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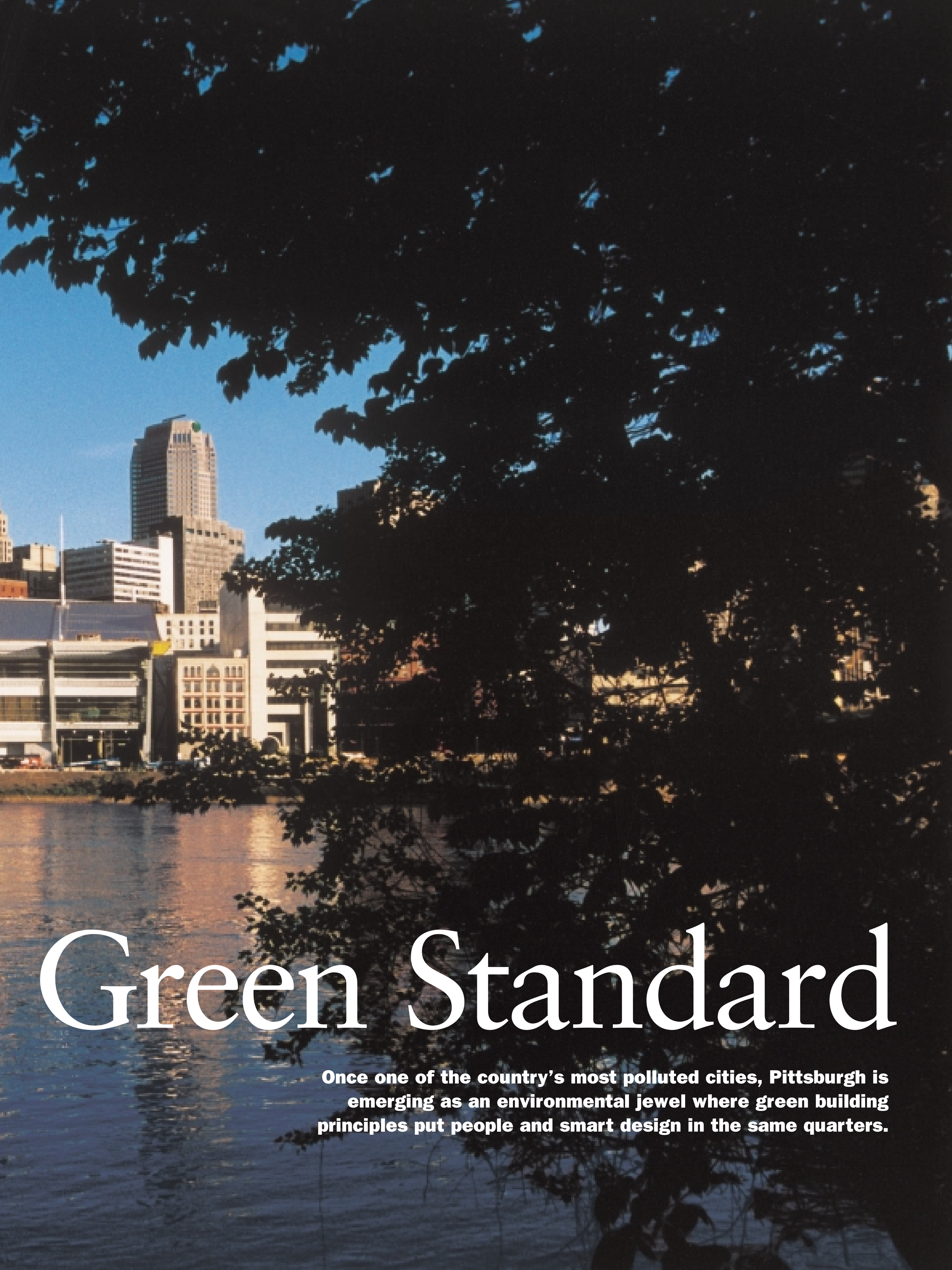


Green Standard

Once one of the country's most polluted cities, Pittsburgh is emerging as an environmental jewel where green building principles put people and smart design in the same quarters.

Long before some of the most famous architects in the world rolled up their sleeves to create models in the design competition for Pittsburgh's new David L. Lawrence Convention Center, there was a roomful of Pittsburghers with a weighty task. The members of the project's design commission, all citizen-volunteers, had to fill in some of the blanks around the immense project to make sure the architects and engineers sculpted their submissions along the character lines of the city.

