



GOING FOR THE GREEN

Bakers and snack food manufacturers now give sustainable building design and LEED certification more attention than ever. Here's why.

by Laurie Gorton

What do Baldinger Bakery, Frito-Lay, Full Bloom Bakery, Kettle Brands, Mile Hi Bakery, Mission Foods, Orograin Bakery (Bimbo Bakeries USA), Shearer's Foods, Tasty Baking (Flowers Foods) and Wheat Montana Bakery have in common? They all operate facilities certified under Leadership in Energy & Environmental Design (LEED), the gold standard in sustainable building design. While the number of such sites grows each year, attaining those heights is no simple matter. Nor should it be.

"You need an extreme amount of patience, particularly with the many audits required," said Bryan Sanchez, director, Mile Hi Bakery, Denver. He's been involved with two LEED-certification projects, most recently at Mile Hi and earlier at the new Baldinger Bakery, St. Paul, MN. "You need to be open-minded to expanding the budget," he recommended. "Sustainability and its certification are not black-and-white budget issues, but there are a lot of attractive paybacks."

The energy savings and rebates offered by Mile Hi's utility helped defray more than half of the \$777,000 in incremental costs for "going green," according to Sonrisa Lucero, sustainability strategist and accredited LEED professional, Susta Innovations, LLC, Denver. She served as the bakery's sustainability consultant. "With annual energy savings of \$348,300 versus baseline, payback was one year," she told attendees at the American Society of Baking's BakingTech 2015, held in Chicago in March.

Such savings, delivered over the long term, go directly to the bakery's bottom line and certainly motivate the business decision to pursue sustainable building design. "But many clients use customer relations, marketing and community — it's the right thing to do — as driving forces," noted Stuart Jernigan, director of preconstruction, A M King, Charlotte, NC.

A green building "promotes a positive public image," said Greg Carr, senior director of project planning, baking and snack, The Austin Co., Cleveland, OH. "Others are required to incorporate sustainable design or meet LEED certification standards due to requirements or pressure from their customers."

For example, Denver is home to a large number of LEED-certified buildings. People who tour the new Mile Hi Bakery generally compliment the company on its

Above: When Kettle Foods opened its Beloit, WI, snack plant in 2007, it became the first of its kind to earn LEED Gold Certification.

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Bryan Sanchez, Mile Hi Bakery



Mile Hi earned points toward its 2014 LEED Gold Certification for locating the flour silos with access to a rail spur.

sustainability aspects. But the community ethos played less of a role in the going-green decision. It was the owners, the Taddonio family, who brought environmental concerns to the table. Mr. Sanchez said, “Pursuing LEED certification was a commitment the family and company made to its employees, its customers and its community.” A current project applies sustainable design to distribution facilities, starting with the home campus.

Greenfield, brownfield

Today, LEED certification is most often associated with new-from-the-ground-up buildings. That’s the case with the announcement in March of Bimbo Bakeries USA’s Lehigh Valley, PA, multiple-line bakery and the earlier openings of new sites for Baldinger Bakery at St. Paul, MN; Full Bloom Bakery at Newark, CA; Kettle Brands at Beloit, WI; and Mission Foods at Panorama City, CA. But far more LEED projects involve expansion of existing manufacturing locations or repurposing of brownfield sites.

Sustainable building design fits the full range of such projects. Conversion of brownfield sites is one area where project owners can gain the credits to certify as a LEED building, and the US Green Building Council (USGBC), Washington — the developer of LEED — has emphasized the conversion of brownfield sites as a major goal. “The council encourages use of brownfield facilities,” said Stefanie Young, USGBC’s director of technical solutions. “They tend to be underutilized.

“It can be a challenge, but it’s worth the investment when it makes business sense,” Ms. Young continued. “Brownfield redevelopment has been part of LEED’s scope since the beginning.”

According to Mr. Sanchez, the new Baldinger facility encompassed both brownfield and greenfield aspects. It was built on a previously occupied industrial site and yet was all-new construction.

“However, brownfield buildings like Mile Hi’s new bakery can be very challenging,” Mr. Sanchez said. “You can find a lot of surprises. For the Denver project, we couldn’t design-in sustainability from

the construction aspect, so we did a great deal of replacement, which included the roof and ventilation system.” Despite a long list of required infrastructure changes, the company was able to retain 95% of the building’s structure.

“It is more challenging to work with a brownfield facility, but it makes a better story to take a vacant building and make it sustainable,” Mr. Sanchez noted. “It’s better for the environment, and many LEED-certified buildings are that way.”

Now for version four

LEED, introduced by USGBC in 2000, was never intended to be a static rating system. Over the years, it has become a common global language for best practices. LEED v4, which went live in November 2013, provides greater recognition of regional contexts around the world. It offers newly adapted rating systems for specific sectors, adding two for warehouses and distribution centers.

“We’re demanding stronger energy performance, better materials, increased water efficiency and accounting for human experience,” said Rick Fedrizzi, CEO and founding chairman of USGBC. “That spirit is captured in LEED v4.”

LEED now has more guidance and requirements specific to manufacturing and industrial facilities and emphasizes high-priority aspects, such as encouraging effective energy management and benchmarking, according to Ms. Young. “As we continue to develop LEED, it has to drive market transformation to a larger scale while still being applicable to international projects,” she said.

USGBC noted that LEED is now present in more than 150 countries and territories, and international projects now represent almost half of all square feet registered under LEED. Major markets for LEED

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include Canada, India, China, Brazil and, increasingly, developed nations in Europe. “As a US-based company, if you’re going to expand internationally, you have to understand the environmental conditions that apply there,” Ms. Young explained. “LEED is now more than ever a global standard”

More buzz, more projects

Among baking and snack companies, sustainable building projects have become more popular. “We have a current project targeting LEED as part of the expansion of an existing building,” Mr. Carr noted. “In addition, everyone we speak with is interested in sustainability.” There are extra costs to that decision, but as Mr. Carr observed, some costs can be recouped directly, “and some must be offset

by a willingness to spend more to be — and to be seen as — a company with sustainable goals.”

