

# **Sun, Soil & Seed** **Cultivating the Road** **to Zero-Carbon** **Biofuels & Bioproducts**

Sustainability Report

**ADET**<sup>®</sup>

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# Letter from CEO

**The Earth was made to thrive in natural rhythm, like music — or poetry.**

**But we have taken too much from our planet for too long, and it's only a matter of time before the effects of our actions become irreversible.**

**That's why, at POET, we're working every day to restore harmony between human and nature.**

POET's enduring vision to create a world in sync with nature began over 30 years ago. As the world's largest producer of bioethanol and a leader in other bioproducts, we strive to revitalize global agriculture and provide practical, plant-based alternatives to decrease our dependence on fossil fuels.

Sustainability has always been at the heart of our business and is the core to our success.

It's our purpose — our "why."

It's a commitment that is brought to life by the suite of Earth-friendly products we've created, the dedication of our team members, and the economic viability and wellbeing of the communities we call home.

While this is our first sustainability report, we've been at work improving our environment since the founding of POET. Today we are taking on climate action on many fronts, including updating our sustainability goals and pursuing policy that helps consumers reduce their everyday environmental impact by expanding access to cleaner, lower-carbon biofuel blends across the nation.

We are investing in the latest biotechnology to promote efficiency and produce even cleaner renewable energy.

We are continually diversifying our business to meet worldwide needs, creating plant-based bioproducts that displace toxic petrochemicals.

We are working toward producing more bioethanol made from low-carbon grain by partnering with farmers throughout our footprint who are leading the way in regenerative agricultural practices.

And we are always aiming to give back, both in the Midwestern communities that have been so good to us and in developing nations all over the world. Whether it's through our time, our resources, or our hands-on involvement, we hope to have lasting positive impacts — not just at home, but across the globe.

Simply put, our products and — perhaps most importantly — our people are making the world a better place.

*And we're just getting started.*

Our experience over the past three decades has proven that sound

corporate stewardship and world-class environmental performance are fundamentals of good business. By outlining our vision for sustainability, we aim not only to position POET for long-term success, but to blaze a trail in the global transition to decarbonization.

Throughout this inaugural report, we share some of the outcomes of our previous sustainability efforts and discuss our strategy moving forward. The intent of this report is to truly challenge ourselves to focus on key areas where we can do better. We're setting the bar high to ensure a sustainable future for all.

Make no mistake — we are at a tipping point. We are seeing the effects of climate change more every day. Right now, the world needs leaders to lead and innovators to innovate.

At POET, we believe in the power of agriculture to play a key role in solving global challenge. We believe in embracing Earth's inherent rhythm and harvesting energy from its surface to compose a brighter future. We believe in a world where farmers are the creators and innovators are the heroes.

Just as a poet turns ordinary words into extraordinary prose, we will continue to use the simple gifts God has provided — the sun, the soil, and the seed — to cultivate a better world for generations to come.

**Jeff Broin**  
POET Founder & CEO



# About POET

POET is an innovative, global leader in the production and distribution of renewable bioproducts including plant-based food, beverage and personal care product ingredients, biofuel, high-protein animal feed, renewable CO2 and a variety of other bio-based alternatives to petroleum.

POET recognizes that our planet urgently needs bolder solutions and even better results today if we hope to sustain Earth's fragile balance tomorrow. We believe everything we need can be grown from the surface of the Earth. That is why we are focused on cultivating the bio-based solutions our world needs using the power of the sun, the soil, and the seed.

We work with more than 40,000 farmers across the country, using the latest biotechnology to turn their crops into sustainable bioproducts that can be used in consumers' everyday lives. POET operates 33 bioprocessing facilities across the Midwest to produce three billion gallons of bioethanol and billions of pounds of plant-based bioproducts that are shipped around the globe.

Born out of a way to generate extra income during a time when global agriculture commodities were in oversupply, the Broin family began producing bioethanol on the family farm in rural Minnesota in the 1980s. More than thirty years of hard work, ingenuity, and ceaseless advocacy for an emerging industry has grown POET from its humble beginnings into the who we are today: a global industry leader with storied roots.