There were the expected requirements such as components for parking and a new hotel. But high up on the Make-Sure-to-Include List was a precept of design and construction that caused many of the architects in cosmopolitan centers like Miami and Manhattan to drop their drawing pencils and recheck their maps.

Pittsburgh, that Mid-Atlantic medium-opolis forged from industrial fire and brimstone, the place with a sooty history around belching smokestacks, rivers of belly-up fish and coal dust–covered homes, was insisting on building "green." One of the largest public projects ever undertaken in the city, and, at $252 million, a construction effort bound to get national attention, would have to meet high quality-of-life standards for both people and the natural environment.

By several accounts, some barely suppressed giggling erupted among some of these architects' staffs, whose images of Pittsburgh were more than a half a century behind the curve. The architect who eventually won the convention center contract, New Yorker Rafael Viñoly, went to considerable effort to research the reasons behind the city's effort. Beginning in the late 1940s, a series of development renaissances had allowed Pittsburgh to clean up the worst of its pollution. During the past decade, Viñoly noted to his staff, Pittsburgh had made a determined effort to set a national standard for urban environmentalism. Local green building advocates are determined to put sustainable development at the center of that commitment.

A decade ago, the pioneers of the national green building and green living movement were small in number but large in spirit and influence. Their ranks included only a handful of forward-thinking architects, developers and clients. But the foundation community did the early championing, much of that beginning in Pittsburgh with the activist philanthropy of Teresa Heinz, who created the Environment Program at The Heinz Endowments.

Public officials on the order of Mayor Tom Murphy and then–Pennsylvania Gov. Tom Ridge summoned the political will to tie green policy to the list of requirements for public funding on projects like the convention center. So, too, in more private efforts like the construction of PNC Financial Services' Firstside Center, a national model lauded by the U.S. Green Building Council, business leaders like then–Chairman Tom O'Brien and CEO Jim Rohr embraced the concept. But the shapers and implementers of these policies — those who build the standards into formal Request For Proposals and hound the chosen team to make sure they are followed — are the unsung heroes. They include the 15 members of the convention center's design commission, people who run restaurants, hotels and convention center operations mixed in with people from architectural firms, environmental groups

Doug Root is a member of the h editorial team. Michele Fetting is a Pittsburgh-based writer who specializes in environmental issues.

By Douglas Root with reporting from Michele Fetting
Photography by David DeNoma

Left: At PNC Financial Services' Firstside Center, an L-shaped corridor begins at the stair tower and links the northwest and southwest wings. The corridor is brightened by a series of skylights, which also serve to spotlight a suspended aluminum sculpture titled "Two Rivers and Turbulence," by Seattle artist–engineer Koryn Rolstad. The idea for the piece, which takes its cue from the Monongahela River and the other water themes integrated into the building, was the winner in a national competition.

and public relations firms who slaved over the details and have stood behind them throughout the construction process.

They also include leaders of public authorities and agencies, like real estate executive Tom McCargo, former chairman of the Sports and Exhibition Authority Board, who opened the door to greening the convention center, and Stephen Leeper, the Authority's executive director, who has managed to do justice to sustainable development principles despite political and budget obstacles.

The unified front from all these disparate officials was so strong, in fact, that most architects vying for the center's contract made green building central to their proposals. Viñoly personally reviewed the list of requirements for energy efficiency and design elements that would bring people closer to the natural environment. On his first visit ever to Pittsburgh in preparation for the competition, he had been so astounded by the city's sparkling environment that he hired a helicopter to take pictures so he could study the way bridges, land and rivers interacted with the convention center site. He would later wow the judges by morphing his convention center model into the aerial photograph. Some of the ways in which the architect's design meshed with green building goals were lucky happenstance, as in the gleaming stainless steel roof that rolls downward and seems to spill into the Allegheny River. But the roof also is a key component of the building's ventilation system. Other elements have been tweaked and shaped to meet the demanding requirements.

With construction nearly complete, the new convention center will be an internationally celebrated standout in a series of buildings that have helped garner Pittsburgh top-tier status from the U.S. Green Building Council for an impressive list of green-certified additions to its urban landscape.

