

Going, Going Green

- **Going green is no longer just a trend, it's a full on movement.**
- **In an effort to share the steps AACC International members are taking in the green movement, we've featured a few of our corporate members and their eco-friendly business practices.**
- **If your company is behind the times in regard to sustainability, read on to find out more about what members of the food industry are doing to be lean and green.**

future" (1). Furthermore, sustainability is gathering steam, according to Innova Market Insights, who named it one of their top 10 new food trends, noting that "consumers are looking for locally sourced, more sustainable, and fairly traded products" (10). Moreover, they also reported that carbon footprinting is set to move mainstream (10). In an effort to share the steps our members are taking—big and small—in the green movement, we've featured a few; however, it's clear, AACC Intl. corporate members are going, going green.

Up first is Aunt Millie's, a family-owned bakery company, that now uses degradable inner wrap on its Hearth Breads. McKee Foods, makers of Little Debbie snack cakes, based in Tennessee, has a recycling center inside one of their plants in order to recycle three grades of paper. In just one year, the company recycles: 1,500 tons of cardboard, 180 tons of paper ingredient bags, 120 tons of mixed office paper, and 60 tons of plastic (11). Their efforts have reduced the amount of waste they send to the landfill each year by one-half.

Caravan Ingredients—a manufacturer and supplier of bakery and food ingredients—aims to increase energy efficiencies by reducing utilities and omissions and taking advantage of cost-effective transportation, according to their website (3). For example, in their Totowa, NJ, U.S.A.,

location, T5 fluorescent lighting was installed, generating a 12% reduction in green house gases (3). Likewise, corporate member General Mills established a virtual collaboration and video conferencing system, reducing air travel by more than 9% and reducing their greenhouse gas emissions by 1.5 million pounds (8). Notably, Cargill, an international marketer of food, agricultural, financial, and industrial products and services, with a presence in 67 countries, has reduced greenhouse gas emissions by more than 1.3 million metric tons in the last couple of years. Moreover, they awarded \$3 million to a Columbia University project to help preserve the Amazon rainforest, a project aiming to reduce deforestation and degradation by establishing reliable standards for carbon credits. Cargill operations in Geneva are transitioning from on-paper printed reports and invoices to an electronic format. Their paper usage had been reduced by three million pages per year, saving 400 trees and 42 tons of carbon dioxide emissions annually (2).

Other companies, such as ConAgra Foods, Inc., whose brands include Healthy Choice and Chef Boyardee, are looking at total energy reduction. ConAgra's sustainability goals to be achieved by 2015, include a reduction of greenhouse gas emissions by 20% per each pound of food product delivered (when compared to 2008 emissions), diverting solid waste from landfills by at least 75% compared to 2011 levels, and an increase in the use of recycled content in packaging by 25% (3).

TIC Gums works with suppliers to harvest gum without permanently damaging trees. For TIC Gums, "Organic practices touch every aspect of the supply chain, including harvest of the gum, segregation of raw materials, manufacturing processes, maintenance of our facility and grounds, and pest control" (12). When possible, the company also uses recycled paper and soy ink.

A. L. ARANOWSKI
Cereal Foods World
 St. Paul, MN, U.S.A.

Earlier this year, *Cereal Foods World* made a call to AACC Intl. corporate members, requesting updates on our members' green business practices. From company to company, policies and practices vary, ranging from a proclamation of support to detailed manifestos with comprehensive sustainability practices. While the levels of each business's involvement and commitment may differ, what is clear is that most members are moving toward more environmentally friendly packaging, manufacturing, products, facilities, and strategies, attempting to stay on top of this burgeoning movement. Certainly, this is not a fad; "going green" is here to stay. According to Agriculture and Agri-Food Canada, going "green" is no longer simply a trend, "but a movement that has been taking shape for the past thirty years and is expected to only continue and grow in the

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Another member committed to environmental conservation and a leading producer of food ingredients, enzymes, and bio-based solutions is Dansico, headquartered in Copenhagen, Denmark. Every time Danisco Australia purchases a company car, they plant 17 trees—enough to absorb the estimated carbon dioxide emissions from the average Australian car in one year (6).

