



SUSTAINABILITY OUTLOOK 2025

HOW RESTAURANTS AND RETAILERS
ARE LEADING THE CHARGE

**HOW TECH TOOLS ARE MAKING
IT EASIER TO BE SUSTAINABLE**

**SLOWING CLIMATE CHANGE
THROUGH REGENERATIVE
AGRICULTURE**

**THE BUSINESS CASE
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WELCOME

SAM OCHES

EDITOR-IN-CHIEF,
NATION'S RESTAURANT NEWS

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WITH GREEN LOCATION, TEXAS ROADHOUSE GETS A CASE STUDY IN SUSTAINABILITY

The new Greeneville, Tenn., restaurant is a model for the casual-dining chain's potential eco-friendly future.



**SAM OCHES, EDITOR-IN-CHIEF,
NATION'S RESTAURANT NEWS**

Some restaurants that enjoy positive sales and traffic growth quarter after quarter might follow the adage, "If it ain't broke, don't fix it." And for the most part, Texas Roadhouse — the No. 2 full-service brand in the U.S. by sales, having closed 2023 with nearly \$5 billion at 638 locations, according to Technomic — follows that path, with very few changes to its menu and service structure over the course of its 32 years in business.

But there's at least one change that the Louisville, Ky.-based casual chain is exploring that could make a big impact on the business: sustainable operations. And the company took a very strategic, measured approach to that evolution by recently opening a sustainability-focused restaurant in Greeneville, Tenn., that can serve as a case study for sustainable innovation.

Travis Doster, chief communications officer at Texas Roadhouse, said that with so much innovation in sustainable equipment, tech, and tools, the company wanted a better look at what might make sense for the stores — without committing to a wholesale change that would require a huge upfront investment.

"So we said, 'You know what, why don't we just open a restaurant and [get] proof of concept and put some different pieces of equipment and different items in there and just see what happens and see if it really does save energy?'" Doster said.

The Greenville location, which opened in November, boasts a bevy of sustainability-minded tools and Energy Star-rated equipment. That's especially true in the kitchen, where Texas Roadhouse has invested in a more sustainable dish machine, oven, fryers, and refrigeration, plus a bulk oil system that automatically recycles the oil. There are also low-flow faucets, toilets, and urinals, plus energy-efficient lighting, insulation, and windows. There are solar panels on the roof, and Doster said the restaurant will soon try composting.

To commit to sustainable operations, he said, any change needed to make both "sense and cents." In other words, new tools have to help the store be more efficient and effective, he said, but also be smart for the bottom line. The Greenville location has a managing partner just like any other Texas Roadhouse — an owner-operator who buys into the restaurant and gets 10% of the profits — so the company had to ensure the investments would pay off (it also covered the upfront costs).

"I think this was a big step for us just to say, 'Hey, let's try it,'" Doster said. "Because again, it's not a marketing effort or anything, and it is some additional work on our staff, but I think we get a win if we get three or four things out of this that we can expand or give restaurants as options."

Doster noted that Texas Roadhouse has been on a sustainability journey since 2017, initially driven by late founder Kent Taylor and his passion for the environment. That journey originally included a focus on "bees and trees," Doster said. The company supports beekeepers around the country and even keeps about 200,000 bees at its headquarters, selling the honey to support its own Andy's Outreach employee assistance fund. For the trees, it supports the Arbor Day Foundation to plant trees throughout the country, usually in areas devastated after hurricanes or fires.

The company's sustainability initiatives have since included leveraging an energy management firm to monitor and disclose greenhouse



gas emissions at both stores and headquarters, as well as a sustainable uniform program that kept 5.5 million plastic bottles out of landfills and oceans by incorporating the plastic into hats, aprons, and uniform shirts.

The Greenville location could provide a huge step forward for Texas Roadhouse as it continues on that sustainable journey.

"It may not work, and if it doesn't, then great lessons learned," he said. "But if it does, it could be expanded system-wide. How awesome would that be?"

RESTAURANT TECH COMPANIES WANT TO MAKE IT EASIER TO BE SUSTAINABLE

When it comes to sustainability in the restaurant industry, simplicity and an emphasis on the bottom line remain key.



REYNA ESTRADA, ASSOCIATE EDITOR,
RESTAURANT BUSINESS

Since installing an HVAC unit powered by heat pump technology at one of his Dunkin' units in San Antonio, Sean-Paul Ferrera began saving approximately \$1,000 a month on his utility bill.

The new HVAC, which was installed in April 2023, also helped Ferrera decrease energy use at that Dunkin' by 60%. And that location isn't Ferrera's only one to cut down its energy consumption of late.

Ferrera owns six Dunkin' units in Texas, and over the past three years, utility costs for five of his stores have been reduced by at least 10%.

This cost savings is, in part, thanks to Dunkin's partnership with Budderfly, an energy efficiency technology company. The companies' partnership began three years ago, and is currently in a pilot phase.

As a part of the collaboration, Budderfly now manages the energy infrastructure in Ferrera's Dunkin' units, monitoring energy use and upgrading various systems, including HVAC. The company's services have saved five of Ferrera's stores a total of 576 megawatt hours of electricity, according to Budderfly, which said that equates to 408 megatons of carbon emissions.

Sustainable technology companies like Budderfly are leveraging their skills to make it easier for restaurants to be environmentally conscious. Here's a look at how they're doing it.

BUDDERFLY'S HOLISTIC VIEW

Budderfly takes a wide-ranging approach to energy reduction, considering environmental impact and analyzing the refrigeration units, lighting and insulation.

"You can't manage what you can't measure," said Al Subbloie, CEO of Budderfly. "So, we will submeter each facility, which gives us a good breakdown of where energy is actually be-

ing used."

From there, the company then determines where to make changes.

"They came in, after an initial survey, they determined where they were gonna see the greatest net benefit from an energy savings standpoint, so they re-lamped stores, they re-lamped my parking lots in some cases," Ferrera said. "They put individual energy monitoring on every circuit inside of my restaurants to better understand how we, as Dunkin', are using energy, how each [piece of equipment] is using energy."

Budderfly's services come with no upfront costs. Instead, the tech company invests in the facility's energy infrastructure and makes its money

"They put individual energy monitoring on every circuit inside of my restaurants to better understand how we, as Dunkin', are using energy, how each [piece of equipment] is using energy."

—SEAN-PAUL FERRERA, DUNKIN' FRANCHISEE



ILLUSTRATION BY NICO HEINS

by splitting the energy savings with the restaurant. The idea, according to Subbloie, is making it easy to do the right thing.

“One of the first things [operators] say is, ‘This is too good to be true. What’s the catch on it?’” noted Subbloie.

Ferrera said that the partnership with Budderfly provided tools he’d likely not have access to otherwise.

“Coming from large-scale construction and engineering, building management solutions were big in airports and seaports, but when I got into this very small space, it’s just not

something that you can afford to do,” he said. “But Budderfly gives us access to that, all those tools that your average franchisee or restaurateur is not going to be able to access with the margins that we see in our industry.”

Not only has Ferrera saved money and reduced his restaurant’s energy use with heat pump technology, but the donuts taste better, and the store is more comfortable for customers, he says.

“It works very, very well. So, my location where we have it, temperature stays stable all the time,” Ferrera said. “It’s a constant 72 in the space,

we don’t get the swings up and down, which traditional AC forces you to have because the system runs then it stops.”

In addition, the new HVAC system is approximately half the size of the old unit.

The new system also pulls moisture out of the air, according to Ferrera, which helps the store remain at a consistent humidity level. As a result, Ferrera said the bakery products are lasting longer and stay fresher.

In addition to the heat pump technology, Budderfly uses an energy recovery ventilator approach, which separately manages airflow.

Starting next year, Subbloie hopes to roll out the heat pump-powered HVAC to somewhere between 25% and 80% of Budderfly’s customer base.

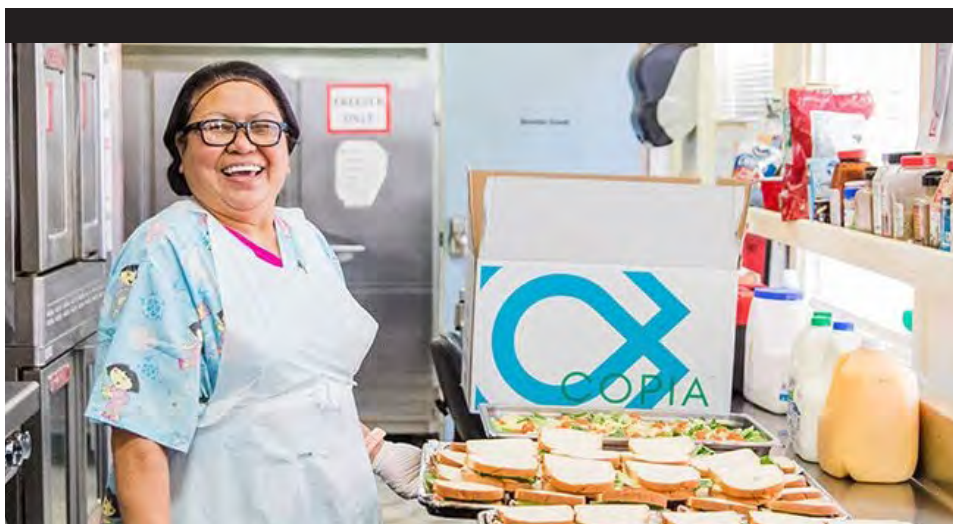


PHOTO COURTESY: SEAN-PAUL FERRERA

COPIA’S FOOD RECOVERY NETWORK

Other technology companies help operations focus on the issue of food waste.

Copia is one such company. It of-



fers its clients a fully automated food-waste tracking, prevention and redistribution platform, attacking waste from multiple angles.

According to Kimberly Smith, CEO of Copia, simplicity and convenience were key considerations in developing the technology.

“Our goal is to make it as simple as possible for businesses to do the right thing,” Smith said. “And so, that carries over into our technology. We regularly talk about how convenience is a critical factor in supporting adoption for technologies like Copia.”

Copia clients can track food waste with an app for the back of house, as well as donate surplus food to local nonprofits.

Jeff LaTulippe, senior vice president of growth and innovation at True Food Kitchen, a Copia client, described the company as similar to a DoorDash or UberEats for food donation.

When a restaurant employee would like to make donation, they simply request a pick-up. The app then assigns a courier to pick up the order and deliver it to a local nonprofit. LaTulippe noted that the only feedback he’s received on the program is that it’s very easy to use.

According to Smith, Copia’s technology presents numerous benefits for foodservice operations.

“We’re making a positive social impact for communities in need by diverting perfectly edible surplus food; we are reducing carbon emission offset, so Scope 3 emissions and also returning meaningful tax deduction, so there’s a financial ROI for the businesses that work with us as well,” she

said. “It’s a win-win for everyone.”

Additionally, Copia has a 99.9% match rate, which means if a business has food to donate, Copia can nearly guarantee it will find a home for that food.

TENZO’S FORECASTING TOOLS

Forecasting tech can also help operations prevent food waste and save money.

One UK-based company is doing just that with a system that helps restaurants forecast 30% to 50% more accurately, according to Elizabeth Norton, senior marketing manager at Tenzo.

Tenzo uses AI algorithms that look at historical data sets as well as seasonality, events and weather to provide restaurants with a report that predicts how much inventory they should order.

“Tenzo is what we call a restaurant performance OPS platform, which basically allows restaurateurs to make data-backed decisions in real-time for their businesses, so they can improve performance in the day-to-day,” said Norton.

The technology is mobile-first—Norton said that 70% of Tenzo’s users access the platform on their phones, making it “ideal for busy restaurateurs who are kind of always on-the-go: operators, directors and managers who have to move from site to site.”

When it comes to sustainability, Tenzo’s technology has shown re-

sults. Norton said that one site was able to its decrease food waste by 80% just by increasing the accuracy of its food orders.

“Our goal is to reduce 800,000 tons of food waste by 2025 and save the restaurant industry £100 million in costs and that’s through using this AI algorithm forecasting platform to give restaurants an easier time kind of choosing the right food and ordering the right amount and not having to throw away huge garbage cans full of food,” said Norton.

Norton said that Tenzo differentiates itself from other forecasting companies by being easily integrated into tech platforms restaurants may already use.

“You sign in and all of your data is adjusted and put into one easy place to see without having to like switch back and forth to other different platforms and have a list of Excel sheets to try makes sense of,” he said.

MANAGING DATA

One thing most of these technology companies have in common is their ability to capture valuable data. Budderfly, for instance, provides its customers with details on how their energy savings translate to reduced greenhouse gas emissions.