"A community that still has fresh memories of what it's like to live in a polluted environment often becomes the most committed believer in protecting the environment — and that includes the built environment," says Rebecca Flora, executive director of the Green Building Alliance, which set the environmental design standards for the convention center competition and has coordinated Pittsburgh's green growth in key quality-of-life areas.

The Alliance is one of several shining success stories coming out of a decade-long green building education effort led by The Heinz Endowments in partnership with other regional foundations. When Pennsylvania Sen. John Heinz's death in 1991 left his widow, Teresa, in charge of the family's philanthropies, she set a course to prove that green building and smart design could become the rule rather than the exception. The Endowments was the sole supporter of the Alliance for several years. With expertise and a long-term funding base, the group was able to transform itself from a lackluster nonprofit with little clout into a powerful advocate for change. Heinz herself has practiced what she preaches by turning her personal and philanthropic offices in Pittsburgh into national showcases of great design and good environmental stewardship. Like the signature projects that have followed, these offices shatter the myths that building green means building weird — with straw poking out of walls or compost piles in the basement — or that building green means building expensive. The ranks of true believers — from CEOs to private homeowners — increase with every new project that catches the eye and minds the budget.

"A community that still has fresh memories of what it's like to live in a polluted environment often becomes the most committed believer in protecting the environment — and that includes the built environment."

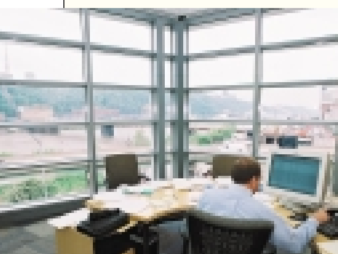
Rebecca Flora
Green Building Alliance

On the following pages, Pittsburgh photographer Dave DeNoma has captured the design magnificence of some of the city's green-certified buildings along with the range of quality-of-life improvements that can settle in on a city willing to respect its environmental surroundings. Accompanying the photographs are short story pieces and captions that describe how, as Winston Churchill wrote, "we shape our dwellings, and afterward, our dwellings shape our lives."

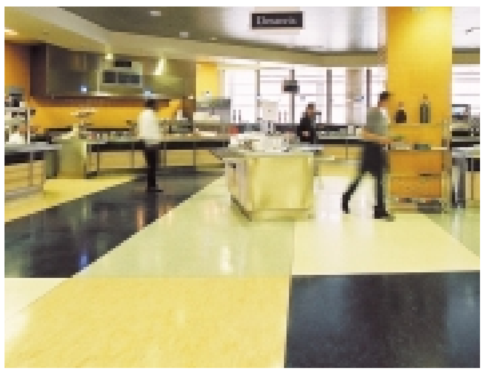
FIRSTSIDE CENTER: **As director of corporate real estate for PNC Financial Services, which among its companies is one of the largest banking systems in Pennsylvania, Gary Saulson was the executive charged with the high-pressure assignment of putting together the deal and the details for a new office building. What would be created had to be functional but it also needed to stand out from the crowd of downtown Pittsburgh office towers. Saulson became committed to green building as a way to accomplish that when he saw how it would enhance design, and benefit both employees and the company. He developed a $120 million budget incorporating green elements and sold it to PNC President Jim Rohr and Chairman Tom O'Brien, who became big supporters of the concept. The architects from L.D. Astorino & Associates were enthusiastic, setting to work on designing a 650,000-square-foot building on choice riverfront land. The project has gained international renown for weaving green into a design that's high-tech sizzle.**

"When I was first approached about the idea of green building, I thought it meant dirt floors and straw walls," says Saulson. "What we've found in the nearly two years that the center's been open is that people want to work here, even to the point of seeking certain jobs just to be able to be in the building."

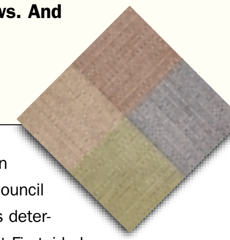
No wonder. Firstside has wowed architectural and environmental experts and captured the imagination of work-a-day Pittsburghers. The soft pastel of Minnesota limestone colors the outside walls. There are brick and aluminum to set some dramatic texture, and there is so much glass that 95 percent of the building offers exterior views. And many fortunate employees have offices fronting the Monongahela River.



Denny Earhart, PNC operations manager, loves his window-centered office with spectacular river views and a daylight connection to the outside. If the sun gets to be too much, though, Denny doesn't lift a finger. Solar-sensitive shades roll down at the first sign of glare.



