

Client Focus

Working Toward a Sustainable Food Chain

Producing enough food for everyone in a crowded, thirsty world is a challenge but innovative companies are finding solutions

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William Blair



A Season to Reflect

Fall is a time for reflection. It's an opportunity to assess the past year. It's also a reminder that not only is a new year approaching but a new decade as well.

So far, 2019 has been good for the financial markets. U.S. stock markets posted double-digit gains through September as the economy remained generally strong.

But market volatility picked up in August as the trade conflict between the U.S. and China settled in. Second quarter global GDP increased by 2%, a slower pace than the 3.1% during Q1. In September, the Fed cut interest rates for a second time this year citing global risks and weakened U.S. business investment and exports.

For the remainder of the year, economists say U.S.-China trade, inflation, Fed policy, global growth, Brexit and an inverted yield curve will be center stage in causing uncertainty for the markets and the economy. All will be closely watched in the fourth quarter.

As we have spotlighted in the last two editions of *Client Focus*, leading companies are increasingly embracing sustainable business strategies to support their long-term growth.

Our fall issue features some ways that food and agriculture companies are finding innovations to secure a sustainable food supply amid the stresses of a growing world population and a change in climate.

Ecolab, a company that helps businesses around the world save water and energy, and Beyond Meat, a producer of 'meat without animals' that is redefining protein on the dinner plate, share their stories. Both companies are on a mission we think you'll find interesting.

On a personal note, this fall marks my 35th year with William Blair. I've seen many changes since I began in 1984 as a young banker in the corporate finance department. The biggest visible change has been the growth of the firm. There were just 350 employees, all in Chicago and a

branch office in Atlanta, when I joined. It has been exciting to see the firm increase four-fold during my time and our footprint expand across the country and overseas.

It's also been my good fortune to work with many wonderful people over the years. The people, their work, and their dedication to the communities where they live and work continue to inspire me as much today as they did three decades ago.

So as we head into this autumn season of thanksgiving, let me thank you again for the trust you have placed in William Blair as your financial partner through the years.

Sincerely,

John Ettelson
President and CEO

How Do We Produce Enough Food for Everyone in a More Crowded and Thirsty World?

That's the question the global food industry is facing.

Finding answers is especially challenging given the projections from the United Nations for world food demand to increase by more than 50% by 2050. Producers will have to do this with finite amounts of land and water even as meat demand grows, driven by wealthier emerging markets. Climate change and a warmer world will continue to put food security at risk.

It's a massive challenge but also a massive opportunity for governments and corporate innovators around the world. A landmark UN report on land management and climate released in August warned of the risks but offered hope if we grow crops more efficiently, waste less food, and convince people to eat less meat.

"Food and agriculture companies are at the heart of what we need most—preserving the environment so we can have a sustainable food supply," says William Blair analyst Larry DeMaria.

The world food chain is a complex system that runs from farm operations to food processors, shippers, and marketers. The players range from small growers to multinational conglomerates, mom-and-pop businesses to online giants. It all adds up to an enormous \$5 trillion enterprise that impacts every person in

every country, is core to world trade in both raw commodities and manufactured goods, and affects 3,700,000,000 acres of the world's land for crop production.

From farmers big and small, from big food processors like ADM and Kraft to mega retailers like Walmart and Amazon, sustainable production has become the common theme. The major players are depending on technology more than ever to be their partner.

"We'll need technology to keep track of all steps of the supply chain," says Christophe Beck, president of water technology provider Ecolab, in a recent company blog. "That can be as cutting edge as monitoring the supply chain with a blockchain and the internet of things, where we've barely scratched the surface, or as common-sense as providing food manufacturing facilities and restaurants with apps that automate food safety check lists."

'Meat without animals'

One of the hottest innovations on the path to be more sustainable has been

advances in grain- and vegetable-based "meat" and "dairy" substitutes, known as plant-based foods.

Companies like Beyond Meat and Impossible Foods, for example, have created tasty burgers made from pea, soy, wheat, and potato proteins while Ripple Foods uses a pea protein to produce a dairy milk alternative. These products not only taste and look like meat and milk from animals, but use less land, water, and energy to produce while generating fewer greenhouse gases.