Ferrera said this data is easily to access and understand. It also helps the team grasp what changes need to be made to reduce energy use and cut costs.

“The Budderfly solution is not just, hey, we’re saving a couple of dollars. It’s really about, how do we make this sustainable long-term,” he said.

Similarly, Copia provides its restaurant customers with an array of information, including how many pounds of waste they diverted from the landfill, how many meals were donated and what their carbon emissions offset is.

The Cheesecake Factory, for instance, has tracked the impact of meals it’s donated using Copia.

“In 2022, we donated more than 570,000 pounds of food to more than 700 local nonprofits, diverting it from landfills to give to those in need,” said Nick Sterling, director of sustainability at The Cheesecake Factory. “This helped to avoid almost 2.5 million pounds of greenhouse gas emissions.”



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6 EASY WAYS TO GO GREEN

From zero-waste operators with their own farms to fast-food chains putting vegan options on the menu for the first time, sustainable businesses are on a sliding scale.



JOANNA FANTOZZI, SENIOR EDITOR,
NATION'S RESTAURANT NEWS

Most operators today are preoccupied with boosting traffic numbers, as consumers become choosier spenders. In an inflationary environment, operators can respond by offering discounts or filling a robust LTO calendar, but there may be another option that appeals to potential guests.

Restaurants can invest in sustainability practices.

According to the National Restaurant Association, sustainability and local sourcing is the No. 1 consumer macrotrend heading into 2025. An operator that practices eco-friendly operations could attract more consumers especially in the younger Gen Z or millennial demographics.

For many operators, however, going green gets pushed down the priority list, because of fears of added ex-

penses. While it's true that eco-friendly alternatives to plastic straws and packaging cost more up front, and organic food is not exactly cheap, these are not the only sustainable steps an operator can take.

"If I tell a restaurant, 'Don't do anything with energy, water, and waste; just invest in organic ingredients and [sustainable] packaging,' then there's a good chance it's going to cost more," said Michael Oshman, CEO of the Green Restaurant Association. "But if we take a holistic, comprehensive approach, then restaurants can absolutely save money, and they do. Restaurants that make bad business decisions don't survive. ... If you look at the restaurant that's doing nothing [environmentally] and his neighbor is using less energy, less water, and saving on his waste bills, then the second one is winning."

"The problem is with restaurants that say, 'come to our carbon-neutral restaurant,' and meanwhile there's nothing sustainable on the menu, no energy or water efficiency,"

—MICHAEL OSHMAN, CEO OF
THE GREEN RESTAURANT
ASSOCIATION

Here's how to get started on sustainability in a way that doesn't break the bank.

THINK REUSABLE INSTEAD OF PLASTIC-FREE

1 While plastic-free biodegradable packaging can cost more upfront than traditional plastic clamshells and cutlery, a more cost-effective investment could be reusable packaging. Companies like DeliverZero offer solutions for a closed loop reusable packaging system, where operators dole out food in reusable containers, and customers return them after their meals.

This year, dozens of larger restaurant chains like Starbucks and Dunkin' joined a large-scale returnable beverage cup pilot program in partnership with NextGen Consortium in Petaluma, Calif. The trial allowed customers to borrow a cup and then return it at one of many return bins throughout the city. NextGen had another reusable cup challenge right before the pandemic, and Starbucks and Just Salad are among a few brands that have previously trialed reusable programs within their own companies.

MAKE YOUR MENU GREENER

2 While most restaurants are not in a position to take meat entirely off the menu, adding some clearly labeled vegan and vegetarian options can be a good start. After all, meat and dairy production account for 14.5% of global greenhouse emissions, according to the Food and Agricultural Organization of the United Nations.

Americans are becoming more omnivorous, so adding plant-based menu items won't just be appealing to a niche audience. A 2021 study by research firm One Poll found that 47% of Americans identify as flexitarian and want to eat more plant-based meals than meat-based ones.

"Adding those items can bring in new customers, because you don't need to be a vegan restaurant to attract a vegan customer," Oshman said. "Even by having 10 or 20% of the menu items be vegan or vegetarian, it can really strengthen your current consumer base, and all of a sudden get on the radar of consumers that might not have been coming to the restaurant before."

WASTE NOT, WANT NOT

3 Reducing food waste is another cost-savvy sustainability tactic for operators. Technology can lend a hand here. Companies like PreciTaste and Choco offer smart food inventory management tools that can predict ingredient needs so that operators can cut supply costs.

There are also low-tech options for avoiding food waste. Brandon Collins is a corporate executive chef for Unilever Food Solutions, the sustainability arm of the consumer goods company (Hellmann's, Magnum ice cream) where he helps explore different ways for foodservice professionals to make more sustainable decisions. Food waste, he said, is one of the top ways a restaurant operator can reduce their carbon footprint, from using all parts of a raw ingredient to pickling leftover produce before it goes bad.

"A prime example is a carrot — whenever a carrot comes into the kitchen, nine times out of 10, the first thing a chef will do is throw away the greens," Collins said. "So that's waste, and then if they order them pre-peeled, that's more waste. But I could chop up the carrot head and make pesto, and I can turn the peels into carrot chips. It gives me so many more options than if I order them pre-peeled. This will cost me less money, and I'm not throwing away food."

REPLACE YOUR SPRAY VALVE

4 Sometimes, making a few tweaks to kitchen equipment can make all the difference when it comes to reducing energy costs and water usage. One of the simplest fixes is to replace the kitchen sink spray valve. According to Jeff Clarke, expert exchange director with the National Restaurant Association, a classic spray valve uses about 1.28 gallons of water per minute, but more efficient spray valves can get the job done using 0.7 gallons of water per minute. Over the course of a five-year lifespan of the piece of equipment, this could save operators about \$1,000 in water bills, Clarke said.

"Spray valves are not terribly exciting — you're not going to find a documentary on them, though you will find documentaries on solar power and electric vehicles," Oshman said. "But they are an easy change, and they're very inexpensive, and could save you lots of money."

AVOID GREENWASHING

5 Greenwashing — or misleading the public about your company's sustainability practices — is a controversial topic, and there's conflicting information on what exactly counts as greenwashing, and what does not.

For example, composting is a very trendy sustainability initiative. But not all cities have robust composting programs, or if they do, products could be mislabeled as compostable, and compostable products could easily end up in landfills by mistake. That's why the National Restaurant Association suggests operators do their homework before trying out a composting program.

"You have to understand your local infrastructure, know what fees are associated with the composting [and] how does the recycling and composting play together," Clarke said. "So to just jump in can be very difficult for operators, especially those with multiple locations."

Carbon offset credits are another controversial topic. While operators of all sizes use these — investing in solar, wind, and other “clean” energy sources to offset their own carbon emissions — some experts think this is a form of greenwashing because the operators don’t actually use solar or wind power firsthand. The Green Restaurant Association thinks that carbon offset credits are OK if done in conjunction with other sustainable practices.

“The problem is with restaurants that say, ‘come to our carbon-neutral restaurant,’ and meanwhile there’s nothing sustainable on the menu, no energy or water efficiency,” Oshman said. “Operators get these renewable energy credits and carbon offset credits because they think it’s something good. But you should do it in addition to, not instead of.”

GET ON THE SLIDING SCALE

6 Sustainability is a sliding scale, with operators on one side that are zero-waste composting masters that only use organic, locally sourced ingredients, and operators that want to start reducing their carbon footprint without breaking the bank. Even using eco-friendly cleaning products and energy star equipment is a step up from doing nothing.

“The reality is that with any large-scale societal problem, there is no silver bullet,” Oshman said. “There are many options, many sustainability certification levels. ... There are lots of things restaurants can do, from replacing their petroleum candles with electric ones to using green pest control. Not everybody’s an expert in sustainable seafood. We don’t want people to get discouraged.”

“If we take a holistic, comprehensive approach [to sustainability], then restaurants can absolutely save money.”

—MICHAEL OSHMAN, CEO OF THE GREEN RESTAURANT ASSOCIATION

SUSTAINABILITY CHAMPIONS

HOW THREE RESTAURANTS PUT ECO-FRIENDLY STRATEGIES INTO ACTION

Hannah’s Bretzel, Chicago

Hannah’s Bretzel is a three-unit concept famous for its German sandwiches made on authentic bretzel (pretzel) bread. Besides sandwiches, the brand is also known for its stringent sustainability practices.

Hannah’s Bretzel composts or recycles almost every bit of waste that comes out of the restaurant, purchase credits from wind and solar power companies, and purchase biodegradable packaging. But the brand has perhaps become best-known for its electric Mini Cooper, which the company uses to make all of its food deliveries.

While some of the brand’s eco-friendly investments end up costing the company more, Hannah’s Bretzel just charges about 30 cents extra per sandwich to offset those costs. Plus, the Mini Cooper saves the company money.

“We saved about \$9,000 in gas money, and we park it in a public parking garage where they have EV chargers,” founder Florian Pfahler said. “We basically operate that car for free, and the savings make up any anything I pay in other sustainability areas.”

Besides saving money on gas, Hannah’s Bretzel’s sustainability practices have become a brand differentiator. The brand is known for its fresh bread, locally sourced ingredients, and ethical business decisions, which makes it a hit in the Chicago community.

Neon Greens, St. Louis, Mo

Build-your-own salad concept Neon Greens takes hyper-local sourcing to a whole new level. The vertically integrated brand grows its own lettuce in a hydroponic farm right next door. The 80 different lettuce varieties are grown in container farms, and the entire contraption was installed in four hours using a 150-foot crane.

“We are all about embracing radical transparency in food and piggybacking on the movement of people wanting to know more about where their food

comes from,” Neon Greens owner Josh Smith said.

So, why lettuce? Smith said that freshly grown lettuce tastes “completely different” from store-bought lettuce and lasts a lot longer in the fridge, too. Lettuce is also the highest yielding and quickest growing produce the company could grow. While some of the other produce is local, items like citrus have to come from Florida, for example.

Neon Greens only has one location for now, and Smith imagines it will be even easier to spread hyper-local lettuce farms to other locations due to the benefits of economy of scale.

Conscious Hospitality Group, Seattle

As sustainable seafood practices become more commonplace, how challenging is it for a multi-unit restaurant group to purchase only sustainable seafood? According to Norman Wu, founder and CEO of 60-unit Conscious Hospitality Group — owner of Just Poke, Sugo Hand Roll Bar, and other brands — it has actually gotten easier as they’ve scaled and attracted more purchasing power.

“From day one, everything we’ve done in the restaurant[s] is eco-friendly,” Wu said, adding that they compost, are plastic-free, and only use certifiably sourced fish in their poke bowls and other seafood dishes. “When we started, we reached out to every tuna vendor and put them through a rigorous vetting process asking about their exact certifications.”

Once the company started growing, it became cheaper to both vet fish suppliers and make sure the company was investing in as many sustainable operations practices as possible.

“Once you’re at scale, a compostable fork costs exact same as a plastic fork,” Wu said.

While the company’s rigorous sourcing practices are not cheap, Wu added that their customers are willing to pay more knowing that they can trust in the ocean-to-plate journey.

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MOVING TO SLOW CLIMATE CHANGE THROUGH REGENERATIVE CULTURE, ONE FIELD AT A TIME

Farmers in New York State's Hudson Valley are using techniques that return carbon to the earth and restore soil health. Restaurants are beginning to embrace the movement as the next step in local sourcing, but is it a silver bullet for the climate crisis?

BY JENNIFER KOUVANT, SENIOR EDITOR,
RESTAURANT BUSINESS

Six Dutchess Farm in LaGrangeville, New York, operated as a boutique horse-boarding facility with indoor riding rink and multiple pastures when Jennifer Kouvant arrived in 2008. By 2015, when she and her husband, Hans Li, walked the 12 acres, they could no longer ignore the visible soil erosion from years of horse treading and the decimated orchards that bore very little fruit.

But as rookie farmers—Kouvant worked in food policy and Li in architecture—the couple was desperately in need of mentors to teach them how to restore the health of their land. They found them at Stone Barns at Blue Hill, Chef Dan Barber's working farm in Pocantico Hills, New York, and at Ballymaloe Cookery School, Organic Farm and Gardens operated by Darina Allen in Cork, Ireland.

"Darina is an incredible educator and steward of the land," Kouvant says. "We learned tons from her approach to caring for the land, listening to the land, giving back and not taking more than you give. The harmony and fullness resonate, and respect for the land, which carries straight into the kitchen and your plates."

They learned that through diversified livestock and rotational grazing, they could regenerate their soil and put carbon back into the soil instead of into the atmosphere—a move that mitigates climate change. And they discovered the power of pollination. When the couple built a small honeybee apiary on the property, the honeybees began to pollinate the trees and crops and, within a few years, that unproductive orchard yielded an abundance of fruit.