Firstside's round-the-clock open cafeteria includes bacteria-resistant stainless steel cabinets and food preparation counters. The colorful Marmoleum flooring supplied by a Swiss company, Forbo, is made from renewable, unprocessed ingredients such as sawdust and linseed oil, which have little negative environmental impact. The same flooring is used in the bathrooms. Practicality meets aesthetics on the outdoor terrace where diners can sit on aluminum bench sculptures wildly colored by Phoenix artist Pam Castano.



U.S. Green Building Council inspectors determined that Firstside has the largest amount of recycled carpet in the world. The colorful material from the (no kidding) "Déjà vu" line from Interface Carpets is 100 percent recyclable and made of 72 percent recycled materials. It's great for maintenance, too, as it's laid out in random patterns of replaceable squares.

"It didn't have to be this way," *Pittsburgh Post-Gazette* Architecture Critic Pat Lowry wrote in September 2000, a month before the building opened for business. "To shelter back-of-the-house operations the public never sees, PNC could have warehoused its equipment and employees in a bland, ribbon-window box in the 'burbs."

The Astorino architects, who have been commissioned to work on the restoration project around Frank Lloyd Wright's Fallingwater, give a nod to the master architect at Firstside by letting a one-story waterfall cascade to ground level along the First Avenue side. The temperature-sensitive fountain shuts down at the freezing mark and drains its water into a holding tank, where it is electrostatically charged and then re-employed when temperatures rise.

Firstside's location along First Avenue, from Grant Street to the Light Rail Transport Bridge, allows employees to get to and from work with fewer commuter headaches. There is a city-owned parking garage with easy access for the center's workers and an LRT public transit stop at the building. Employees also can make use of the Eliza Furnace Trail for commuting or exercising. Restrooms are equipped with showers and changing areas.

REDESIGNED DAVID L. LAWRENCE CONVENTION CENTER: From the dramatic roll of its gleaming stainless steel roof, cantilevered out over a busy city boulevard, to the river that inspires its design, the new David L. Lawrence Convention Center already has been judged a world-class model for merging superior architecture with good environmental stewardship. Given the size of the building — more than one million square feet with a length that extends more than three football fields, the project makes a powerful statement about the ability of communities to implement green building principles without breaking budgets or sacrificing aesthetics.

At more than $252 million, the center's cost puts it in the league of the world's most ambitious building projects. At that scale, with so many risk factors — political capital, public money, professional reputations and the future of a regional economy among them — the temptation might be to build a convention center…well, in the conventional manner. The safe course would be to let some other city be the green building pioneer for such a large-scale project.

But state, county and city leaders, environmental activists and the foundation community decided years earlier that Pittsburgh would shake off its once-toxic environmental reputation. They embraced the convention center greening as a way to step out ahead of other cities and make Pittsburgh a quality-of-life showcase for both people and the natural environment.

So key stakeholders in the project agreed to put green building and green engineering requirements at the heart of the design selection process. Before budgets had even been outlined, a juried design competition funded in part by The Heinz Endowments ensured that environmental standards would be integral to the project and not merely add-ons. The result, shown in the eye-catching architecture of New York's Rafael Viñoly

and in the creative engineering of Burt Hill Kosar Rittelmann Associates, is a first-of-its-kind public center meeting exacting sustainable development standards.

The administration of then–Pennsylvania Gov. Tom Ridge added a powerful incentive: $150 million in state funds for the project were tied to ensuring that the center was a high-performing green building. "It illustrates how well the public's long-term interest is served by including environmental performance alongside functional and economic performance as goals of public projects," then–state Department of Environmental Protection Sec. James Seif said at the press conference announcing the funding.

The center's key green features range from smarter treatment of heat, water and light sources into the building to the use of construction materials friendly to people and the environment. The building is shaped to capture the natural air flow off the river and integrate it into ventilation and cooling. Food catering and office products will be made from environmentally responsible materials, and recycling will be employed throughout the center.

Rebecca Flora, executive director of the Green Building Alliance, the community conscience for environmentally sound design in southwestern Pennsylvania, says that while achieving "certified" status from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system would be precedent-setting for a structure the size of a convention center, advocates are hoping for a gold ranking, which is three notches up in degree of difficulty.

"If Pittsburgh can set a high green standard for a convention center," says Flora, "there's no reason why other cities can't meet green certification in smaller building projects."