"If you look at livestock rearing globally, it is responsible for about a quarter of greenhouse gas emissions and uses huge resources in terms of land and water," says William Blair equity analyst Jon Andersen. "When you go to a plant protein and remove the animal from the protein supply chain, it's a game changer in terms of the environment."

The ingredients of a Beyond Burger, for example, require 99% less water and 93% less land, generate 90% fewer greenhouse gas emissions and

"When you go to a plant protein and remove the animal from the protein supply chain, it's a game changer in terms of the environment."

—Jon Andersen, William Blair Equity Research Analyst

require 46% less energy than what's demanded to produce a traditional beef burger, Andersen said in his May equity research report.

On-the-ground efficiency

Technology also continues to change the face of farming at the ground level. Farm equipment manufacturers are developing high-tech tractors, planters, and harvesters that apply GPS as well as planting, growth, and harvest data from individual fields to customize applications that help farmers grow more crops on less land.

"We used to think of ag equipment as bigger, better, faster," says DeMaria. "Now it's really about how to drive

efficiencies, not just horsepower but how to use your assets better, to be better with the land and input costs."

For example, Deere has a new planter that operates twice as fast as the last model but has a mapping app that tells a farmer how many seeds and how much fertilizer to apply in the dry areas of his field compared with more fertile sections. Sustainability and efficiency are boosted as the farmer spends less time in the field, uses fewer inputs, and increases crop yield potential.

Technology at Valmont and Lindsay, big irrigation companies, is leading change too. In recent

years, they've helped many crop farmers cut their water use in half by convincing them to switch from traditional "flood" irrigation to a mechanized targeted system often operating on a center-pivot. These large steel water sprinklers are often seen in Midwest corn fields.

"Mechanized irrigation isn't new but it has improved over time," says William Blair analyst Brian Drab, who covers the industrial technology sector.

Irrigation companies are refining software with streams of data so farmers know when to water based on local weather, humidity, soil moisture and seed type.

Demand for Plant-based Foods Driven by Innovation and Investment

Consumers young and old seeking more nutritious, less-processed food produced under sustainable conditions are turning to plant-based beverages and meat substitutes. They want what's good for health and good for the planet.

"These forces are significantly impacting the level of innovation that is taking place in food and beverage and the supply chain, not only the finished goods on the shelf but the ingredients that go into them," said John LeVert, who heads William Blair's investment banking branded food and beverage team.

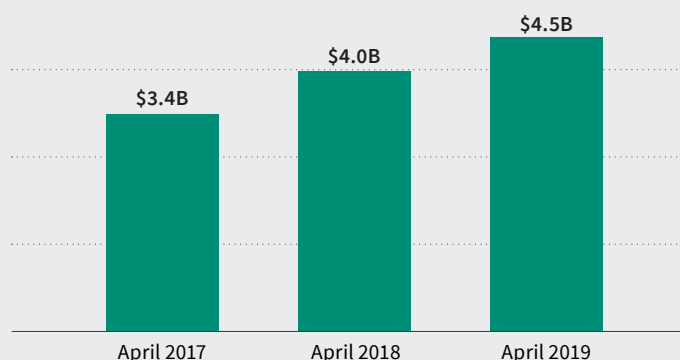
U.S. retail sales of plant-based foods have grown 11% in the past year, bringing the total plant-based market value to \$4.5 billion, the Plant Based Foods Association says. Plant-based leader Beyond Meat increased sales 287% in its most recent quarter, according to public filings. Plant-based meat now accounts for 2% of retail packaged meat sales while the penetration of plant-based dairy alternatives is 13%.

"Whether it's plant-based proteins like Beyond Meat or Impossible Food burgers or plant-based beverages like Oatly and Ripple Foods, I think people are realizing that plant-based things can have more nutritional benefits and might mitigate some of the health risks and environmental costs associated with consuming traditional animal proteins," LeVert said.

"Impossible Foods and Beyond Meat have been at the forefront of this and why they are getting the attention of media," said LeVert.