"Over several years, we transferred all the pastures into growing areas or rotational grazing fields for sheep, trying to replace everything with something edible for people, insects and animals," says Kouvant.

Armed with their knowledge, Kouvant and Li were well on their way to becoming regenerative farmers.



BUT IS REGENERATIVE FARMING A MAGIC BULLET IN THE FLIGHT AGAINST CLIMATE CHANGE?

Some say regenerative agriculture is the most important way to mitigate climate change. But others believe big ag and food manufacturers are co-opting the term and watering it down. And, for restaurant operators, the topic can be an especially confusing one because there is no national certification program for suppliers following regenerative practices.

Advocates like foodservice distributor Baldor Specialty Foods believe “restorative agriculture” is the more-accurate term for smaller farmers and true practitioners.

Josh Hackler, CEO of Grassfed Culture Hospitality in Miami, focuses on ethos rather than semantics. He operates restaurants including Los Felix

and Krüs Kitchen where “the regenerative portion of both menus is about 80%,” he says. “In South Florida, we work with small farmers who employ those practices. At Tiny Farm, we even have our own set of vegetable rows.”

“From a farmer’s perspective, working with Chef Sebastian, Josh and Pili at Krüs and Los Felix is a pleasure and a rarity,” said Roberto Grossman of Tiny Farm. “Sebastian has visited our farm more than any other chef, he loves seeing the process and getting involved in our crop planning so he knows what to expect from us. Their love for local, fresh and artisan products is special.” Both restaurants have received a Michelin Green Star for sustainability.

GIVING BACK TO THE EARTH

Just like sustainability, there is not yet a standard definition for regenerative agriculture. But there are some general, agreed-upon guidelines:

- Tilling the soil less, or avoiding tilling altogether
- Planting cover crops or growing a diverse array of crops
- Managed-grazing practices
- Targeted (or minimal) use of fertilizers

The Regenerative Organic Alliance is at the forefront of establishing a certification program and standardizing regenerative farming practices, says Sophie Egan, director of strategy for Food for Climate League. “We do need a unified way of defining this to avoid consumer confusion, avoid greenwashing and help buyers identify and understand supply chain practices,” she says, “but the flip side is that certification can be cost prohibitive for a lot of farmers, and many of them are, in fact, farming in ways ... that truly align with the scientific consensus of what counts as regenerative. That’s where direct relationships really matter.”

Certification aside, Six Dutchess Farm is living proof that improving soil health on one small farm can have at least some impact in addressing the climate crisis.

To begin, Kouvant applied for a USDA grant to convert one outdoor horse-riding arena into a growing area, but it was a no-go. “They told me it was too sandy and worn down to grow anything,” she says. Her solution: She blended mushroom compost with new topsoil and built high beds covered with a 96-foot-long, heat-tolerant high tunnel.

“There is no one soil recipe for every farm, but this performs really well for us,” says Kouvant. She germinated tiny plants called plugs in the soil, eventually turning to flowers after discovering that vegetables and berries weren’t a good fit.

“Once we could see all the parts coming together, we introduced flowers to the mix, both wildflowers for the pollinators to enjoy, and seasonal cut flowers, for our community,” she says. Six Dutchess Farm has built a successful wholesale business selling flowers to restaurants and event planners and direct to customers at farmer’s markets.



“From spring through fall, we grow seasonal cut flowers and foliage, chosen for their beauty and compatibility with our Northeastern climate,” she says. This summer, the first high-tunnel greenhouse was filled with rows of lisianthus in bloom, a rose-like prairie flower that is now cultivated at Six Dutchess Farm. Those rotate with fall dahlias, winter tulips and other blooms, and there’s now a second high tunnel on the acreage.

ADAPTING TO CLIMATE CHANGE

Kouvant is currently developing another horse-riding ring into a test area for dahlias. Sunflowers and perennials grow nearby. “We do as little tilling as possible to do minimal physical damage to the soil, integrating compost as we till to enrich what we disturb,” she says. Bone meal and blood meal are the natural fertilizers; no chemicals are used.

The former paddocks are home to Gotland sheep, a Swedish breed that helps repair the landscape through rotational grazing that puts carbon back into the soil. “We move the electric fences every few days for less disruption to the soil,” Kouvant says. She intends to plant cover crops like mustard seed to protect and nourish the soil and encourage root development.

The couple spent time observing their land before deciding what edible crops to plant. “We’re a microclimate within a microclimate, and since we’ve been here, climate change has brought a lot of flooding and weather extremes,” she says.

Six Dutchess Farm originally had a small orchard on the property that yielded no fruit. Kouvant introduced two honeybee hives and planted pollinator crops under the trees. Now the trees produce hazelnuts, Asian pears, chestnuts, quince, pawpaws (a native North American fruit), and jujubes (Asian dates.) Red and black currants, gooseberries, mul and elderflower berries also grow on the property. Sixteen hives now occupy four quadrants on the property, producing enough honey to sell at nearby farmer’s markets.

But Kouvant has noticed the impact of climate change in the last few years. “The bees woke up in February this year, and we started the flower season earlier and may end later,” she says. Flooding has gotten worse, and she’s planted sea buckhorn to control erosion and water flow. One year there was a late frost in May. “You never know how the crops will respond,” she adds.

Common Ground Farm in nearby Beacon, New York, has experienced similar effects, according to Farm Manager Rhys Bethke. “Last year was too wet and the year before too dry,” they say. “This past June, there was a heat wave, and the lettuce started to bolt. We had to rush to get it out of the fields. Every year is unpredictable in a different way, which makes it hard to plan.”

As climate change causes temperatures to rise, the insects have more time to reproduce, too, Bethke says. Flea beetles infested some of the crops at Common Ground, while gypsy moths invaded Six Dutchess Farm. Regenerative farmers shun chemical





pesticides, but Kouvant found an organic spray that was effective.

Common Ground's lease requires them to farm regeneratively, and four acres are planted with a variety of herbs and vegetables, including salad greens, sunchokes, cucamelons (a tiny watermelon with cucumber flavor), okra, peppers, heirloom tomatoes, eggplant, radishes and winter squash. "As it gets hotter, the growing season gets longer, and we can end the season in December with broccoli, cauliflower, beets, cabbage, chard and kale," Bethke says.

It used to snow as early as October in New York state's Hudson Valley.

Soil prep is key to successful regenerative farming, Bethke explains. "We don't till very deep, using a disc harrow just to break up the soil and seed," they say. Shallow tilling helps the soil retain more carbon and keeps it healthier. Organic compost, fish emulsion and/or chicken-feather meal are used as fertilizers. Marigolds are often planted between rows to keep pests away. Physical plastic covers are used for weed and insect control. At Common Ground, no pesticides or chemicals are used.

"Crop rotation is also important to soil health," Bethke says. "Tomatoes are planted in a different place every year, as they are very big users of nutrients. And we always cover crop fields as we rotate, using a combination of grasses and purple flower to add nutrients back." Seeded cover crops in walkways also act as "living mulch" to keep weeds out.

CONNECTING RESTAURANTS WITH REGEN FARMERS

Common Ground has a huge presence at the Beacon Farmer's Market, and while the farm used to sell to restaurants, it now focuses on selling directly to consumers, pick-your-own CSAs and education.

So how can restaurateurs and chefs identify and source from regenerative farms when there's no certification program yet?

"The best way is to develop direct-sourcing relationships with farms just as you would for organic and local ... tour the farm and see for yourself,"



says Egan of Food for Climate League. While regenerative farming does have additional criteria, she refers to it as “organic plus.”

Clare de Boer, chef-owner of Stissing House, a 120-seat fine-dining restaurant in the Hudson Valley town of Pine Plains, New York, says regenerative practices are built into her operation. “We’re smack in the middle of farmland, and the whole reason most people come up here [from New York City] is to experience the beautiful countryside, so it’s not something we’ve really ever had to think twice about,” said de Boer.

She buys pork from a local farmer who uses his pigs to till and regenerate the soil and a mill that grows grain as a cover crop. The mill then stone grinds the grain, and de Boer uses it in baked goods. “They rotate the grain crops, so we don’t always know what we’re getting but we buy what they have,” she says.

De Boer has also worked with Six Dutchess Farm, purchasing Kouvant’s flower displays and bouquets for Mother’s Day pop-up events earlier this year.

While Stissing House is surrounded by rich farmland and a growing number of eco-conscious farmers, not every restaurant has that advantage. “I’d encourage operators to talk to their distributors and find out if those type of products are available, just like local and organic products,” says Egan. Demand from buyers can encourage increased supply, she believes.

When the supply chain broke

during the pandemic, local and regional systems stepped in and gained in importance. Now more of those organizations are working to increase the visibility of and access to regenerative farmers.

The Common Market is one such organization that connects family farmers with wholesalers around the country; they then sell to restaurants and larger institutions. Direct relationships with the farms provide insights into growing practices from the time the seeds go into the ground. Fresh-Point, a division of Sysco, currently has identifiers for local and organic produce sources on its website and is working toward adding regenerative labeling. The Regenerative Organic Alliance is another resource with an ever-expanding database.

But food grown regeneratively is usually higher priced. How can operators, running on razor-thin margins as it is, justify paying more—and perhaps get customers to pay more, too?

Taste and nutrition are potential selling points, says Egan. The Nutrient Density Alliance, a nonprofit working to advance and educate consumers on the nutritional benefits of foods grown regeneratively, has scientists looking into the taste benefits as well.

“The hypothesis is that greater nutritional content can translate to greater flavor,” says Egan. “In my mind, it’s similar to the way peak-season produce tastes better because there’s less time for the nutrients to degrade. It’s just my hunch, but it may link back to soil health. If there are more nutri-

ents in the soil, then the food grown will be more nutritious and tastier.”

If scientists can prove this, and restaurants can communicate this, it would be a big win for regenerative agriculture, she believes. “If there’s one thing we’ve learned at Food for Climate League, it’s that climate change is not a top driver of food choices. Taste, cost and health come first,” says Egan.

NOT A PANACEA

Egan also cautions against thinking that regenerative farming on its own can solve the climate crisis.

“It’s just one tool in the toolbox ... one of a number of related climate solutions. It is an important piece of the puzzle for the huge role food and agriculture must have in addressing the overall climate challenge but it’s not a silver bullet,” she says.

There’s still a lot of research being done, and the science shows that the role regenerative farming plays in carbon sequestration is helpful in mitigating climate change, but some scientists warn it’s unclear how much carbon can be captured, how long it stays stored and how to access it. It’s important not to get carbon tunnel vision in terms of how we evaluate potential climate solutions, Egan says.

Nevertheless, “there’s a ton of other reasons to still go forward with expanding regenerative agriculture, from soil health to water conservation, biodiversity, habitat, nutrition and even flavor,” she says.



STUDENTS MAY BE CAMPUS DINING'S BEST AMBASSADORS IN SUSTAINABILITY

As college and university dining programs grapple with the question of how to be more sustainable, their own diners may help them get the message across.



REYNA ESTRADA, ASSOCIATE EDITOR,
FOODSERVICE DIRECTOR

What's driving sustainability at college dining programs? For some operations, it's the diners themselves. Well, at least, diners are one of the major drivers of sustainable dining, according to Beth Emery, director of dining services at Boston College (BC).

As is the case in most college communities, many students at BC are very involved in advocating and making their voices heard on topics like social justice and the environment. There are about eight different student sustainability groups on campus, and each focus on different areas of sustainability, such as purchasing, waste and other avenues. About six years ago, BC Dining started a Sustainability Action Committee in an effort to bring the

various groups together. Since then, the student government has taken over the committee, but BC Dining remains active and still attends the meetings.

In addition to student sustainability groups, the dining team also works with six student sustainability interns and a student manager.

"[Working with student interns] really just charges me up, gives me good ideas," Emery says, noting that working with the student interns is her favorite part of the job. "It gives me the opportunity to hear what the pulse is on campus, what students are saying. And they're just kind of like our ambassadors. They are always trying to help us make the program better."

And, Emery says, while these student groups obviously don't represent the opinions of every

student at BC, they work as a small vocal group that is passionate about driving environmental change.

"So, there are some students that are really interested in it and involved and active and then there are some that aren't," she says. "And so, we see it as part of our job to try to educate them, give them options."

Sustainability continues to be a hot topic throughout the foodservice industry as more and more players consider the environmental impact that comes along with serving food. In FoodService Director's annual State of C&U survey, we asked our readers to consider trends in sustainability in college foodservice to get an understanding of the environmental issues impacting the industry today. We also explore the way in which operators and other

foodservice players are addressing such issues. The results showcase that sustainability is a definitely a consideration for the college dining programs surveyed, as only 5.26% of respondents said that sustainability is not an area of focus at the time.