**We will continue to lead the way through research and innovation, providing sustainable solutions to world-wide energy, health and environmental issues.**

- 1987  
Broins purchase first bioprocessing plant in Scotland, SD
- 1991  
Business starts to expand, adding new capabilities and divisions
- 2004  
POET patents BPX®, the industry's first raw starch hydrolysis biotechnology
- 2007  
Name changed from Broin Companies to POET
- 2012  
Launch of Voilà, POET's corn oil product
- 2017  
JIVE, POET's asphalt rejuvenation and modification solution was launched
- 2019  
Capacity exceeds 2 billion gallons with Marion expansion and Shelbyville greenfield site
- 2020  
Expansion into hand sanitizer and purified alcohol products
- 2021  
Capacity reaches 3 billion gallons with acquisition of 5<sup>th</sup> largest biofuel producer, Flint Hills Resources

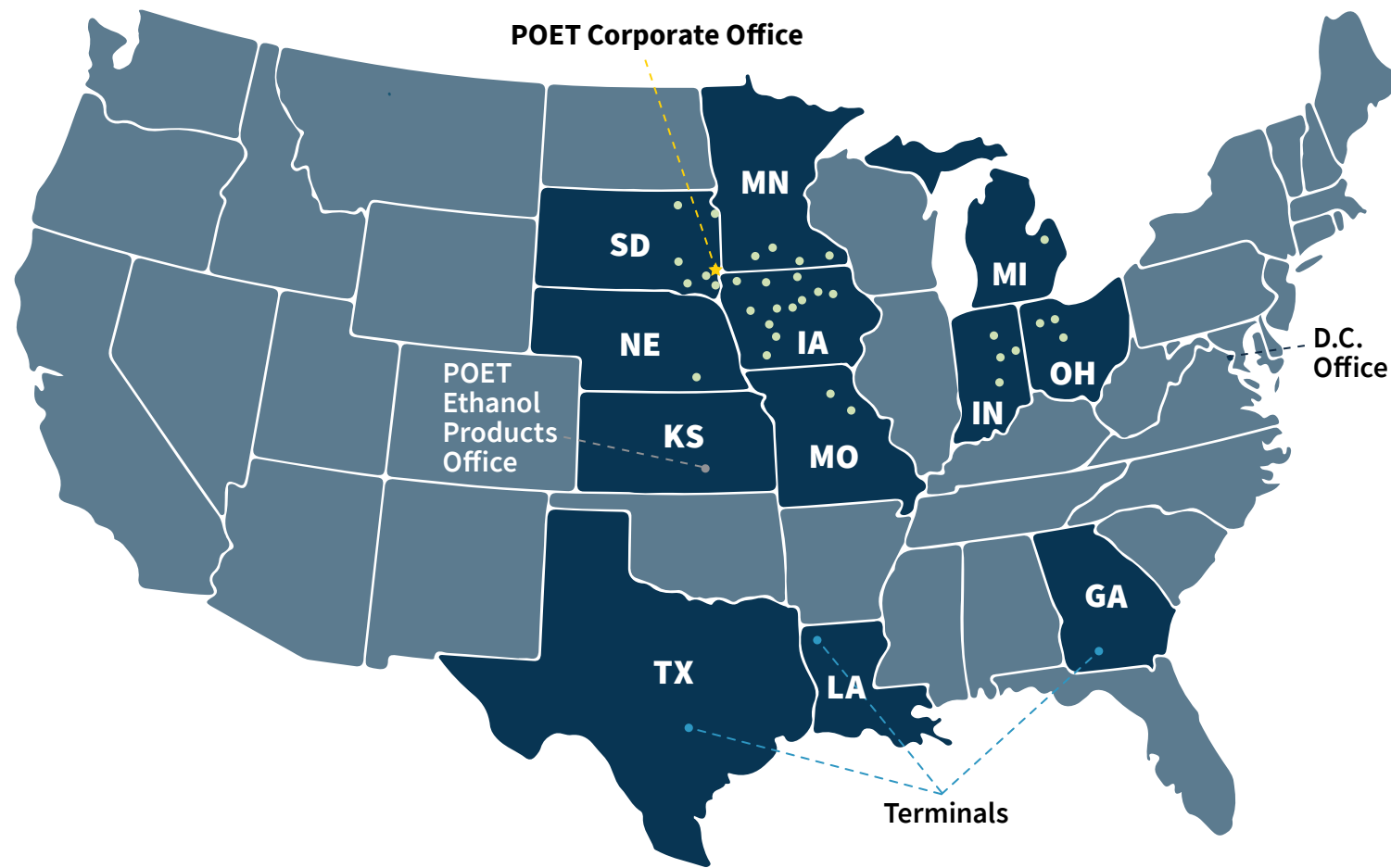
## VISION

Our vision is to live in a world with natural balance. Where we no longer take from the Earth, but rather use its enormous ability to regenerate. Where we are no longer dependent on fossil fuels, but rather rely on the power of nature and the genius of the human spirit. Where farmers are the creators, and innovators are the heroes. Where we use the resources given to us in ways we believe God intended.

## MISSION

Our mission is to be good stewards of the Earth by converting renewable resources to energy and other valuable goods as effectively as humanly possible.