"When we took Beyond Meat public in May, the stock traded up 800% in a couple months. That validates there's public interest in participating in this. Public investors are anticipating that the company capturing even a small portion of meat eating could be a huge market over the next 10-15 years."

Three-year U.S. Plant-Based Foods Dollar Sales



Source: Plant Based Food Association, commissioned data by SPINS. 52 weeks ending April 2019.



“The machine knows exactly how to incorporate all of those inputs and at the same time the grower can monitor what’s happening from anywhere in the world,” Drab said. “You can have fields in Nebraska and be on vacation in Paris and monitor all of that from your iPad.”

Seeds of change

Plant genetics also continues to improve crops. Midwest seed company Benson Hill Biosystems, for example, is using a new wave of traditional “non-GMO” breeding tools to develop healthier, more sustainable foods.

Matthew Crisp, co-founder and CEO of Benson Hill, said in a William Blair white paper that the company has several projects under way including: increasing the photosynthetic efficiency trait of the corn plant; partnering with Anheuser-Busch InBev to develop more productive and sustainable barley varieties; and working with candy maker Mars to improve the climate resilience of cacao trees, which are the source of chocolate production.

William Blair analyst DeMaria, who recently returned from Europe after visiting clients there, said he saw a big step up among them to invest in companies with strong sustainability initiatives.

“The name of the game for the ag companies is to reduce waste, increase yields, and farm more efficiently,” he said. “There is real capital being diverted for funds to invest this way and that’s what is going to drive change.”

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Fixed Income Going Green

While the recent surge in sustainable investing has been most often linked with equities, the creation of green and sustainable bonds has added fixed income to the choices for ESG-minded investors.

“Because of its focus on long-term cash flows and the sustainability of the underlying business, fixed-income investing may lend itself even better to ESG and sustainable investment themes than equities,” says Todd Kurisu, a portfolio manager with William Blair investment management’s fixed-income team. Kurisu is also on IM’s ESG working group, which helps guide development of sustainable investing initiatives.

Companies and municipalities are issuing an increasing number of bonds tied to their specific environmental and sustainable initiatives. Such green bonds gained popularity in the European Union with the first such security issued by the European Investment Bank in 2007, with the proceeds used to finance clean energy projects.

Now such bonds are being issued by investment-grade entities targeted at a myriad of environmental goals but also at ESG-related social causes.

Bonds to promote sustainable farming

Starbucks has been a pioneer in this space. In 2016 it was the first company to issue a sustainable bond (10-year, \$500 million) to promote sustainable farming practices. In May 2019 the company issued its third and largest sustainable bond (30-year, \$1 billion), which will further support a sustainable coffee production chain, providing debt financing to coffee farmers in Latin America, Africa, and Asia.

Starbucks led and others followed, Kurisu says. South American pulp producers issued bonds in 2016 and 2017 to finance sustainable forestry, water, and energy management. Also in 2017 banking giant HSBC widened the ESG horizon by issuing a green bond to finance loans that target measurable sustainability projects in healthcare, education, and civil infrastructure.

That trend is reflected in the Bloomberg Barclays MSCI Green Bond Index, an industry benchmark comprising fixed-income securities issued to fund projects with direct environmental benefits. Total funding in the index surpassed \$240 billion in 2018. Outstanding debt for environmental initiatives such as sustainable forestry and agriculture, for example, has risen 221% in the past two years while energy-related bonds were up 170%.

“Historically, municipalities issued green bonds to fund new buildings or upgrade existing buildings to increase energy efficiencies, says Kurisu. “Today, it’s corporations driving the change issuing big global deals.”

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Ecolab Services in Demand as Water Worries Rise



Emilio Tenuta
Ecolab Vice President of Sustainability

As international concerns about water usage and quality increase, businesses from food processing to power plants are getting smarter about managing this vital resource.

They are seeing water in a new light: a key part of their sustainable future. Helping them on this mission is Ecolab. Based in St. Paul, Minnesota, Ecolab operates in 170 countries with 49,000 employees and posts annual sales of about \$15 billion as it helps companies and governments solve water use issues.