Here's a look at some of the trends we uncovered and how those trends are coming alive in college foodservice.

WASTE TAKES CENTER STAGE

Waste, particularly food waste, is a hot topic throughout the foodservice industry at large. And for good reason. According to the U.S. Environmental Protection Agency, each year, U.S. food loss and waste embodies 170 million metric tons of carbon dioxide equivalent.

Reducing your operation's food waste is a great way to cut back on carbon emissions associated with the food served. FSD's survey shows that food waste appears to be a hot-button issue under the larger umbrella of sustainability for college and universities, with 89.5% of respondents reporting it's a focus area for them.

In 2018, Compass Group started Stop Food Waste Day, an annual day of education and action surrounding reducing food waste. Now the day is celebrated globally by all sectors. In the college and university sector, Chartwells Higher Education hosted weeklong activities including a campus wide-Farmers Market. The University of Nevada at Reno celebrated a food waste competition between students and staff.

Emery has noticed that food waste has become a bigger and bigger focus in college and university foodservice recently. She says BC dining has made strides in reducing both food waste as well as packaging waste. She noted that BC doesn't produce as much waste as many other colleges and universities because it is a retail campus.

"We don't have the post-consumer waste that you have as much as you have in an all-you-care-to-eat program," she says.

The team also offers reusable plates and ware when students are dining in, and has launched a reusable to-go container program.



"You can look at it as food waste, and then you can look at packaging waste," Emery adds. "Because we're a retail campus, students have the opportunity to take items to go. So, we're doing everything we can to try to get them to use reusable takeout containers."

As is common with many reusable container programs, there were some challenges associated with launching it. But as the team put more effort into marketing the program, students began to respond positively. One change that Emery says has had an impact is offering a 10% discount when dining with a reusable to-go container. BC Dining Services also teamed up with the student government to put some momentum behind the program. And as a result of these efforts, BC Dining Services effectively doubled the amount of uses from last year to this year.

"We still have more opportunity to get more people to use it because we're retail, there's a lot to go. And we'd like to decrease the amount of trash that's been generated," she says.

To monitor and digitize food waste data, BC Dining uses a program called Leanpath, which helps the dining team to track and reduce the amount of back-of-house waste. In addition, training and education is a huge component of the college's food waste approach.

"We have rotated among different

locations and done a fair bit of training and education about food waste in our team meetings," Emery says.

PLANT-BASED ISN'T GOING ANYWHERE

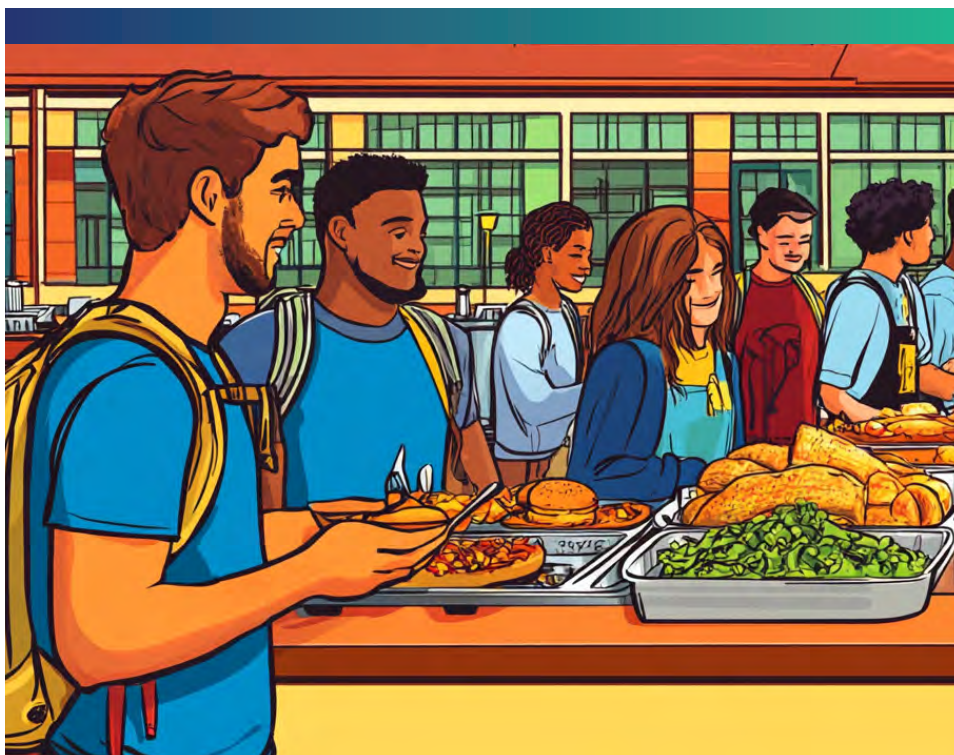
A major effort to increase plant-based options was another big trend showcased in our State of C&U survey, with 73.7% of respondents indicating that offering plant-based options is a consideration for their operation.

Major foodservice provider Sodexo recently increased its plant-based offerings on college campuses with the launch of its DefaultVeg initiative at nearly 400 college campuses.

Emery predicts that plant-forward fare will continue to be a trend both at BC and within the industry as a whole, moving forward.

"There seems to be more students choosing the plant-forward options than ever before. So, I do think that that's going to grow," she says.

One way the trend has come to life at BC is educating diners about plant-forward ingredients, like kelp. Last month, the college held a kelp culinary competition on campus. Each dining location was responsible for coming up with their own dish, and a panel of judges including students, professors and staff judged the recipes. The winning recipe, which was a tofu mushroom-kelp Wellington, will make it onto the menu next year.



“There seems to be more students choosing the plant-forward options than ever before. So, I do think that's going to grow.”

—BETH EMERY, DIRECTOR OF DINING SERVICES AT BOSTON COLLEGE

THINKING ABOUT PURCHASING

Another factor to sustainable dining that may be a little less obvious is purchasing. Many colleges and universities like BC incorporate locally grown food onto their menus, which cuts down on carbon emissions associated with transportation. 57.9% of survey respondents report that local sourcing is a consideration for them currently. Several respondents indicated that local sourcing and establishing a campus garden are something they are considering moving forward.

Emery says that in addition to local sourcing, identifying more minority- and women-owned business to source from is another goal of BC Dining. Emery and her team work with an incubator kitchen in the Boston area called Commonwealth Kitchen. And

through that partnership, the team has helped small local business try out a new audience.

“We go to a lot of those local food shows to try to look for new things that might make sense. Certainly, like the kelp meatballs is, is a local vendor and we're supporting, you know, the regional economy,” she says.

The University of Nebraska-Lincoln also has a robust local purchasing program: “Nebraska. Local.” The program aims to cultivate partnerships with local agricultural producers to source product and meat for dining halls, according to Technomic's, FoodService Director's sister publication, 2023 Beyond Restaurant Insights- College & University insights. As a part of the program, the dining team served locally sourced Nebraska meat, which was raised just 30 minutes from campus.

WORKING THROUGH CHALLENGES

As college and universities continue to further their sustainability goals, there are a myriad of challenges that are bound to pop up. Notably, is the cost of being sustainable. Emery says that cost has proven to be a challenge when it comes to local sourcing.

“Some of the things that you'd like to purchase you might not be able to afford,” she says.

In addition, depending on the location of the operation, there is weather to think about. It may be impossible to source certain products, depending on the time of year.

“So, if you're trying to get regional products, you might have to go hydroponics and then they might be more expensive,” Emery says.

Another challenge, particularly for college and universities, is around education and creating the sustainability message in a way that resonates with diners. Students at colleges and universities typically turnover in about four years, which means the foodservice staff is always educating new diners.

“So, you're always educating students and trying to build relationships with them so that you can collaborate on some of these projects, and they look at you as a partner, and somebody that really wants to improve in that area,” Emery says.

That partnership idea has worked to get the sustainability message across by relying on students to reach students. Oftentimes when the dining team presents in front of classes, Emery will opt to have a student take the lead.

“I usually prefer that a student's doing the presentation instead of me because I feel like peer to peer is more effective,” she says.

The team has also found success in tabling events and leaning into social media.

“They [sustainability interns] have ‘Sustainable Sundays,’ where they share facts on our social media and they'll do a reel—we've been trying to work hard on the reels—to get more people to do the Green to Go which is our reusable container program,” Emery says.

HOW THREE COMPANIES ARE LEVERAGING SUSTAINABILITY TO DRIVE REVENUE GROWTH

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BUILDING A SUSTAINABLE RESTAURANT PACKAGING STRATEGY

Anton van Zyl of The Coca-Cola Company talks with Nation's Restaurant News about why sustainability is so important to today's consumer and how restaurants can develop packaging, recycling and reuse programs that are both good for the earth and good for business.

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SUSTAINABILITY MEANS MORE FOR SUNVIEW'S FAMILY-RUN GROWING OPERATION

Sunview Marketing takes the longest possible view for running a sustainable business, and that requires caring for its most important resources: land, water, and people. Learn how Sunview makes its employment brand just as groundbreaking as its innovation around regenerative agriculture and water management.

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HOW TO GAMIFY FOOD WASTE FOR YOUR EMPLOYEES

Supermarket News sat down with Upshop VP of Customer Success Lauren Kennedy to talk about why sustainability efforts for grocers are more important than ever.



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HOW JUST SALAD PROVES THE ROI ON SUSTAINABILITY FOR RESTAURANTS

As the supply chain and sustainability manager for Just Salad, Alexandra Harden oversees the fast-casual chain's efforts to reduce waste from food and packaging, among other initiatives.

But as she explained to Nation's Restaurant News editor-in-chief Sam Oches during a talk at the 2024 National Restaurant Association Show, the brand also finds ways to generate revenue from its sustainability programs and leverage both the top and bottom lines of the P&L to maximize profitability. Much of that starts with Just Salad's iconic blue salad bowl, which Harden says is pioneering what should be the next big trend to come from the foodservice industry: reusability.

Since 2006, the reusable bowl has acted like a customer loyalty program, offering value to the consumer in the form of a free salad topping when they use the bowl to eliminate package waste. A partnership with Too Good to Go has also saved 125,000 meals from going to landfills, while netting Just Salad half a million dollars in incremental revenue.

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MAKING THE BUSINESS CASE FOR SUSTAINABILITY

Technomic consumer data reveals that the case for implementing more environmentally sustainable practices, while important, is not as black and white as it may seem.



**HEATHER LALLEY, MANAGING EDITOR,
RESTAURANT BUSINESS**

A well-meaning restaurant chain revamps its to-go packaging or swaps out plastic straws in the name of doing good for the environment.

Seems like those actions should be met with resounding applause by consumers, right?

But that is not always the case.

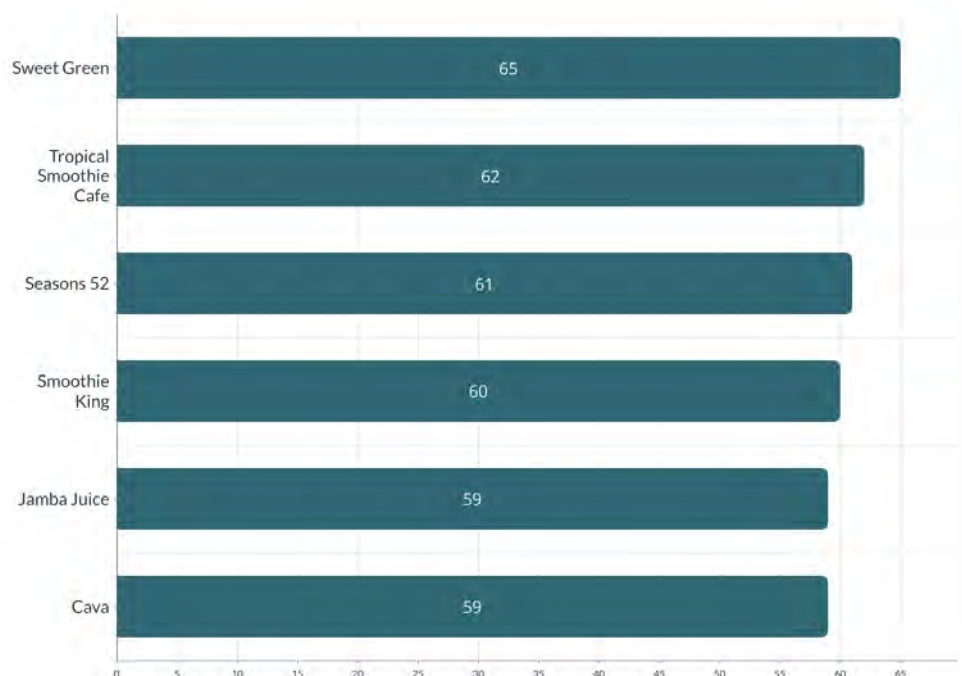
“There is a business case for sustainability efforts,” said Robert Byrne, senior director of consumer research and insights at Technomic. “There are also risks with going too far with sustainability.”