More and more, companies are being recognized for their “green” efforts. Franz Bakery, the largest independent bakery in the Northwest United States, received an Energy Champion Award from the U.S. Department of Energy in recognition of its total energy reduction of more than 15% at its plant in Portland, OR, U.S.A. (6). *Newsweek* ranked General Mills as one of the “100 Greenest Companies in America” in 2009 (9) and as one of *Corporate Responsibility Magazine*’s top 100 Best Corporate Citizens, coming in ranked at three (9).

Below, a few pioneers of the green movement have provided sketches of their green business practices, ranging from energy, water, and resource conservation to pollution prevention and waste and packaging reductions.

General Mills—One of the Greenest

General Mills is one of the world’s leading food companies, operating in more than 100 countries around the world and marketing more than 100 consumer brands. Today, the company is working, brand by brand, toward trimming waste and reducing its environmental footprint. Since 2005, their solid waste generation rate has been reduced by 24.5% and their water usage was reduced by 2.2%. Progress on reducing energy consumption and greenhouse gas emission rates has been 2.4% and 2.3%, respectively.

General Mills’ Betty Crocker Warm Delights bowls are now made with 40% less plastic. General Mills’ San Adrian facility in Spain switched to an electricity provider that uses only natural and renewable sources, including wind power. The move saves \$175,000 per year in costs and reduces carbon dioxide emissions by more than 6,000 tons. The plant now gets 100% of its electricity—and a third of its energy overall—from renewable sources.

Finally, leftover oat hulls from making Cheerios are being used to fuel a power plant near Minneapolis that now has the capacity to generate enough electricity to

power 30,000 homes. Soon, oat hulls will also be used to generate electricity for the company’s mill in Fridley, MN, U.S.A., cutting the mill’s carbon footprint by 21%.

From waste reduction to utilizing renewable resources, it is clear why *Newsweek* ranked General Mills as one of the 100 Greenest Companies in America. More information can be found at www.general-mills.com/csr.

SunOpta’s Green Initiatives

SunOpta is committed to reducing its environmental footprint and promoting sustainable business practices. SunOpta Foods specializes in sourcing, processing, and distributing natural and organic food products and food ingredients. As one of the world’s largest organic ingredient suppliers, SunOpta actively encourages farmers worldwide to convert to organic production. SunOpta’s nonfood divisions specialize in chemical-free pulp and paper technologies, cellulosic ethanol generation, and recyclable abrasives in the construction business.

The company’s environmental initiatives are widespread and over the past year they’ve received two awards in recognition

A Siemer ad appeared here in the printed version of the journal.

of their commitment to environmental sustainability. In October 2009, the Canadian Health Food Association (CHFA) presented SunOpta with the Environmental Spotlight Award for Suppliers for their leadership and outstanding commitment to the environment. SunOpta received this award for its focus on environmental sustainability at both a local and global level.

At the end of last year, SunOpta also received the Regional Industrial Environmental Achievement Award from the Central States Water Environment Association. This award was granted to SunOpta's oat fiber manufacturing plant in Cambridge, MN, U.S.A., for outstanding contributions in waste minimization, pollution prevention, environmental compliance, and environmental stewardship. SunOpta's Cambridge facility reduced water use by approximately 20 million gallons (77 million liters) in a 12-month period, dramatically improved the water quality of its waste-water discharge, and achieved significant energy savings.

The company is also one of 10 founding global corporations to endorse the United Nation's CEO Water Mandate that represents a call for action and provides a strategic framework to address issues of water sustainability in response to the emerging global water crisis. Since signing on to the mandate in July 2007, SunOpta has successfully completed a series of water conservation programs at its fiber production plants in Minnesota, Kentucky, and Iowa and has reduced consumption of water by more than 300 million gallons (1,136 million liters). The knowledge gained from these initiatives is being applied to other SunOpta facilities around the world.

