



Case Study Updates: Maturity, Maintenance and Marketing

After much thoughtful planning and expense, the green museum or green exhibit opens. Then what? Some of the green museums featured on the initial launch of the greenexhibits.org Web site weigh in with the many ways they have chosen to drill deeper into green, sideline practices that cost too much or just don't work and get visitors to notice the sometimes subtle shades of green all around them.

Brooklyn Children's Museum, currently under expansion, is on track to open in 2007 and become the first LEED-certified museum in New York City.



Rafael Vinoly Architects, PC

GROWING UP GREEN

Sharon Klotz
Director of Exhibits
Brooklyn Children's Museum

Some legends evolve over generations; this one is only several years old. In the late 1990s, Brooklyn Children's Museum embarked on an expansion project. It was a modest undertaking, fueled by a need for a café space and enhanced visitor amenities. Within a few years, though, the planned scope, supported by master plans and feasibility studies, had evolved to include additional exhibition galleries, offices, a new theater and a revamped lobby. During this period, the City of New York, the project's major funder and partner, was beginning to focus on green design and had, in fact, just launched a new governmental sub-unit specifically focused on sustainability. Against this backdrop of an expanded building project and increasing dialogue about high-performance construction, the Gangsei family of Brooklyn, New York, went on vacation to the shore.

Paul Gangsei, a trustee of Brooklyn Children's Museum and its chairman during the launch of the current expansion project, apparently carried a cell phone with him during one of his walks on the beach during that vacation years ago. With the sun overhead and the waves playing their lulling rhythm, Paul made a phone call one day to the museum's president, Carol Enseki. The conversation, as legend has it, was short. Following up on ongoing collaborative discussions, Paul said: "I think we should do it. Let's build a green building." Carol and others had already begun to rally around that idea, and it wasn't long before a museum well known for its past was about to rewrite its future.

GOING GREEN

The U.S. Green Building Council has articulated a series of design features and operational parameters that contribute points toward official LEED (Leadership in Environmental and Engineering Design) certification. Levels are based on the number of points achieved, with Platinum Certification being the highest. (For a primer on LEED, go to the U.S. Green Building Council Web site, www.usgbc.org.) Brooklyn Children's Museum, for example, is on track to receive Silver Certification upon completion and is slated to be the first LEED-certified museum in New York City, which, incidentally, recently ratified legislation requiring all city-funded projects to incorporate sustainable features. Our expanded building will include:

- Climate control features like groundwater heating and cooling, thermal window glazing and automated HVAC controls;
- Electrical systems that include solar panels as a supplementary power source, automatic light dimmers and low-wattage fixtures;
- Material and fixture choices like renewable bamboo, low-flow faucets, local resources and non-toxic surfaces; and
- Community-focused aspects like secure bicycle racks and showers, on-site recycling and composting and a signage system that links to bus, rail, subway and bike paths.

SHADES OF GREY

Rafael Vinoly, the museum's architect, often has several pairs of glasses around his neck or braced on top of his head at the same time. I always appreciate the unintended but quite apt metaphor of being able to see from many perspectives at once, having many lenses and viewpoints through which to gauge and judge options. Throughout the building design process, the collaborative team, which included representatives from Brooklyn Children's Museum, the City of New York, Vinoly and several specialists, indeed made use of a multitude of viewpoints, especially when weighing choices about sustainability.

An example: "greywater" is the used-but-still-useful water that runs down sink and shower drains. There exist capture systems that channel greywater into gardens for irrigation or other uses. These are relatively easy to install. The catch? The initial capital expense of a greywater system would have taken many years to recoup in savings. The project team decided against greywater capture in our building, letting go of an innovation that would have expanded impact but also letting go of a few LEED points. Ironically, today, the technology is more efficient than it was when we made that choice and the payback period is shorter; we might well have made a different choice were we contemplating the greywater option today.

BE THE CHANGE

In many ways, the LEED-certified expansion follows naturally from the museum's legacy of producing natural science inquiry programs and exhibitions and showcasing natural history collections objects. Brooklyn Children's Museum has always emphasized environmental engagement and stewardship alongside cultural awareness and curiosity. The expanded building itself represents an opportunity to embody the values that underlie the museum's mission and core goals. Through a series of outdoor, full-body, physical science activities—collectively called *Energy Adventure*—visitors to our expanded museum will have the chance to explore materials and make design choices to build a small house, control a solar-powered fountain and play with drag forces inside a small-scale wind tunnel, to highlight just a few of the planned activities. The building, too, will have a layer of interactive interpretation—signage, material highlights and virtual tours—and those elements will help translate and activate the physical environment. In fact, one of the LEED points for the project derives from the layers of communication and education embedded within the building and within the *Energy Adventure* experience.

Visitors will have the chance to do what we did as a project team and what similar teams are doing across the country and around the world: observe, explore, weigh consequences and make choices. Prototyping for *Energy Adventure* activities yielded the following comments and so far suggests this is indeed the case:

"The temperature goes up when you put the blocks on the house."

"White keeps the heat from coming in."

"When you put the squares on, the heat stays in; when you take them away the heat goes out."

"The sun's power can give this fountain energy."

"This deals with the sun—when the sun hits this, it makes the water go on."

"When it faces the sun, those blue things light up, but when it doesn't, they don't."

Our research showed that even the youngest visitors can see and play with causal connections, consequences and choices. Just as we have had to weigh benefits, costs and potential outcomes for the choices embedded in (or excluded from) our sustainable building, our visitors—especially the youngest—will be making the choices and weighing the consequences that will build and shape our collective future. Perhaps we can take a note from one young visitor who, after giving his feedback about the energy interactives, said he wanted to make more energy and then darted away to run up and down the rooftop theater bleachers.