That doesn’t mean companies should forget about the environment—far from it. They just need to take a pause and be mindful before acting, according to the research.

In surveying consumers, Technomic (the research arm owned by RB parent company Informa Connect), has found that sustainability is not a business driver in the way that craveability of food, order accuracy or overall cleanliness is, Byrne said.

“A significant portion of the population doesn’t view sustainability as a worthwhile effort,” he said. “They’re more interested in the

PERCENTAGE OF CONSUMERS WHO SAY THESE CHAINS DO A 'VERY GOOD JOB' OF SERVING NATURAL, ORGANIC OR SUSTAINABLE FOODS



fundamentals ... Sustainability has a place. But is it the type of thing that will change a consumer’s mind about the decision they make when they’re choosing a restaurant or choosing a convenience store? I’m not sure that it does.”

Smoothie chains, for instance, tend to get high marks from consumers for sustainability. But that’s also because they rank high up on the list of craveable concepts, with a menu that’s filled with fresh ingredients.

“The value of sustainable, organic, natural ingredients, all these things, it’s much higher for [smoothie chains] because it’s a healthy snack or meal replacement that’s nutritionally dense,” Byrne said. “And we’re also talking about adding all of these ingredients on top of it that already have some health halo attached.”

Different demographic groups, too, have differing views around the importance of sustainability, Technomic has found.

It’s worth noting the many ways a company can spread the message that it is following sustainable practices, whether that means paying staff fairly, using recyclable packaging, supporting community organizations, recycling oil and more. It’s not just about what’s on the menu.

“What kind of mileage as a brand are we going to get if we talk about sustainability in terms of how we contribute to our communities in which we operate, how we treat our staff and our guests ... how we have sustainability efforts going on in the back of house, all of those other things that we can do to show that we’re good community citizens,” he said. “From a sustainability standpoint, that’s probably something that’s going to resonate.”

But those caveats are more about a marketing message than actual practices.

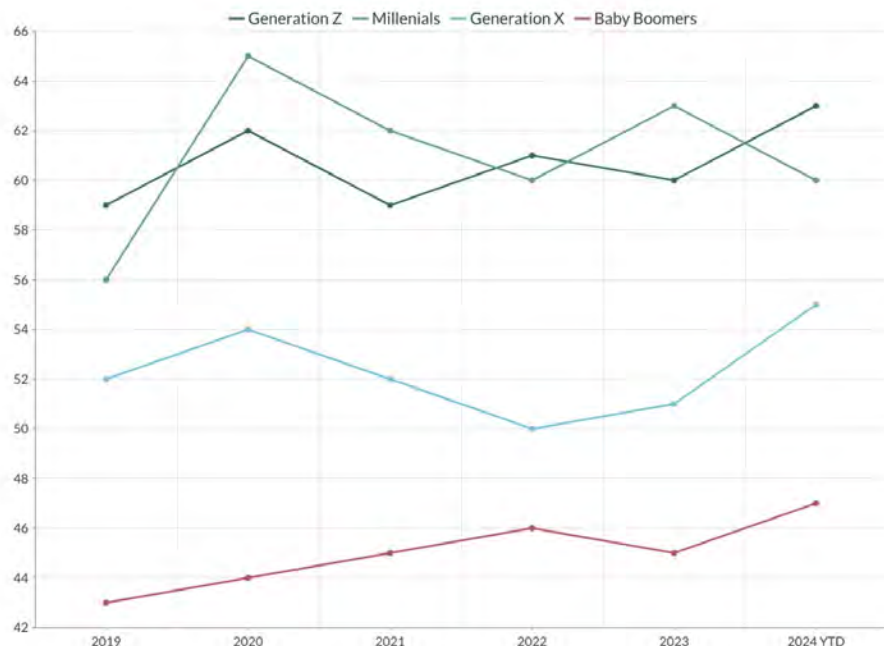
Brands need to be selective in their messaging, narrowing in on what their consumers are most interested in. If it’s value and convenience, for example, touting a cooking oil recycling program may muddy that overall messaging.

“Do this for the right reasons, but be very selective about how much marketing effort you put behind it,” Byrne noted.

PERCENT OF CONSUMERS WHO SAY THESE CHAINS DO A 'VERY GOOD' JOB OF BEING SOCIALLY RESPONSIBLE



PERCENT OF CONSUMERS, BY GENERATION, WHO SAY IT'S IMPORTANT FOR CHAINS TO SERVE NATURAL, ORGANIC OR SUSTAINABLE FOOD





PHOTOGRAPH BY CSP STAFF

SUSTAINABILITY IN C-STORES: CHALLENGES & OPPORTUNITIES

BY DIANE ADAM, RACHEL GIGNAC, HEATHER LALLEY AND CHUCK ULIE

As adoption of a more sustainable lifestyle continues to grow amongst consumers, sentiment toward sustainable businesses is top of mind as well, including the convenience-store sector.

Climate-focused consumers not only want sustainable and environmentally friendly options—they increasingly expect them in the fuel and convenience retail industry, according to the fourth edition of the Sustainability, EV and Convenience Retail Survey Report from PDI Technologies, an Alpharetta, Georgia-based technology company delivering software solutions and consumer insights to the convenience-store and fuel-stations industries.

ENVIRONMENTAL AWARENESS

The survey indicates that 80% of consumers are very or somewhat concerned about the environmental impact of the products they buy, up from 68% in 2023 and 66% in 2022. When it comes to filling their tanks, 65% of Americans said they would pay more for gas if stations offered carbon offsetting.

That environmental awareness at the gas station extends to expectations inside the convenience store, with consumers believing that c-stores should be resource-efficient (38% of respondents) and brands and consumer-packaged goods (CPG) companies should use sustainable packaging (34%), the survey finds.

“The data is clear,” said Maryann Michela, senior director of PDI Technologies. “Between these statistics and the regulatory conversations that are happening in our industry, there are more compelling reasons than ever for retailers and brands to understand and act upon consumer sentiment toward sustainable businesses.”

And the rise in consumer demand for sustainable business practices is not just in the United States.



“The data is clear. Between these statistics and the regulatory conversations that are happening in our industry, there are more compelling reasons than ever for retailers and brands to understand and act upon consumer sentiment toward sustainable businesses.”

—MARYANN MICHELA,
PDI TECHNOLOGIES

“Whether it involves more innovative checkout experiences, online delivery options, or sustainable business practices—to name just a few areas—consumer sentiment continues to influence the convenience retail experience across the globe,” said Sid Gaitonde, president of enterprise productivity for PDI Technologies.

CUSTOMER PERCEPTION

With customers indicating they care about the products they buy, and the environmental impact, there’s much to consider for c-store operators, including plastic products and packaging, and the transition from single-use plastics to reusable alternatives, Brendan Collins, a partner on the environmental team in Ballard Spahr LLP’s Philadelphia offices, told audience members at CSP’s 2024 Risk Management and Captive Insurance Forum in July in Schaumburg, Illinois.

In his presentation Environmental and Plastics Regulations: Preparing for Sustainability Initiatives, Collins laid out the upcoming regulatory changes and issues of concern, including plastic pollution, microplastics and more. “There is a renewed focus on plastics, especially on the state level,” Collins said.

With new litigation from state attorney general offices beginning to increase regarding these issues,

Collins offered opportunities convenience-store retailers can take advantage of to mitigate risk when it comes to sustainability measures and waste solutions.

Collins listed a variety of solutions, including commercially compostable packaging, recycling on-site and building efficiency.

“Refrigeration and lighting make up more than 75% of electricity consumption in convenience stores and offer significant opportunities for saving energy and money,” he said.

SHOPPING HABITS

Implementing sustainable solutions is nothing new for many convenience-store chains, including global convenience-store conglomerate Seven & i Holdings Co. Ltd., the parent company of 7-Eleven Inc., Irving, Texas. Since 2019, the c-store chain has implemented Green Challenge 2050, which is a food-sustainability roadmap that has a plan to reduce food waste by 50% in 2030 and 75% in 2050.

“We are working together with all our stakeholders to realize a rich and sustainable society,” Seven & i said in its management report in 2023.

Offering more sustainable food products on convenience-store shelves is another way retailers can help decrease emissions across the value chain. The products consumers eat and bring into their homes are top of mind when it comes to sustainability, according to Blue Yonder, Scottsdale, Arizona, a digital supply chain transformation company.

In its third-annual sustainability survey, which polled U.S. consumers on sustainable shopping habits and more, over half of consumers reported that they incorporated sustainable food products (60%) and household products (55%) into their shopping habits in the past year.

Respondents of the survey are also cognizant of the methods brands use to improve sustainability: 61% of consumers said reducing food or inventory waste was the most important environmental practice a retailer or brand should adopt.

SURPLUS FOOD FOR PURCHASE

Convenience-store operator Alimentation Couche-Tard Inc. this summer announced it had partnered with Too Good To Go, a marketplace for surplus food. Through the Too Good To Go app, customers can purchase food that might otherwise go to waste for half of the original price or less. More than 9,000 Circle K and Couche-Tard c-stores across the United States, Canada, Ireland and Poland will be available on the app by the end of the year.

“On top of saving good food from going to waste at a great value for the money, our customers can now leave our stores knowing they’ve made a positive impact in the efforts to reduce the impacts of climate change,” said Ina Strand, chief people officer and leader of sustainability efforts for Laval, Quebec-based Alimentation Couche-Tard.

Strand said this not only bolsters the retailer’s global sustainability commitments, but it’s also an “innovative way for our customers to try our delicious food at a great price.”

On the CPG front, Chicago-

based Kellanova, whose portfolio is comprised of snacks, international cereal, noodles and frozen foods, has teamed up with grocery retail group Ahold Delhaize USA, Quincy, Massachusetts and North American agribusiness, Bartlett, Midvale, Utah, to reduce Scope 3 greenhouse gas (GHG) emissions from wheat farming across the value chain. This collaboration aims to decrease Scope 3 emissions, improving farm and supply chain resiliency.

The pilot program will leverage financial investments from Ahold Delhaize USA, Kellanova and Bartlett to support the adoption of regenerative agricultural practices among wheat farmers in North Carolina. The wheat harvested and milled from these farms will be used alongside conventionally grown wheat to produce Kellanova’s iconic Cheez-It and Club crackers.

“We’ve committed to both reducing our emissions and advancing the well-being of people, including farmers, across our food value chain,” said Carrie Sander, chief customer officer at Kellanova.

COMMUNICATING EFFORTS

Offering more sustainable food products to create a healthier planet is what customers are expecting, but for convenience-store retailers, the balance of what’s good for the planet also needs to be configured with what’s right for the business, especially when it comes to weighing the return on investment of sustainability efforts.

In the Convenience Leaders Vision Group’s (CLVG) newest Vision Report, titled Envisioning Sustainability in Convenience Store Design, convenience-store operators are encouraged to adopt the 80/20 rule, which Scott Hartman, president and CEO of Rutter’s, York, Pennsylvania, describes as a balance where “80% of the stuff is good, applies, we can do it the right way, and the other 20% is a lift that is not necessarily worth the squeeze, nor can we do the squeeze.”

Convenience-store leaders agree that communicating sustainability efforts to customers is necessary. But greenwashing, a form of advertising that deceptively uses marketing to persuade the public



SUSTAINABILITY IN C-STORES: CHALLENGES & OPPORTUNITIES

that an organization's goals are environmentally friendly without evidence, is also a concern among c-store retailers, according to the report.

"Greenwashing is all over the place, and I really don't like it," said Hartman. "I see people doing it. I see people bragging about how great they are in some of these things and the reality is, it's a very complicated place to measure ... I know it's a good answer, but to try to then go to the public and tell them that I just saved 80% of energy savings in my store, unless I can truly hang my hat on that, I'm not really the type who likes to go out and do that."

Convenience stores have long been the bedrock of their communities, and sustainability is becoming a cornerstone for their customers. As c-store operators reinforce their commitment to planet friendly operations, this will only solidify their existence in the future.

ECONOMICALLY ECCENTRIC

CEO Bobak Bakhtiari took control of his father's Food Mart in 2013, and in 2021, he transformed it into Hangry Planet, a 100% plant-based convenience store.