Against a shimmering bridge backdrop, a worker helps with glass installation at the north bow of the Convention Center. Aesthetics and environmental science merge with every window in the building. Strategic placement of glass helps meet a key green certification requirement that calls for a minimum daylight standard in the spaces where critical visual tasks are taking place.

Chuck Pitchford, director of system commissions for Burt Hill Kosar Rittelmann Associates, the engineering and design firm partnering with Viñoly on the convention center project, checks a temperature gauge in the building's Dolphin Hydronic Series. The treatment system zaps air conditioning system water with an electrostatic charge, killing bacteria and eliminating the need for chemicals.

Fabric-covered tubes known as DuctSox, made of the same material in boat sails, arc across one of the cavernous meeting rooms of the new convention center. The tubes provide a striking design element, inflating and deflating like an art sculpture installation. They also mimic cables of bridges that dominate the water views from the center. But they're also practical, acting as energy-efficient conduits for heated and cooled air when natural ventilation isn't feasible.

Construction continues on one of the building's primary green features — a giant skylight built into the stainless steel roof. The extra lighting effort shows how green building principles can actually encourage dramatic design elements. The reflective roofing materials help reduce temperature differences between the building and the surrounding natural environment.

Excavation begins for a building that will house the convention center's own water reclamation system. Equipment made by the Zenon Co. filters waste water to make it suitable for flushing toilets, and watering indoor plants and outdoor landscaping. The reclamation process pays for itself by slashing potable water consumption by 80 percent.

Workers cover the building's crescent-shaped clerestory with a white Teflon fabric that allows conventioneer-friendly natural daylight to pass through while blocking disruptive glare. The material, which also covers London's Millennium Dome, doesn't deteriorate, needs no cleaning and helps lower energy costs. It's also a hit aesthetically: suspended from the metal roof indoors, the panels look like soft, translucent muslin and provide warmer cover for cavernous meeting rooms.

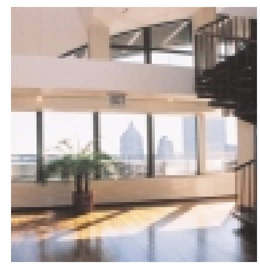
PRIVATE HOME, FAMILY OFFICE: **When John and Jana Martino decided to build a new home on a remote hilltop with a commanding view of several Beaver Valley communities, they wanted only top quality for the 2,900-square-foot dream dwelling whose various amenities had been meticulously planned for years.**

But when their designer–builder, Chris Leininger, recommended walls made from bales of hay, the Martinos blanched. All the walls? They were going to spend $365,000 for a house built of straw? At the core, yes. But except for one 4-by-5-foot glass section, the "truth window" for the house, the straw wouldn't be visible. Leininger, who teaches about sustainable development systems at Slippery Rock University, wanted to make the Martino home a green project without sacrificing style. The dwelling would show that energy-efficient elements and recyclable materials could be meshed with conventional, high-end building materials. Building green wouldn't mean having to skimp on quality.

It took some convincing, but John Martino, who as a utility site developer is experienced with construction, agreed to give it a try. The Martinos were able to employ some significant green features and still get their expansive windows with Craftsman-style casings, cathedral ceilings, and even a 20-foot sandstone fireplace that rules over the great room.

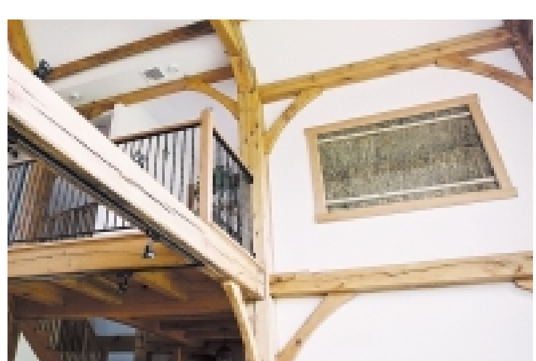
The notion that building elements responsive to people and the natural environment can enhance quality also extends to the workplace. On the top floor of one of downtown Pittsburgh's premier office towers, the Heinz family offices are ornamented with Arts and Crafts furniture and American antiques. The high-style decorating dovetails with Teresa Heinz's mission to foster respect in the workplace for people and the environment. By embracing sustainable development principles, offices can become healthier, more inviting places to work.