This year, SunOpta completed an environmentally responsible energy recovery project at its Cambridge, MN, oat fiber facility. The planned installation will extract methane from the digestion of waste-water resulting from the oat fiber production process, converting the methane to pipeline quality natural gas and using this energy to power the facility. When completed, the project will significantly reduce the release of greenhouse gases and various waste materials from the facility as well as provide an excellent return on invested capital of approximately \$1 million USD. This initiative is consistent with SunOpta's stated objective of reducing its environmental footprint and promoting sustainable business practices.

SunOpta is tracking its carbon footprint at each facility (72 facilities worldwide) and is implementing company-wide energy conservation programs. In addition, facility-based environmental teams are actively

involved in recycling and waste-reduction and supporting community environmental programs. To learn more about SunOpta's green initiatives, visit www.sunopta.com/earth/index.html.

Briess Recognized as an "Energy Saver"

Briess Malt & Ingredients Co. has received a U.S. Department of Energy "Energy Saver" award for achieving significant energy reductions from 2006 to 2008. The award, presented in November 2009 to CEO Monica Briess during an awards presentation in Washington, DC, U.S.A., was awarded to 140 plants throughout the United States that achieved more than 7.5% total energy savings as part of the department's Save Energy Now Program. Overseen by the U.S. Department of Energy Industrial Technologies Program, Save Energy Now is a national initiative to reduce industrial energy intensity 25% or more in 10 years. Since its inception, the program has involved 2,400 Save Energy Now plants, which have reduced CO₂ emissions by 2.3 million metric tons.

"Briess had undertaken efforts to be an environmentally conscious manufacturer, but we were looking to enhance this program," said Gordon Lane, who joined the company as president/COO in 2002. "We found out about the Save Energy Now initiative in 2006 and it helped us pinpoint additional ways to reduce energy usage and CO₂ emissions and develop our 'Green with Briess' program. The Save Energy Now initiative is a good fit for Briess, and it's always nice to be recognized for accomplishing a goal. We're very proud to have received this award and will continue to move forward in our conservation initiatives."

The 2006–2008 energy reduction initiative at Briess began with an audit by the University of Wisconsin-Milwaukee Graduate Engineering Group. The audit established a baseline of energy usage at all Briess production facilities and noted a number of energy-efficient practices that Briess was already employing such as computer-automated processes and the use of variable frequency controls. Briess further employed thermal imaging to pinpoint areas of electrical and heat loss. Acting upon audit recommendations, Briess reduced energy usage up to 20% in some plant operations from 2006 to 2008.

Since completing the Save Energy Now program in 2008, Briess has continued efforts to further reduce energy usage and CO₂ emissions. Natural gas usage at one of the company's malhouses has been reduced an additional 20% since 2009 with

the installation of more heat exchangers on kilns. Electrical system improvements in the same facility have reduced electrical usage an additional 8%.

Operating in an environmentally conscious manner has become a robust and integral part of day-to-day operations and long-term business plans for the Wisconsin-based company, which has labeled its sustainability program "Green with Briess." Additional efforts include recycling 99% of all waste streams, using waste to help generate a continuous 1.5 kwh of electricity at a local farming operation, and packaging all products in recyclable materials. Find out more at www.briess.com/food/About/green.php.

Sonneveld BV's Sustainable Bread Production

The Dutch-based bread-improver company Sonneveld is currently working toward more sustainable bread production. Bread is massively downgraded from high-quality food to feed or waste. Bread is the largest single item in the consumers' waste bin. Surplus bread in retail, if not devaluated by downpricing at the end of shelf life, will end up as animal feed. In addition, overages, production errors, and out-of-spec bread in bakeries are downgraded to animal feed. It is estimated that 10–25% of high-value staple food is thus degraded to feed or worse. At best, bakeries or retailers get a small fee when they are able to sell it as animal feed; worst case is that they need to pay for dumping it.