The store stands out on the road in San Bruno, California, with a giant Poseidon sculpture on the roof, a few 7-foot-tall mushrooms and a Tyrannosaurus rex with Vladimir Putin in its mouth, among other unique identifiers.

Bakhtiari said the figures are nothing more than a whimsy quirk.

"Why are people so obsessed with maintaining a mundane signature for gas station?" he said. "Why not have some fun, bring some playfulness?"

The transition into a healthier, more sustainable store came after Bakhtiari had a "radical emotional response to learning about dairy farms." He grew empathetic when studying the effect of factory farming on land, water pollution, biodiversity loss and greenhouse gas emissions.

And because the store's products are plant based, it's inherently more environmentally friendly, he said.

"Water use, biodiversity loss and

land use are pretty much cut 50% to 75% when the product is plant based," he said.

Hangry Planet has a team of four employees who, when choosing which products to offer, evaluate the background of the company and the taste of the product.

The store also provides compostable utensils and, once a week, transports compostable products to their appropriate commercial facilities.

"Why are people so obsessed with maintaining a mundane signature for gas station? Why not have some fun, bring some playfulness?"

—BOBAK BAKHTIARI, HANGRY PLANET

The store also gives back to the community. More than 10% of the profits from its store, fuel, car wash and plant-based food truck Vegan Mob, go to nonprofits that are part of a three-pronged social impact strategy—sustainability and protection, medical care and orphanages, Bakhtiari said. Hangry Planet donated about \$34,000 to nonprofits in 2023, he said.

In terms of fuel, Hangry Planet is home to a Shell-branded station, where it is re-installing tanks to offer at least three biodiesel pumps. Bakhtiari is also planning to add a few electric-vehicle chargers.

"It's such an ironic site because we're still providing fuel and trying to be such a sustainable c-store," he said. "I'm very aware of the comedy around that, but at the same time, the end goal here is to do away with gas. We are going to be adding biodiesel pretty soon and then work on the plan to transition off of gas."

Another area of sustainability is the car wash, which recycles 70% of its water. It's not just any car wash, though, it's a virtual reality (VR) experience where customers can turn their lights off, tune into a specific radio station with relaxing music and watch five-minute immersive videos during the wash, such as dolphins breaching.

"Putting media projection in a car wash seems fundamentally stupid and crazy," Bakhtiari said. But he wanted to take the "childhood wonder that you remember a car wash [to be] and amplify it about 900%."



GIVE 'EM A HAND: REUSABLE CUPS AT CIRCLE K

In August in Petaluma, California, Circle K joined other retailers in a city-wide test initiative for reusable cups.

The program, which ran until Oct. 28, involves more than 30 foodservice retailers giving customers reusable to-go cups, “which they will then return to provided bins—where they’ll be picked up, sanitized and delivered back to restaurants. The cups are purple with a ‘Sip, Return, Repeat’ reminder printed on them”. There will be more than 60 bins available throughout the city.

This program is a partnership with New York-based NextGen Consortium, which aims to address single-use foodservice packaging waste by advancing the design, commercialization and recovery of packaging alternatives.

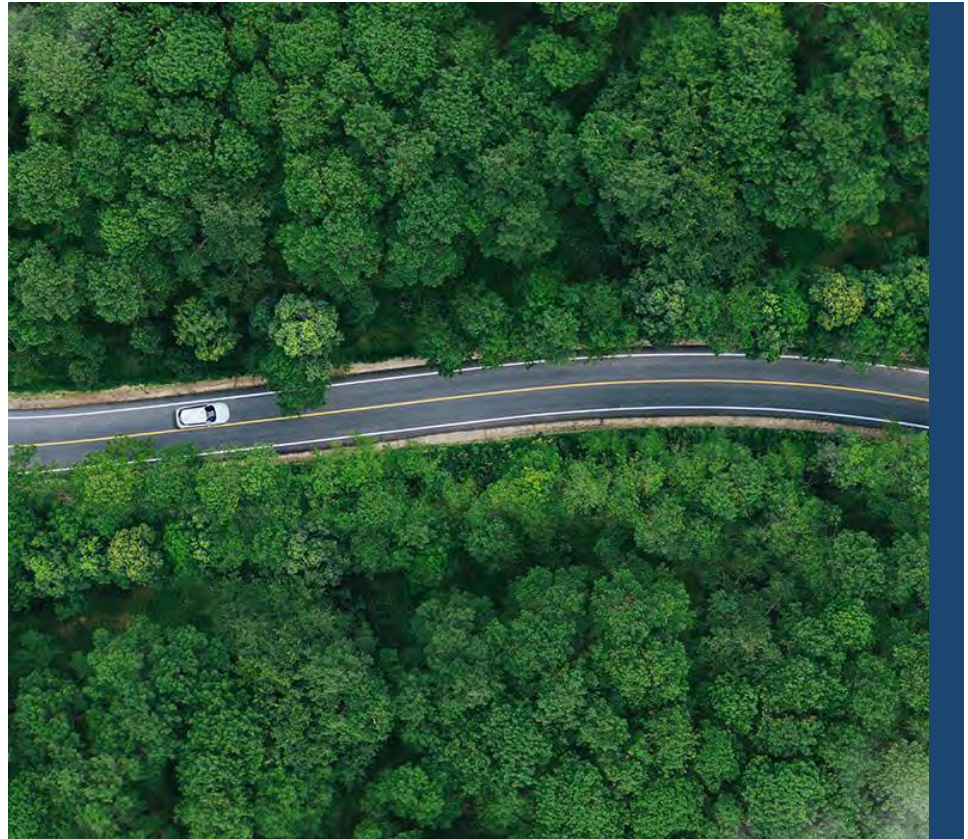
“As a global supplier of on-the-go food and beverages for immediate consumption, we play a crucial role in helping to reduce waste.”

—CIRCLE K'S 2024
SUSTAINABILITY REPORT

This project, however, is one small piece of what Circle K is doing to reduce cup waste. While the convenience-store chain's cup-reuse efforts are in their infancy in the U.S., the story is different elsewhere.

For example, in Germany, about 700 participating Circle K locations in 2023 distributed 28,000 reusable cups that work with a deposit system, saving about 815 pounds in waste, according to Circle K's 2024 Sustainability Report.

In Sweden, 63 stores last year launched the option of reusable



cups and food boxes. To promote engagement, customers are offered a discount if they use reusable containers.

“As a global supplier of on-the-go food and beverages for immediate consumption, we play a crucial role in helping to reduce waste,” Circle K said in its report. “As we continue to explore packaging solutions, we are looking for more sustainable options that make it easy for customers and our store teams.

Those ways include collaborating with suppliers to find the best solutions for a quality experience “while mitigating the impact on the planet,” the company said.

These efforts have increased Circle K's use of certified materials and recycled content in its packaging.

“In 2024, driving our work to reach a 25% improvement in our packaging compared to our 2020 baseline, we gathered data globally on current branded packaging specifications, measuring our progress to date,” the report said. “The results show that we have already exceeded our 2025 goal, with 32% of our packaging portfolio by weight meeting our sustainable attributes: recycled content, certified materials, reusability or compostable materials.”

Across North America and Europe,

Circle K said, it continues to highlight its reusable vessels and encourages customers and team members to bring their own reusable cups and mugs.

In Circle K's 2024 fiscal year that ended in May, “Our customers used their refillable cups over 45 million times, reducing the need for us to provide cups that would otherwise end up in the waste stream,” the company said.

CASEY'S AMONG RETAILERS EXPANDING USE OF SOLAR POWER

Solar power is burning brighter as convenience retailers increasingly eye sustainable energy solutions.

And it's little wonder: Convenience stores require a lot of energy to operate, from refrigeration to lighting to heating-cooling systems to distribution networks and more.

In July, bp-owned TravelCenters of America (TA) broke ground on an electric truck charging station in Ontario, California. The site, a pilot project with the California Energy Commission, is slated to become an innovation station, one that will test a megawatt charger system fueled



by 250 kilowatts of canopy-mounted solar panels to generate renewable power, bp said

In 2023, Wawa reported 115 of its more than 1,000 locations were using solar power, with plans to expand that by nearly 40 stores in 2024. Solar panels, the retailer said in its Social Purpose Report, contribute 2% of renewable energy sources to power the stores.

Renewable energy in the form of solar power has been a major area of investment for Ankeny, Iowa-based Casey's in recent years.

The retailer operates a 250,000-square-foot distribution center in Joplin, Missouri, that features 1,408 solar panels, generating an average of nearly 1,700 kilowatt-hours of electricity per day in 2024.

"This energy output supports the refrigeration needs of the facility, which account for most of its electrical load, reducing the amount of purchased electricity needed from the grid and, ultimately, our Scope 2 GHG (greenhouse gas) emissions," Casey's said in its 2024 Sustainability Report.

Forty-five Casey's stores also participate in community solar gardens, with the retailer committing to purchase solar- and wind-generated energy from the gardens to support 25% to 100% of the energy usage for the participating locations.

In 2023, Casey's began installing solar panels on its refrigerated trailers. By the end of fiscal 2024, the retailer had completed installations on 82 trailers, with 133 more in the pipeline.

"Solar panels will be standard on all new trailers," Casey's said.

ADDRESSING REFRIGERANT EMISSIONS IN FOOD RETAIL

Driven by new sustainability goals and evolving cooling technology, grocery and convenience retailers are reimagining their strategy behind refrigeration, investing in and implementing refrigerants with lower global warming potential (GWP). The overhauling of commercial and industrial refrigeration equipment has become a focal point as operators stand up more aggressive corporate

sustainability initiatives.

Commonly used in commercial refrigeration, Hydrofluorocarbon refrigerants (HFCs) are powerful greenhouse gases that trap thousands of times more heat in the atmosphere than carbon dioxide and are growing faster than any other greenhouse gas on the planet, according to the North American Sustainable Refrigeration Council.

Certainly, the grocery industry is moving quickly toward more sustainable refrigeration. But a new report from the green group Environmental Investigation Agency (EIA) shows that while grocers are making an effort to address refrigerant emissions in the United States, little has been done in terms of actual results.

The EIA's bi-annual Climate-Friendly Supermarkets Scorecard shows that of the 16 companies graded on technology adoption, refrigerant management and policy and commitments, only three—Aldi, Target, and Whole Foods—were given passing scores.

While there is still much to be done, tackling HFCs is an important strategy as the convenience-store industry as a whole takes steps toward reducing its carbon footprint.

The following sections speak to both the current status of HFC reduction in foodservice retail, and also new products that are being developed that can help in that mitigation.

NEW PRODUCTS ADDRESS OLD ISSUES

JSI Store Fixtures, an LSI Industries Inc. company, recently released a new refrigerated retail display that uses propane as an environmentally sustainable alternative to typical refrigeration systems.

The eco-friendly R290 refrigerant is a non-toxic, zero ozone-depleting refrigerant, and has a global warming potential (GWP) of 3, the Cincinnati-based company said. That's compared to the more commonly used hydrofluorocarbon (HFC) refrigerant, which has a GWP of 1,400, JSI said.

"Interest in this product is very high, and we anticipate continued adoption of this solution as customers witness

the effectiveness of R290 in their store environments,” said LSI Industries President and CEO James Clark.

Clark noted that the system also uses less energy.

“The Environmental Protection Agency approved R290 as an ‘acceptable substitute’ for retail food refrigeration under the Significant New Alternative Policy (SNAP) program,” the company said. “JSI was well positioned to implement this new method in its store fixtures and to provide customers with an exciting, innovative, and environmentally sound solution to improve the environment.”

And a new refrigeration system that reduces the use of greenhouse gas producing hydrofluorocarbons has also been rolled out at Hunter’s Shop ‘n Save in Wolfeboro, New Hampshire. James LaBrecque, inventor of the FlexCube refrigeration system, has worked in the grocery industry for most of his life and began developing the FlexCube about 12 years ago.

“The years of watching the industry and the experience I gained from engineering and installation [of refrigeration systems] is why I worked to develop this model,” LaBrecque told Supermarket News.