Heinz Family Foundation Offices: Open spaces off of individual offices are situated around large windows that make maximum use of natural light. Each office has its own sensor to shut off lights when unoccupied. Ventilation systems include fresh air intake controls.

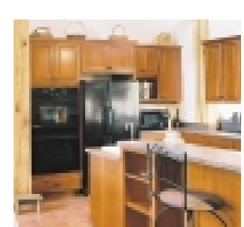


Sustainable woods, like vitex from New Guinea for the flooring, and mersawa and rosewood for desks and bookshelves, are used throughout the offices.

Martino House: Packed into the Martino home's 18-inch-thick walls are 1,000 bales of hay purchased from, no kidding, Grandma Harley's Farm a few miles up the road. Not only is the material an excellent insulator, it also works as a fire retardant because of its density. Aside from the straw, other locally produced and minimally processed materials include the timber framing, harvested by an Amish community nearby. Chamfered posts and beams are locked together with wooden dowels instead of nails.



The heating and cooling system in the house uses ceiling fans in combination with air conditioning to circulate fresh outside air. In cold weather months, the fans circulate heat produced by radiant elements built in under the flooring.



RESEARCH CENTER, PROFESSIONAL WORK SPACE, COMMUNITY BUILDING: In August 1998, KSBA Architects took over a 19th-century undertaker's stable in the working-class Lawrenceville neighborhood of Pittsburgh. The historic, 100-year-old structure was in tough shape: its most recent iteration had been as an auto repair garage.

Still, KSBA was excited about the building's potential as a model of designing for adaptive reuse in an urban setting. Public support on the project required some basic green components, but KSBA officials decided to go much further and, says Gary Moshier, a KSBA associate and senior project manager, were able to do all the work themselves.

Sustainable development also was prominent on the design and construction team supervising the building of the McGowan Institute for Regenerative Medicine, a University of Pittsburgh–connected tissue engineering research center at South Side Works, a new residential–retail–office development on the site of the former J&L Steel Corp. plant. The team, led by IKM Architects and environmental-sustainable development experts from the University of Pittsburgh has developed a significant enough list of green features that it expects the facility to earn a high rating from the U.S. Green Building Council's LEED system when the project is completed this fall.

Preceding the McGowan Institute as a model of what can be achieved on a former brownfield site is the Greater Pittsburgh Community Food Bank, a 95,000-square-foot warehouse and distribution center built in 1999. The building is the centerpiece project in the redevelopment of a former steel mill in Duquesne, just a few miles from Pittsburgh's city line. The steel, brick and glass structure, laid out in sharp lines by Gardner + Pope Architects, makes a dramatic statement about how some of the steel era's worst environmental damage can be reversed. The building has earned a silver rating from the Green Building Council.

A reflective roof coating reduces cooling costs. It's part of an efficient energy system that recovers leftover heat from air as it leaves the building's ventilation system and channels it back into fresh air coming into the building.

McGowan Institute: One of the Institute's green highlights is a 5,000-gallon rainwater storage tank under the building. The system will recover water collected on the center's roof and pipe it directly to bathrooms for toilet use. It also dramatically reduces water runoff.

Also included in the project is landscaping that makes substantial use of indigenous plants.

KSBA Architects Building: At just 9,200 square feet, the building is the smallest in the country to earn U.S. Green Building Council certification. Part of the Lawrenceville Neighborhood Development Corp. revitalization initiative, the building saves energy by making the most of natural light.

The use of local and recyclable materials in construction, an energy-efficient heating–cooling system and an integrated access raised floor for modular cable and other wiring fit in well with KSBA's historic building renovation project. These innovations also earned it green certification.

Robert Casey & Associates, Ltd.

Food Bank: Nearly 70 percent of the building's steel structure was salvaged from other buildings. The warehouse's function as a food storage center called for the design of a more efficient refrigeration system. That, in addition to a can-recycling machine that discards outdated foods but preserves the metal containers for valuable scrap, helps save the food bank as much as $40,000 annually in garbage tipping fees. Crews were hired to recreate an ecosystem around the site that had long since been destroyed by pollution from the mill. Landscapers created five bio-retention areas by applying new topsoil and replanting native vegetation, including wildflowers, trees and shrubs.