Sonneveld has recently launched Sonextra Sustain—a sustainable solution to the above problem. It is a unique starter that can efficiently generate sourdough from wheat bread. This sourdough can be added to the normal bread recipe to delivers extra taste, flavor, and softness (up to 20% softer after three days) without deteriorating the bread quality, including its crumb structure and volume. The pH lowering during sourdough fermentations is fast enough to prevent rope formation by *Bacillus subtilis* and *B. cereus* bacteria. These spore-forming bacteria can be a serious infectious problem in bakeries rendering bread unpalatable. The composition is also designed such that flavor precursors are generated from the fermented bread, which deliver a nice, more profound bread flavor when baked. In the meantime, nutrients for the starter microorganisms are liberated to speed up the fermentation. Optimum fermentation times are thus decreased by a factor of 3 to 4 (from 36–48 hours to 12 hours), which enables the bakery to process the leftovers and waste bread within 24 hours. The lowering of the pH in the

sourdough is fast and stabilizes within those 12 hours to a level that does not give an acid taste when added to up to a 20% flour basis in the final bread recipe.

Sonextra Sustain is able to close the production cycle in a sustainable way by serving the three Ps:

- People will like the profound flavor and softness;
- Our planet will not be loaded by more waste or animal feed; and
- A profit will be generated as precious food is not downgraded to lower cost feed or waste.

Sonneveld reduced the dustiness of their powder improvers 15 years ago; uses non-hardened low TFA fats in its liquid, paste, block, and powder improvers since 2008; has banned animal-based cystein since 2008; and has recently concentrated many improvers in order to reduce transportation and storage costs and reduce working capital. Recently, Sonneveld's Sonextra Sustain received the Frost & Sullivan 2010 New Product Innovation Award.

For more information on Sonneveld Group BV, e-mail info@sonneveld.com or visit www.sonneveld.com for its full sustainability report.

References

1. Agriculture and Agri-Food Canada, Agri-Food Trade Service. Going green: The future of the retail food industry. Published online at www.ats.agr.gc.ca/amr/4531-eng.htm#h.

2. Cargill. Corporate responsibility. Published online at www.cargill.com/corporate-responsibility/index.jsp.
3. Caravan. Sustainability. Published online at www.caravaningredients.com/About-Us/Sustainability.aspx.
4. ConAgra Foods, Inc. Environment, occupational health, and safety philosophy. Published online at http://company.conagrafoods.com/phoenix.zhtml?c=202310&p=corp_sust_dev.
5. Danisco. Sustainability. Published online at www.danisco.com/wps/wcm/connect/danisco/corporate/about%20danisco/sustainability/sustainability_en.htm.
6. Franz Bakery. Recent news. Published online at www.usbakery.com/whats-new/news/franz-bakery-name-2009-save-energy-now-champion-plant-us-department-energy.
7. General Mills. Corporate social responsibility 2010. Published online at www.generalmills.com/corporate/commitment/2010_CSR.pdf.
8. Greenbiz.com. General Mills products shifts lead to climate goal challenges. Published online at <http://www.greenbiz.com/news/2010/04/14/general-mills-product-changes-climate-goal-challenges>.
9. Greenbiz.com. HP, Intel, General Mills top list of best corporate citizens. Published online at <http://www.greenbiz.com/news/2010/03/02/hp-intel-general-mills-best-corporate-citizens#ixzz0IGvPNqfM>.
10. Innova Market Insights. Simplicity heads top ten food NPD trends for 2010 (press release). Published online at www.innovadata.com.
11. McKee Foods Corporation. Environment: It's good business. Published online at http://mckeefoods.com/Business_Philosophy/Environment.htm.
12. TIC Gums. Sustainability policy. Published online at www.ticgums.com/sustainability-policy.asp.



Amanda L. Aranowski, based in St. Paul, MN, U.S.A., is the managing editor for *Cereal Foods World* and the membership communications manager for AACC International. She holds B.A. and M.A. degrees in English from Michigan State University and the University of Toledo, respectively. Have a feature story idea for an upcoming issue? E-mail her at aaaranowski@scisoc.org.

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