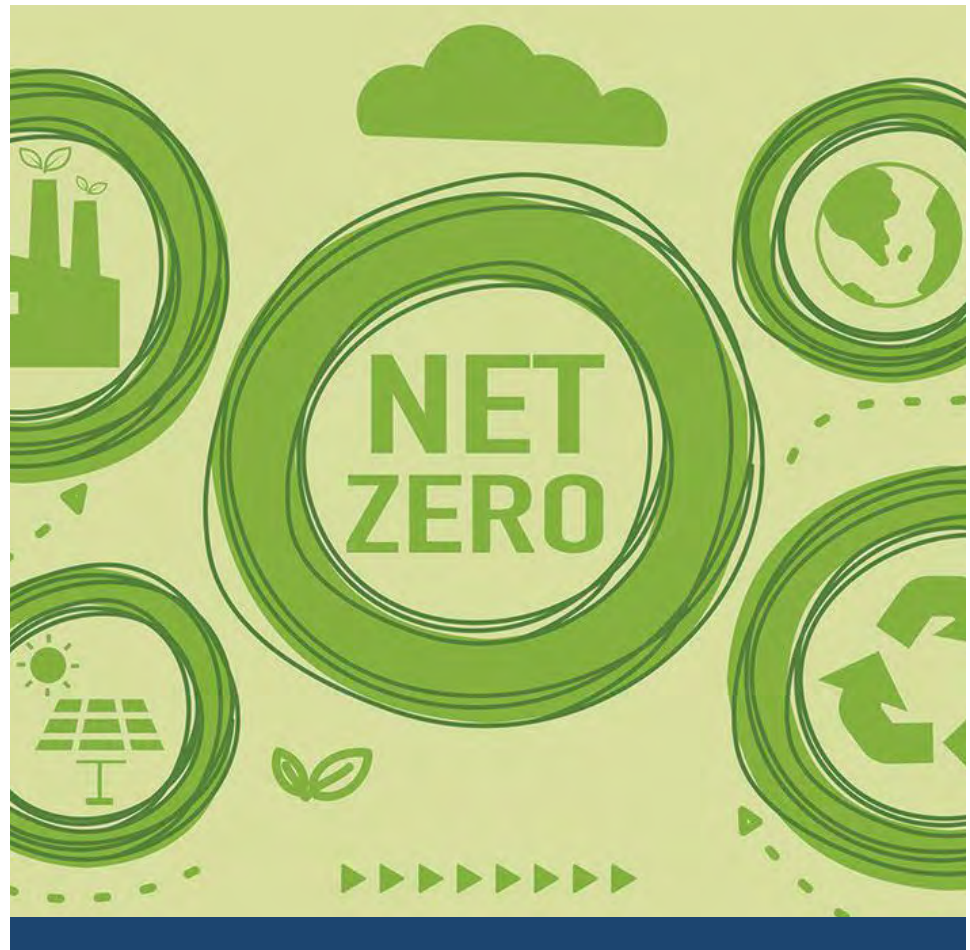
Unlike other refrigeration systems that can take up an entire room in the back of a grocery store, the FlexCube module is a 2-foot cube that uses less than 25 pounds of refrigerant.

FlexCube system uses Hydrofluoroolefins (HFOs), an organic compound that is more sustainable than the Hydrofluorocarbons (HFCs) that are commonly used in refrigeration systems that leak massive amounts of carbon dioxide into the atmosphere.

“One pound of HFC leaking is equal to 4,000 pounds of CO2 into the atmosphere, and the government has considered them to be super polluters,” LaBrecque said.

He said the three FlexCubes can handle the refrigeration needs for a small store of 7,000 to 8,000 square feet, while a dozen FlexCubes can cover a 50,000-square-foot store. He said the reduction in size of the refrigeration system will be a “paradigm shift” in the industry.

“These systems must be housed in large mechanical rooms and circulate a huge refrigerant charge using miles of piping and multi-time rooftop condensers. The FlexCube system



eliminates all of that,” the company noted in a promotional video.

PAYING THE CONSEQUENCE

New York-based grocery chain Gristedes Supermarkets has signed a consent decree agreeing to pay a \$400,000 civil penalty and spend roughly \$13.5 million to upgrade its refrigeration equipment for its failure to limit greenhouse gas emissions from its refrigerators.

Damian Williams, U.S. Attorney for the Southern District of New York, said in a press release that the U.S. filed a lawsuit against the grocer alleging violations of the Clean Air Act and the Environmental Protection Agency’s Recycling and Emissions Reduction Rule.

Gristedes failed to comply with regulations limiting refrigerant emissions, Williams said.

A Gristedes spokesperson could not immediately be reached for comment.

“Between 2019 and 2021, Gristedes systematically violated EPA refrigerant regulations, resulting in greenhouse gas emissions at a rate far higher than

others in the industry. To give a sense of scale, Gristedes’ emissions had a global warming effect equal to driving a car 140 million miles,” Williams said in a press release. “As a result of our lawsuit, Gristedes is now required to reduce its emissions by over 70% from their 2020 levels to offset at least some of the damage it has caused, and it will face significant additional penalties under the Consent Decree if it fails to do so.”

The chain owns a group of about 20 supermarkets in New York City.

The U.S. Attorney’s office noted that between 2019 and 2021, the chain emitted more than 40,000 pounds of refrigerants into the atmosphere.

The consent decree “requires Gristedes to undertake repairs of its commercial refrigeration equipment with an estimated cost of \$13.5 million to adopt a comprehensive refrigerant compliance management plan to convert three stores to utilize advanced refrigerants with low global warming potential, and to lower its corporate leak-rate below 16%.”

Failure to comply with the consent decree will result in more penalties, according to the U.S. Attorney’s office.



ONSITE WITH FSD PODCAST

Onsite with FSD is your one-stop podcast gathering place for people-focused interviews with leading minds in the onsite foodservice industry.

HOW ONE K-12 OPERATOR IS BRINGING SUSTAINABLE SEAFOOD TO STUDENTS

Hear from Jason Tepper, Executive Chef at Alexandria City Public Schools in Alexandria, Virginia. Since coming to the district in 2021, Tepper has introduced students to a variety of seafood dishes, including fish tacos and kelp meatballs. In addition, he is one of several chefs partnering with Food For Climate League to help other chefs in the Onsite dining space look for ways to incorporate more sustainable seafood options into their menus. During our conversation, Jason shared how he has worked to bring more sustainable seafood dishes to the district and how his fellow K-12 operators can do the same at their schools.



ONSITE WITH FSD
▶ 18 MINUTES



AT YOUR CONVENIENCE PODCAST

At Your Convenience” is the official podcast of CSP Daily News and CSP magazine. It explores the hottest trends and news in convenience retailing.

PATH TO FOODSERVICE PROFITABILITY: MANAGING WASTE

In part two of a three-part series on the Path to Foodservice Profitability, CSP Senior Editor Hannah Hammond interviews Impact 21 Senior Principal Consultant Liza Salaria and Beth Hoffer, vice president of operations and foodservice from Weigel’s convenience stores. Hoffer shares which areas of waste she sees and how Weigel’s is working to reduce waste.



AT YOUR CONVENIENCE
▶ 9 MINUTES

CONVENIENCE STORES ARE MAKING PROGRESS ON FOOD WASTE REDUCTION

But sustainability efforts, especially at smaller chains, are far from complete.



MICHELINE MAYNARD, FREELANCE EDITOR

With the convenience-store sector continuing to grow, and global leaders worried about food waste, c-stores' food-management practices are in the spotlight. But food sustainability remains a big challenge for the nation's 152,000 c-stores to manage.

Michael Headly, a partner in the restaurants, hospitality and leisure practice at consulting firm AlixPartners, says food waste has grown as c-stores try to innovate in both grab-and-go products and fresh-made items.

"A lot of what they've done (in foodservice) has been experimentation, and that's led to a lot of waste," Headly says.

He sees three issues facing the major chains. "Food waste can be an operations issue; it can be a merchandising issue and it can be a business strategy issue," he says.

At some chains, sustainability has been a topic for years. Since 2019, Seven & i Holdings, the parent company of 7-Eleven stores worldwide, has pursued a food-sustainability roadmap that stretches ahead for three decades. Under the plan, called Green Challenge 2050, it wants to reduce food waste by 50% in 2030 and 75% in 2050.

Japan-based Seven & i intends to increase food waste recycling to

75% within six years and achieve 100% compliance in 26 years. With 9,700 stores in the U.S., it has formed four environmental subcommittees, including one for food loss, waste reduction and organic waste recycling, and another for sustainable procurement. "We are working together with all our stakeholders to realize a rich and sustainable society," Seven & i said in its management report in 2023.

But other companies lack the structure to find solutions themselves, Headly says. "If you're not tracking it at the store level, you might not even see it as a problem."

Some have turned to Feeding America, a non-profit network of more than 200 food banks nationwide, for help. Sheetz, which has 718 stores in the U.S., has tapped Feeding America to help overhaul its program for donating the leftover food from its stores.

"When the program is rolled out company-wide, we'll be able to donate Made-To-Go sandwiches and other ready-to-eat items, fresh fruit, eggs and bacon, dairy products, frozen dinners, packaged bakery items, packaged dry goods, and bottled drinks to those in need," Sheetz says. There's no word when that update will come.

But since 1992, Sheetz has partnered with the organization in the Sheetz for the Kidz program, which

aims to feed youngsters in the areas where there are Sheetz stores. It says it has served more than 150,000 children through food pantries, soup kitchens and meal programs.

Casey's General Stores, with nearly 2,500 locations in 16 states, is also partnering with the group, raising \$500,000 since 2022 to fund 5 million meals. In February of that year, it launched a program to support 54 food banks in communities with its stores. "We strive to reduce food waste and increase food recovery to improve operational efficiencies, reduce our environmental impact and address hunger in our communities," the company says. A Casey's spokeswoman says the program will be updated this summer.

One major challenge, says Headly, is tracking how much food is likely to go unpurchased. Regional preferences and season travel patterns mean it's hard to make predictions. "It's so challenging to do this across thousands of stores," he says.

He believes, however, that increasingly green-minded consumers can push for c-stores to ramp up their efforts. "It's only a matter of time before customers demand it and companies figure out some of these operational challenges," he says. And as some of these companies find answers, "it will be huge bragging rights to them."



INSIDE ALDI'S WAR ON PLASTIC

The discount grocer continues to be an industry leader on sustainability.



TIMOTHY INKELBARGER, ASSOCIATE EDITOR,
SUPERMARKET NEWS

German discount grocer Aldi is closing in on a year of cutting plastic bags from circulation at its more than 2,400 stores across the U.S., but preventing an estimated 9 million pounds of plastic from seeing the light of day is only part of the retailer's war on plastic.

Aldi's U.S. operation, headquartered in Batavia, Ill., released its annual sustainability report on Monday, laying out its efforts on everything from reducing refrigerant emissions to responsible sourcing of products.

But it's the retailer's effort to reduce its use of plastic that touches almost every part of its business, from the elimination of plastic bags at checkout to reducing the use of plastics in the products it sells.

The grocer is in a good position to work with its suppliers to cut down on plastic packaging, since over 90% of the grocer's products are from private-label producers.

"Aldi stores are generally half the size of the average supermarket, which makes them inherently more ef-

ficient. And because they are stocked with 90% private-label products, we work closely with suppliers who share our mission to responsibly source, produce and package what's on our shelves," Aldi said in the 2023 sustainability report.

The typical Aldi carries about 2,000 products, most of which involve packaging, which, according to the no-frills retailer, offers "a strong opportunity to reduce unnecessary waste and identify alternative materials that can advance our sustainability goals."

Aldi said in the report that it has set the following goals on packaging:

- Make 100% of Aldi-exclusive primary packaging reusable, recyclable, or compostable by the end of 2025.
- Use 20% post-consumer recycled content in Aldi-exclusive plastic primary packaging by the end of 2025.
- Reduce Aldi-exclusive primary packaging materials by 15% by the end of 2025.

Aldi reports that it has already made substantial progress in sustainable packaging, noting that 76%

of Aldi-exclusive packaging is already reusable, recyclable, or compostable.

Specifically, the grocer cut plastic packaging for grapes by roughly 19%; reduced the packaging for its Yogurt Bites by nearly 10%; removed the non-recyclable shrink sleeve from its Vista Bay Hard Seltzers, which cut out two tons of plastic; and added 25% post-consumer recycled content in two of its hummus containers to increase the use of recycled material to more than 80 tons a year.

Aldi noted that it's also working with waste-reduction leaders like the US Plastics Pact, the Sustainable Packaging Coalition, FMI – the Food Industry Association, and the Retail Industry Leaders Association, to reduce packaging waste.

Plastic waste reduction doesn't end in the store aisles, though; the grocer said it has also removed bottled water and disposable dishware at its corporate and divisional offices, and it has recycled or reused more than 382,000 tons of cardboard, wood pallets, and plastic film used in its operation.



HY-VEE LAUNCHES SOLAR PROJECT AND BEE POLLINATION STUDY

The solar power array will generate enough energy to power 360 homes a year.