Taking the National LEED

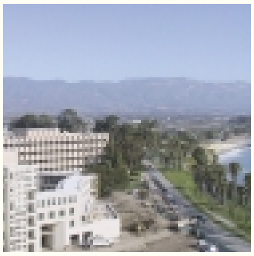
When the dozens of disparate stakeholder groups involved in the creation of a new convention center for Pittsburgh began considering the possibility of taking the project green, there were probably as many interpretations of what that meant as there were people involved in the discussion. Fortunately, the group didn't have to invent its own definition of what it means for a building to be environmentally friendly.

Thanks to the U.S. Green Building Council, a national nonprofit made up of some 1,400 leading international organizations, a relatively simple and consistent formula has been developed for assessing life-cycle sustainability in existing or proposed buildings. The LEED (Leadership in Energy and Environmental Design) Green Building Rating System identifies specific attributes that buildings must incorporate in order to qualify as a green building. Buildings can qualify for anything from basic certification to silver, gold and platinum ratings.

When Paul Von Paumgartter began his work as a co-chair of the Council's LEED Standards Commission, he was leery of a ranking system where building owners compete for gold, silver or bronze status. "Frankly, I argued against it," says the director of energy and environmental affairs for Johnson Controls in Milwaukee. "But what I've seen from the results of this built-in competition is tremendous. This has been so successful that we're overwhelmed with requests for certification."

From Fortune 500 CEOs to nonprofit executive directors, the trend is to be able to point to a workplace that is cutting edge — high-tech, but also hospitable and kind to the environment. Even city officials are getting into the act, says Rebecca Flora, executive director of Pittsburgh's Green Building Alliance. "Increasingly, cities across the country want to be able to market themselves as green by having a significant number of buildings,

PLATINUM



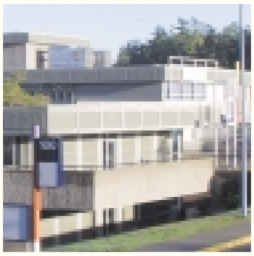
1. Donald Bren Hall, School of Environmental Science & Management
COMMISSIONED BY: University of California, Santa Barbara
ARCHITECT: Zimmer Gunsul Frasca Partnership
HIGHLIGHTS: This four-story, 85,000-square-foot building is a showcase for green design, and with its extensive use of recycled materials (100 percent of the construction demolition materials have been reused) it also serves as a teaching laboratory for environmental program students.

2. Philip Merrill Environmental Center
COMMISSIONED BY: Chesapeake Bay Foundation, Annapolis, Md.
ARCHITECT: SmithGroup, Inc.
CONTRACTOR: Clark Construction Group
HIGHLIGHTS: What better way to show the power of good environmental stewardship, especially in the mission to reverse the ecological damage to the Chesapeake Bay? This group's two-story, 30,600-square-foot building is a showcase of welcoming design and environmental respect.

GOLD

1. Cambria Office Building
COMMISSIONED BY: State Department of Environmental Protection, Ebensburg, Pa.
ARCHITECT: Kulp Boecker Architects
CONTRACTOR: Miller Bros. Construction, Inc.
HIGHLIGHTS: This 30,244-square-foot district headquarters reflects lessons learned from the Department of Environmental Protection's first green building project. Highlights include an integrated design process, sustainable site choice and improved energy efficiency.

2. Jean Vollum Natural Capital Center
COMMISSIONED BY: Ecotrust, Portland, Ore.
ARCHITECT: Holst Architecture
CONTRACTOR: Walsh Construction Co.
HIGHLIGHTS: This 15,000-square-foot building was the first historic restoration project in the nation to earn the gold LEED rating. The Natural Capital Center retains character from its original 1895 brick-and-timber frame, but at the same time boasts modern innovations such as 98 percent reclaimed and recycled debris, 32 percent water savings, and 30 percent energy savings.



3. Vancouver Island Technology Park
COMMISSIONED BY: British Columbia Buildings Corporation, Victoria, B.C., Canada
ARCHITECT: Idealink Architects, Ltd.
CONTRACTOR: Campbell Construction
HIGHLIGHTS: This 165,000-square-foot building is the first project in Canada to achieve gold certification under the U.S. Green Building Council's LEED rating system. Originally the Glendale Hospital, it was built in the late 1960s when energy efficiency was not a primary design feature. The buildings now housing the tech park went through an energy audit and achieved a performance rating 31 percent higher than required.

recreational amenities and government policies that attract desirable businesses and residents. It's a rapidly growing movement."