Emilio Tenuta, Ecolab's vice president of sustainability, is a 30-year company veteran as enthusiastic and optimistic about finding solutions today as he was as a new graduate with a chemistry degree from the University of Wisconsin-Eau Claire.

"I'm so grateful to work for a company with such a powerful purpose where sustainability is at the core of it," he says. "Ecolab is not only growing from a business standpoint but also doing good in the world."

Tenuta says it's a big business getting bigger as customers embrace sustainability as a core value. In 2018, he says, Ecolab helped save 188 billion gallons of water at its 3 million customer sites around the world in chemical plants and pulp mills, at manufacturers and food processors, in hospitals and restaurants. Ecolab systems manage more than 1.1 trillion gallons of water and in 2018 its customers also saved more than 19 trillion BTU's of energy.

"We've been working with our customers to drive circular solutions, moving away from linear. We live in a linear world—it's flush and forget," he says. "All you need is a change of mindset and behavior. You must look at water as an asset rather than a disposable liability."

"Big multinational companies are absolutely on to this. They're focused on water stewardship," he says.

Impact through stewardship

Ecolab was a founding member in 2009 of the Alliance for Water Stewardship (AWS), a public-private network of major water users to create a global water standard and promote sustainable water management. Companies like Coca-Cola and General Mills and NGOs including The Nature

Conservancy and World Wildlife Fund were also among the founding members.

"We've reached a point where more and more companies are following the AWS standard and even certifying sites around the world," Tenuta says.

Ecolab tools like Smart Water Navigator and the Water Risk Monetizer, both free online, were designed to inform businesses of their water risks and help them manage it. Today, Ecolab has more than 40,000 sensors deployed worldwide integrating its cutting-edge 3D Trasar smart technology that helps customers conserve and reuse water globally.

"Future generations are going to have a much different view of water than we do. Ecolab is at the forefront of this," says Tim Mulrooney, a William Blair analyst who covers the industrial sector.

Tenuta sees momentum building toward expanding the mindset of sustainability. A survey compiled by Ecolab and consultancy GreenBiz this year showed that of the 90 companies with \$1 billion or more of annual revenues, a majority—about 80%—are disclosing performance toward publicly stated sustainability goals. "The challenge is that 44% did not have a plan to get it done at the local level," he says.

"I feel we have the technology. It really comes down to the execution and having the right partners to execute."

Read more online at williamblair.com/ClientFocus.

Beyond Meat CEO Discusses Vision of Bringing ‘Meat Without Animals’ to Market



Ethan Brown
Beyond Meat Chief Executive Officer

A crowd gathered one morning over the summer outside a Kentucky Fried Chicken in Atlanta, lining up around the block to be the first to try the new plant-based nuggets and wings KFC was testing from new food supplier Beyond Meat. Within hours, KFC was sold out.

But such non-meat nuggets are not just a KFC sensation. Beyond Meat's plant-based burgers, breakfast sausages, brats, and other products can be found at a growing list of brand-name food retailers from Whole Foods to Dunkin' Donuts to Tim Hortons to Carl's Jr. McDonald's is the latest fast-food chain to announce it would test Beyond Meat burgers in some restaurants in Canada over a 12-week period starting September 30.

The visionary driving the product is Ethan Brown, a meat-loving, tech-minded entrepreneur turned vegan who wanted to create meat from plants that were so tasty and textured and palatable that consumers wouldn't know the difference.

“Bit by bit we're building meat from plants and as we do it we just can't do it quickly enough for consumers,” Brown told *Client Focus* in an interview shortly after the KFC launch in Atlanta. “We've been blessed to tap into a movement that's so much bigger than our brand.”

The message is also impressing Wall Street. After its IPO in May, Beyond Meat shares gained 543% by the end of June—making it the best-performing public offering during the second quarter. On July 31 a follow-on offering of shares was sold at 6 times the IPO price, delivering a market valuation near \$10 billion.

William Blair was an underwriter on the IPO and its follow-on offering.

Early investors saw Brown's potential for an alternative to the trillion-dollar animal meat market starting a decade ago. Bill Gates, Leonardo DiCaprio, venture capital firm Kleiner Perkins, the Humane Society, and others were early backers of the company.