TIMOTHY INKELBARGER, ASSOCIATE EDITOR, SUPERMARKET NEWS

Hy-Vee and Alliant Energy hold a ribbon-cutting ceremony for their new solar project. From left: Donise Altenhofen, Lucas County Economic Development executive director; Matt Beenblossom, senior vice president, Chariton Distribution Center, Hy-Vee, Inc.; Steven Venegas, executive vice president, supply chain and transportation, Hy-Vee, Inc.; Mayuri Farlinger, president of Alliant Energy’s Iowa energy company; David Vollmar, senior key account manager, Alliant Energy; Adam Gregg, lieutenant governor of Iowa; Jason Farver, executive vice president, chief supply chain officer, Hy-Vee, Inc. Hy-Vee

Hy-Vee has completed the first phase of its solar energy project in Chariton, Iowa—the first step in a partnership with Alliant Energy Corp. which will produce enough energy to power 360 homes a year.

The grocer and the Madison, Wisc.-based power company held a ribbon-cutting ceremony on Saturday for the launch of the Hy-Vee Chariton Solar Field.

“These initiatives encapsulate what can happen when a forward-looking company like Hy-Vee partners with their local energy company to advance sustainably,” Alliant Energy’s Iowa energy company President Mayuri Farlinger said in a press release. “Hy-Vee’s decision to be a leader in this space is something we’re extremely proud of as we deliver on our purpose to serve customers and build stronger communities.”

Hy-Vee also installed an on-site apiary at the solar field and has partnered with Iowa State University researchers to study how native plants can help sustain bee colonies.

The grocer is also working with Alliant Energy on a pilot project that deployed a fleet of 30 electric refrigerated trailers that are delivering perishable goods to stores throughout Iowa.

Those sustainable freezers replace those that typically run on diesel fuel. Hy-Vee said the electric trailers will enable quieter idling near its stores and a reduced environmental impact.

The project follows an industry trend of grocers supporting solar ener-

gy and other sustainability projects. In October 2023, Dollar Tree announced a partnership with DSD Renewables to build seven community solar power plants in New York state.

Dollar Tree said the project will enable the company to become an “anchor tenant subscriber” and offset 29% of its energy needs across the state.

In May 2023, Canadian grocer Loblaw Companies announced that it would begin purchasing and exclusively using wind, solar, and water power energy from renewable energy company TC Energy.

Ahold Delhaize-owned Giant Company made headlines in June 2020 with the announcement that it had established a seven-acre, pollinator-friendly solar field at its headquarters in Carlisle, Pa.

The pollinator field aimed to “educate our team members, customers and the community about the crucial role bees play in getting food onto their family’s table,” former Giant President Nick Bertram said of the project in 2020.



MULTI-UNIVERSITY COALITION ACHIEVES CLIMATE IMPACT THROUGH FOOD SYSTEMS CHANGE

A group of nearly three dozen colleges and universities is demonstrating how institutional collaboration can yield greater-than-expected results.



ELIZABETH HANSEN, ASSOCIATE DIRECTOR OF HOSPITALITY STRATEGY & MULTIDISCIPLINARY PROGRAMS R&DE STANFORD DINING, HOSPITALITY & AUXILIARIES

The SFI Collective Impact Strategy, an innovative approach to sustainability in institutional foodservice, is demonstrating the power of collaboration in addressing complex environmental challenges. Spearheaded by Stanford's Residential & Dining Enterprises (R&DE) Stanford Food Institute (SFI) and launched with the Menus of Change University Research Collaborative (MCURC), this initiative is the first of its kind in college and university foodservice. Its ambitious goal is a 40% reduction in greenhouse gas (GHG) emissions from protein purchases by 2030, achieved through a collaborative, data-driven approach.

The initiative unites 70 diverse institutions, each at different stages of their sustainability journey, under a common agenda to shift toward plant-forward, climate-friendly menus. This collaboration provides participants with tools, data, and peer support to make meaningful changes, with the first five years already yielding impressive results. Collectively, the initiative has reduced emissions by 23%, equivalent to eliminating 179 million pounds of CO₂—comparable to removing 17,680 cars from the road annually or avoiding 129,000 cross-country flights.



Central to this success is the application of the collective impact model, which emphasizes a shared vision, coordinated activities, continuous communication, and a dedicated support structure. Inspired by case studies in other fields, SFI adapted these principles for the MCURC initiative, creating a process that encourages sustained participation and innovation. By collaborating with the World Resources Institute to refine data collection and emissions calculations, the initiative ensures accuracy and accountability while adapting to the unique needs of each institution.

Key to the strategy is a focus on shifting protein procurement to more sustainable sources. Institutions have reduced their use of beef, pork, poultry, eggs, and dairy while increasing sustainable seafood, whole grains, nuts, seeds, and legumes. These changes are supported by case studies showcasing how diverse institutions, regardless of their starting point, can achieve impactful shifts in their menus.

The recently published “MCURC Collective Impact Progress Re-

port 2024” highlights the initiative’s achievements and offers a roadmap for other institutions. By documenting strategies, sharing innovations, and analyzing outcomes, the report underscores the replicability of this model across sectors.

Long-term engagement has proven critical, with institutions participating for four to five years achieving the greatest reductions in emissions. This success demonstrates the importance of commitment, structured support, and systematic measurement in achieving transformative results.

The SFI Collective Impact Strategy offers a blueprint for addressing global sustainability challenges beyond institutional dining. Its ability to leverage the collective power of diverse institutions, co-create adaptable processes, and deliver measurable outcomes underscores the potential of collective action in achieving ambitious climate goals. By reducing emissions and influencing billions in purchasing power, this initiative serves as a powerful example of how collaboration can drive systemic change at a scale necessary for a sustainable future.

IMPACT AT A SCALE THAT MATTERS

A look at the scope of the SFI Collective Impact Strategy

- 93 million pounds of food tracked annually
- 23% emissions reduction achieved in just 5 years
- 4 million meals served daily across participating institutions
- Potential to eliminate emissions equivalent to:
 - 129,000 cross-country flights
 - 17,680 cars removed from roads annually
 - Annual carbon footprint of 1,700 U.S. households

BEYOND HIGHER EDUCATION: A MODEL FOR CROSS-SECTOR CHANGE

The success of the MCURC Collective Impact Initiative demonstrates the potential for institutional collaboration to drive systemic change. This model could be adapted for:

- Healthcare systems collectively addressing waste reduction strategies
- Municipal governments coordinating climate action
- Corporate dining services aligning sustainability goals
- K-12 school districts transforming food systems

TECHNOLOGY-DRIVEN SOLUTIONS FOR A SUSTAINABLE FOOD SYSTEM

How innovation is transforming agriculture and food production.



**JONATHAN KELLER, MANAGING DIRECTOR
CANOPY EDGE**

The food industry plays a significant role in contributing to greenhouse gas (GHG) emissions. According to the study "Future Warming from Global Food Consumption," the agriculture sector is responsible for nearly half of methane (CH₄) emissions, two-thirds of nitrous oxide (N₂O) emissions and 3% of carbon dioxide (CO₂) emissions from human activities worldwide. Agriculture is the largest source of food-related emissions, contributing around 27% of the total. This comes from crop production, livestock production, and deforestation for agricultural expansion. It is not the only source of GHG emissions in the food production process. Industrial processes like food processing and packaging contribute to emissions, particularly from energy consumption and the use of chemicals. The transportation of food products, both locally and globally, generates significant emissions, especially from fuel combustion. Finally, when food is wasted, it ends up in landfills, where it decomposes and releases methane.

Fortunately, companies are beginning to reshape the food industry by focusing on more sustainable practices. Part of this is due to consum-

er demand. A growing number of today's consumers value sustainability and are actively seeking out organic, plant-based products and more environmentally friendly disposal and packaging options. In response, companies are increasingly utilizing technologies that can play a critical role in not only making the food industry more sustainable, but also more efficient and innovative.

PRECISION AGRICULTURE

Precision agriculture is a farming management strategy that uses technology to optimize crop production and resource use. It involves observing, measuring, and responding to variations within a field to make informed decisions about planting, fertilizing, irrigating, and applying pesticides. Some of these technologies include:

- **Drones and Satellite Imagery:**

These technologies enable farmers to monitor crop health, soil moisture levels, and nutrient needs with precision, leading to optimized resource use and reduced environmental impact. The technology also helps with a rapid assessment of damage to crops and infrastructure caused by natural disas-

ters. This leads to increased efficiency, improved quality, sustainable practices, and leveraging data analytics for informed decision-making.

- **Sensors and Internet of Things (IoT):** Sensors collect data on soil moisture, temperature, nutrient levels, and crop health. This information helps farmers optimize irrigation schedules, fertilizer application, and pest control, reducing resource wastage and environmental impact. IoT-enabled weather stations provide real-time data on weather conditions, enabling farmers to make informed decisions about planting, harvesting, and irrigation. In addition, sensors and RFID tags track the movement of food products throughout the supply chain, from farm to table. This improves visibility, reduces delays, and minimizes spoilage.

ALTERNATIVE PROTEIN SOURCES

Alternative protein sources are a promising solution in dealing with the growing global demand for protein, while at the same time minimizing the environmental impact of traditional meat production. These alternatives provide a more sustainable and ethical

approach to food production. Some of these technologies include:

- **Cell-cultured meat:** This technology involves cultivating real meat cells in a lab, which reduces the need for large-scale animal farming and its associated environmental impacts.

- **Plant-based meat alternatives:** These products are made from plant proteins like soy, peas, and wheat, which offers a sustainable and ethical alternative to traditional meat.

FOOD WASTE REDUCTION

Food waste is a significant global challenge with environmental and economic consequences. Fortunately, technological solutions are emerging to address this issue. Technological solutions for waste reduction include:

- **Smart Packaging:** This technology uses sensors and indicators to monitor the freshness of food products, extending shelf life and reducing waste. Smart packaging integrates innovative technologies and eco-friendly materials.

- **Blockchain Technology:** Blockchain enables companies to track food products from farm to fork, improving transparency and reducing food waste by identifying inefficiencies in the supply chain.

VERTICAL FARMING

Vertical farming consists of crops that are grown in vertically stacked layers, offering numerous sustainability benefits. It maximizes land use, conserves water, reduces pesticide use, enables year-round production, and increases climate resilience.

OTHER INNOVATIVE TECHNOLOGIES

- **3D Food Printing:** This technology allows for the creation of customized and personalized food products, reducing food waste and enabling the use of alternative ingredients. It offers a sustainable solution to food production by reducing food waste, promoting plant-based alternatives, and optimizing resource use.

- **Biodegradable packaging:** This

type of packaging breaks down naturally, reducing plastic pollution in the environment.

CASE STUDIES

Walmart

Walmart has been a leader in sustainable sourcing and packaging. The company has set ambitious goals to reduce waste, conserve energy, and source more sustainably. For example, Walmart has committed to sourcing 100% of its seafood sustainably and has made significant progress in reducing plastic packaging.

Walmart provides an example of innovative new technologies aiding sustainability. The retail giant has a machine learning system called Eden that checks for defects in fruits and vegetables using photographs. Eden also relies on thermometers and sensors that monitor conditions while the produce is in transit.

Any items that show signs of ripeness get sent to the nearest locations, where they can sell more quickly before they start spoiling. Eden has saved Walmart \$86 million so far by eliminating the amount of food the company has to throw out. Projections suggest that Eden will save Walmart \$2 billion more in the next 5 years.

Tyson Foods, Inc.

Tyson Foods, Inc., one of the world's largest food companies, has reached an agreement for a two-fold investment with Protix, the leading global insect ingredients company. The agreement supports the growth of the emerging insect ingredient industry and expands the use of insect ingredient solutions to create more efficient sustainable proteins and lipids for use in the global food system. The agreement combines Tyson Foods' global scale, experience, and network with Protix's technology and market leadership to meet current market demand and scale production of insect ingredients.

Tyson Foods is also focused on leveraging technology to reduce water and energy consumption in production processes, investing in renewable energy sources, and adopting waste reduction strategies. The company is also utilizing technology to monitor animal health and well-being in real time, developing innovative housing



and feeding systems to improve animal welfare. Through these initiatives, Tyson Foods aims to reduce its environmental footprint, improve food safety, enhance animal welfare, and contribute to a more sustainable food system.

CONCLUSION

The food industry, which is a significant contributor to GHG emissions, is experiencing a transformation driven by technological innovation and consumer demand for sustainable products. Technologies, such as precision agriculture and alternative protein sources to food waste reduction and vertical farming, are revolutionizing the way we produce, distribute, and consume food. Optimizing resource use, reducing waste, and adopting more sustainable practices, the food industry can mitigate its environmental impact and ensure a more sustainable future for generations to come. Companies like Walmart and Tyson Foods are leading the way by implementing innovative technologies and sustainable practices, demonstrating that a sustainable food system is not only possible but also economically viable.

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