Some governments, Seattle, Austin and Portland, Ore., among them, have gone so far as to merge LEED-based evaluation into the design review and building permit process. Others, like Arlington, Va., offer density bonuses and tax abatements to development projects that earn high LEED marks. Also adopting the system are the National Park Service, the Navy and the Air Force.

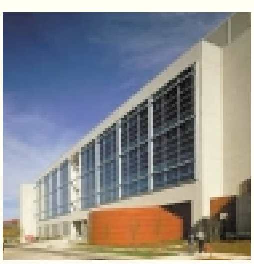
While qualifying a newly constructed building for LEED certification is increasingly popular, it does require planning and budget commitments early in the planning process.

The LEED system defines six categories in which points are accumulated. They are weighted according to the degree of difficulty, which usually corresponds to the number of requirements within each category. The maximum possible point count is 69, and the cut-off total for the Council's highest rating, platinum, is 52 points. The 39-to-51–point range qualifies for gold; 33 to 38 points for silver; and 26 to 32 points for minimum ranking as certified.

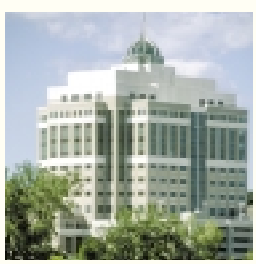
The categories range from the complex Energy and Atmosphere section with 17 possible points to Indoor Environmental Quality, 15 points, to an Innovation and Design option, five points, that allows the designers to devise new strategies not included in the current LEED system.

Along with its rating system for commercial and institutional buildings, the Council is developing a rating system for single-family homes and low-rise residential units. *h*

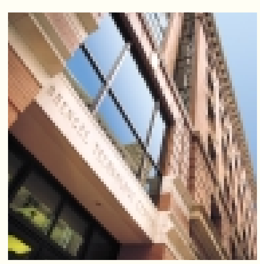
SILVER



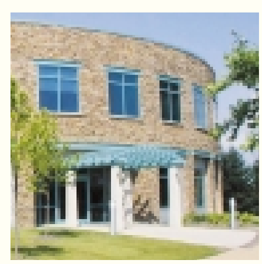
4. Q Building Lab
COMMISSIONED BY: Pharmacia Corporation, Skokie, Ill.
ARCHITECT: Flad and Associates
CONTRACTOR: Turner Construction Company
HIGHLIGHTS: Pharmacia recycled 78 percent of the total building material when it removed its old D Building in Skokie to make way for its new Q Building Lab.



5. Department of Environmental Conservation Headquarters Building
COMMISSIONED BY: New York State DEC, Albany, N.Y.
ARCHITECT: Woodward, Connor, Gillies & Seleman
CONTRACTOR: Beltrone
HIGHLIGHTS: This 15-story, 471,000-square-foot building earned gold status at the beginning of this summer. It will cost 40 percent less annually in energy costs to operate than a similar-sized, non-green building. Among its features: a 35 percent reduction in peak electric load and a 640-ton annual reduction in CO_2 emissions.



1. Brengel Technology Center
COMMISSIONED BY: Johnson Controls, Inc., Milwaukee, Wis.
ARCHITECT: Johnson Controls Architectural Department and Zimmerman Design Group
CONTRACTOR: MA Mortenson Company
HIGHLIGHTS: The $25 million, seven-story building boasts an energy-efficient personalized control system that allows building workers to decide the temperatures in their office environment. It's also, conveniently, a system manufactured by the company.



2. Nidus Center for Scientific Enterprise
COMMISSIONED BY: Monsanto Company, Creve Coeur, Mo.
Architect: Hellmuth, Obata + Kassabaum
CONTRACTOR: Paric Corp.
HIGHLIGHTS: This two-story, steel-frame building averages 50 percent total heat waste recovery for significant savings in energy costs. It also is built next to a carpool parking center to encourage workers to buddy-up on commuting.

3. Steelcase Wood Furniture Manufacturing Plant
COMMISSIONED BY: Steelcase Inc., Caledonia, Mich.
ARCHITECT: URS Corp.
CONTRACTOR: Owen-Ames-Kimball Co.
HIGHLIGHTS: The plant, which runs 13.8 acres and employs 700, has all the standard Council-recognized environmental efficiencies but also has moved to make its manufacturing process more environmentally friendly: nearly all its production processes use water-based finishes. That move has reduced toxic emissions by 70 percent.