump through,” Hunzinger says. “There is more pre-planning that includes more sustainable design and product,” he says. “You have a goal in mind when you sit down and you conceive your design. Once you start to zero in on whether you are going to be a gold building, you might do two of these, or you might do four or six.”

A teaching tool

Inside the building’s entrance, information kiosks



ESI’s atrium looking east toward training room features recycled Waukesha barnwood at informational kiosks.

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The exterior of the building includes recycled building materials, weathering Cor-ten steel, and drought-tolerant native species landscaping.



ESI's atrium incorporates light shelves and LED lighting.



Jim Hunzinger, Executive Vice President of Hunzinger Construction Company (Left) and Paul Oswald, President of Environmental Systems, Inc.

that feature computer touch screens will allow visitors to view real-time performance of the building's various mechanical systems, such as an air handling system that was used to flush the new building of airborne particulates or gasses prior to its opening.

For good measure, the lobby area is lined with recycled barn wood. In a similar vein, the dark-colored brick used on the building's exterior came from Hunzinger Construction's materials yard, where it sat unused for a decade. The same goes for steel joists that were recycled from Hunzinger's yard and used as roof supports.

It all adds up to a building that serves as a working example of what ESI stands for.

"A building doesn't make a company, but it can certainly embody its values and culture, and we think this does that," Oswald says. "We take pride in our innovation and our expertise, and you see that throughout this building.

"Not only is it sustainable design and energy efficient with tangible payback, but you also have a building that is a teaching tool," Oswald adds. "It's a way of giving back, by serving as an educational tool for students or other area businesses who may be interested in embarking on a sustainable path or program."

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