Beyond Meat's annual sales now have taken off—from \$16.2 million (2016) to \$32.6 million (2017) to \$87.9 million (2018). Its products are now featured in over 53,000 locations worldwide.

“Ethan and Beyond Meat have created an enterprise with the potential to create truly distinctive and game-changing financial and societal benefits,” says William Blair analyst Jon Andersen, who covers the consumer products sector.

A menu with a winning message

Brown sees meat without animals as a win-win for consumers and the planet. For years, he wanted to create plant-based meat alternatives. Growing up Brown developed an affinity for animals, being around them on a family dairy farm. He developed a similar affinity for climate concerns.

After graduating from college he worked in clean tech, always socially minded. But for Brown it wasn't enough. Reflecting on his roots, he took a long look at the stress that modern animal agriculture has on climate and began pursuing a passion to develop a tasty, plant-based meat substitute. He worked with researchers at the University of Missouri and University of Maryland to develop a process that eventually became the foundation technology for Beyond Meat.

By 2009, Brown left the clean tech company and launched Beyond Meat. There were a lot of days when success wasn't clear, he recalls.

“It takes a lot of sacrifice, pain, and discomfort, but most things that are worth it do,” Brown says. “Entrepreneurs see something and they'll do whatever they can to make it happen.”

Read more online at williamblair.com/ClientFocus.

Fixed Income Going Green

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The HSBC bond, geared to finance targeted “green” loans, exemplifies the boost that the theme of sustainability is giving to Wall Street finance. Loan terms can be tied to the borrower’s ability to meet environmental or sustainable targets like reducing fossil fuels or increasing sustainability goals.

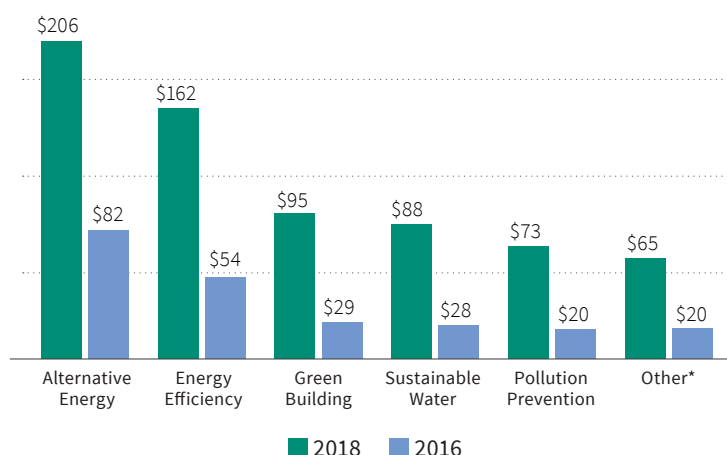
Kurusu expects the trend toward both green bonds and targeted green loans to grow. Commodity trader COFCO in July 2019 signed a \$2.1 billion loan, China’s first sustainability-linked loan.

William Blair IM’s fixed-income team launched a sustainable fixed-income strategy last year.

“The institutional market is on board and wants sustainable investments,” Kurisu adds. “It’s going to happen and now that fixed-income investors are embracing it, it’s only going to get bigger.”

Bloomberg Barclays MSCI Green Bond Index

Funding of Each Category USD Billions



Source: Bloomberg, Barclays, MSCI as of December 2018; a single bond may contribute to multiple categories

*Environmental activities including sustainable agriculture/forestry

As Year-End Giving Approaches, Consider DAFs

Donor-advised funds (DAFs) are one of the most popular charitable giving vehicles available today, growing in popularity even before the 2017 tax law changes took effect. Instead of giving directly to a charity or setting up a foundation, DAFs allow donors to pool donations into one fund, deduct the entire contribution in one year, and advise the fund manager over time on the charities to donate to. DAFs have been growing in popularity in recent years

for their tax advantages, simplicity, and convenience. Donations can be done by the donor online, like digital banking, while the recordkeeping is handled by the fund manager.

To learn more about using DAFs, contact your William Blair representative.



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