LEED certification represents the Mount Everest of sustainable design, yet many improvement projects seek less lofty heights but ones that still boast a green reward. Mr. Jernigan explained, “Almost all of our projects in the past few years have incorporated some sustainability features whether it be energy-efficient lighting, daylight harvesting, water usage reduction or high-efficiency motors. Very few seek LEED certification, probably 5%, but all are incorporating sustainable features.”

Charlie Creswell, senior project manager, Webber/Smith Associates, Inc., Lititz, PA, confirmed that nearly all the company’s client projects involve sustainable design in one way or another, although very few food industry projects strive for certification. “However, almost all owners are interested in sustainability and want to include appropriate elements in their projects,” he said.

These projects vary widely, and so do their goals. Reviewing eight of the company’s recent baking and snack projects, Mr. Carr identified elements of sustainable design to involve insulation systems, wastewater discharge, sanitation water recycling and minimization, oven heat recovery systems, LED lighting, advanced lighting controls, roof skylights, waterless urinals, rain gardens, wetland restoration, HVAC management, recycled wood, white roofs, ammonia refrigeration and energy-efficient electric motors.

Sometimes local requirements push bakers into sustainability projects, and that then brings up related items. “For small projects that may not come under energy code requirements, we always note the new requirements and suggest that owners consider including appropriate sustainable design elements, both for cost savings where available and to be better prepared for the future,” Mr. Creswell said.

Specific to the baking and snack food industries, green building options exist for capturing waste heat from ovens and fryers to provide steam and hot water to the processes. “These systems can substantially reduce and, in some cases, may eliminate the need for boiler capacity,” Mr. Creswell said.

Ingredient handling — flour especially — represents another opportunity. “Railcars provide a significant sustainability advantage [versus trucks],” Mr. Creswell said. “Many non-food industries do not have similar inbound or outbound goods that can be mined for energy reductions.”

Better definition of return on investment (ROI) for green projects, previously difficult to quantify, also explains the willingness of food companies to travel in this direction. “All clients are seeking sustainable features that make economic sense from an ROI

Saves almost 3 million kWh in 2014

Mile Hi Bakery received the 2014 Energy Design Assistance Achievement Award from its utility vendor for saving energy and cutting carbon dioxide.

The award comes from Xcel Energy, the Minneapolis-based electric and natural gas company that serves Denver. The bakery accepted this honor during Xcel’s 2015 Energy Efficiency Expo at Denver’s Sports Authority Field on April 14.

Now in full operation for more than a year, the new bakery saved 2,827,044 kilowatt hours (kWh) on its energy use and accomplished a carbon dioxide reduction of 1,607 tons during 2014.

When Mile Hi owners Tony Taddonio, CEO, and Kristy Taddonio Mullins, president, decided to create a new bakery to handle the company’s growing foodservice business, they chose a brownfield site, a former beer distributor’s warehouse adjacent to Mile Hi’s existing campus. Making the new bakery as environmentally sustainable as possible, they put LEED Gold Certification at the top of their priority list.

Energy usage played a key role in accomplishing this goal. Mile Hi’s new plant team, led by bakery directors Bryan Sanchez and Paul Chan, worked with Xcel on several energy usage projects. One of these was implementation of an interruptible service option credit program. Another involved an energy consultation that rated the new facility.



In 2012, Shearer's Foods opened a tortilla and potato chip plant at Massillon, OH, with LEED Platinum Certification — another industry first for sustainable design.
Blaine Sutton

standpoint,” Mr. Jernigan said, “and it is our responsibility to stay abreast of the changing technologies.”

Getting started, finding resources

Whether aimed at LEED certification or not, projects involving sustainable design require a coordinated effort, according to Ms. Lucero. “Start early,” she advised. “Demonstrate an organizational priority, find a champion with authority, enlist a strong owner’s representative and have an experienced consultant or team members. Be patient with the hoops and persistent with tracking. Share the goals and targets across business disciplines, and over-communicate.”

LEED certification works by meeting established prerequisites and accumulating points awarded in eight categories: location and transportation, sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation and regional priority. Certification levels rise with the number of points earned: Certified, 40 to 49 points; Silver, 50 to 59; Gold, 60 to 79; and Platinum, 80 and above.

Ms. Lucero explained, “Most projects should be able to go after a number of points for site, water-efficient fixtures and landscaping, materials management and indoor air quality,

which covers low-emitting materials, increased ventilation and pollutant source control.”

The LEED program doesn’t stop with completion of the building or project. “We require recertification every five years,” Ms. Young said. “To date, almost two hundred projects have gone through this.”

These projects often involve skills not common to the baking and snack industries. Operators can tap several resources, including their utility companies and local governments. The American Institute of Architects and its local chapters can also assist.

USGBC maintains a database of LEED-capable experts and stakeholders. “There are a variety of accredited professionals with different specialties,” Ms. Young noted. “The council has local chapters around the US and can help you find green professionals in your area.”

Additionally, the council sponsors the annual Greenbuild International Conference. This year’s event takes place Nov. 18-20 at Washington, DC.

Building design helps determine how big a footprint companies leave on the natural world. More and more consumers — and customers like Wal-Mart — want to know that the foods they buy are made in environmentally responsible facilities designed and built with sustainability in mind. Make your next project a sustainable one, and you’ll join many of your peers in this growing field. •



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