POET is headquartered in **Sioux Falls, South Dakota** with **33 bioprocessing facilities** across the Midwest

**IOWA**

- Arthur
- Ashton
- Coon Rapids
- Corning
- Emmetsburg
- Fairbank
- Gowrie
- Hanlontown
- Iowa Falls
- Jewell
- Menlo
- Shell Rock

**SOUTH DAKOTA**

- Big Stone
- Chancellor
- Groton
- Hudson
- Mitchell
- Scotland

**MICHIGAN**

- Caro

**NEBRASKA**

- Fairmont

**MINNESOTA**

- Bingham Lake
- Glenville
- Lake Crystal
- Preston

**OHIO**

- Fostoria
- Leipsic
- Marion

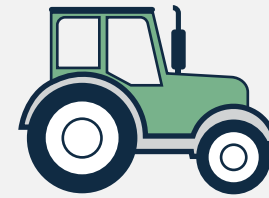
**INDIANA**

- Alexandria
- North Manchester
- Portland
- Shelbyville

**MISSOURI**

- Ladonia
- Macon

**POET BY THE NUMBERS**



40,000+  
FARMER  
SUPPLIERS



930 million  
BUSHELS OF  
CORN PURCHASED  
PER YEAR



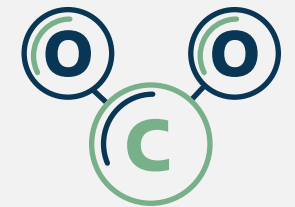
3 billion  
gallons  
PRODUCTION  
CAPACITY



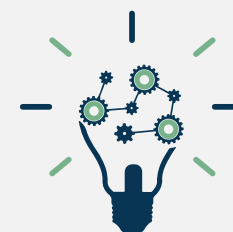
14 billion lbs  
of distillers dried grains  
PRODUCED ANNUALLY  
AND DISTRIBUTED TO  
COUNTRIES THROUGHOUT  
THE WORLD



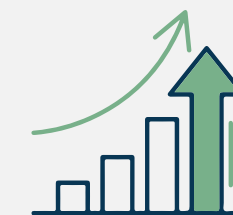
975 million lbs  
OF CORN OIL  
PRODUCED



NEARLY  
6 million  
TONS OF CO2  
CAPTURED



13+  
UNIQUE PRODUCTS  
MADE AT POET



1500%  
GROWTH  
SINCE 2000



\$200 million  
AVERAGE CONTRIBUTION  
TO EACH PLANT'S  
LOCAL ECONOMY

# POET's Sustainability Journey

The word “sustainability” has certainly gained popularity in recent years, but at POET, it is not a new concept. It has been a part of our DNA since the company’s earliest days. For more than three decades we have been a powerhouse in driving the development of biofuels and bioproducts, always maintaining our tradition of innovation and environmental stewardship along the way.

We are proud of our agricultural roots, and we strive to keep the spirit of the family farm at the heart of everything we do. POET was founded on the concept of value-added agriculture, or finding ways to leverage the land productively and with integrity. When CEO Jeff Broin’s father, Lowell, saw his Minnesota cropland lying idle in the 1980s – and being paid by the government to keep it that way – he knew there had to be a better way to put his crops to good use. With a little creativity and common sense, he got to work.



After a few years of experimenting on the farm, the Broins purchased a defunct ethanol plant in Scotland, South Dakota in 1987. It truly was a leap of faith – they put the family farm on the line as collateral. They poured their blood, sweat, and tears into refurbishing the plant and did so on a budget, finding deals at auctions and recycling whatever they could to avoid purchasing new parts. They also leveraged their good old-fashioned farmers’ ingenuity and knowledge of the industry to ensure they stayed the course, never wavering even when corn prices spiked or machinery failed.

Eventually, what began as a way to survive the ag crisis grew into a passion to change the world.

Today, just like in those early days, POET salvages the things that work and combines them with good ideas to innovate something even better. That original spirit of ingenuity and perseverance is still alive and well, and we continue to be grateful for the abundance of the Earth while striving to preserve it for our children and grandchildren.

Since 2005, POET has reduced its annual energy use by

↓ 18%

Since 2005, POET increased its per bushel biofuel yield by

↑ 8%

Since 2007, POET has reduced its annual water use per gallon by

↓ 20%



# Our Progress

At POET we recognize the urgency of the climate crisis. In addition to producing several plant-based bioproducts that displace petrochemicals, we are constantly finding new opportunities to lower our overall energy use and reuse energy more efficiently in our operations. As part of those efforts, we have developed a number of sustainable technologies that are already in use.

## Waste to Energy Technology

POET's bioprocessing facility in Chancellor, SD is a prime example of waste to energy technology. The facility is powered using steam generated from biomass combustion and methane gas that is pipelined from the landfill near Sioux Falls, SD, which would otherwise be released into the atmosphere.

## Combined Heat & Power

In addition, nearly half of POET's bioprocessing facilities now utilize energy-efficient, steam-powered turbines that generate electrical energy from process steam to operate the plant. Each generator produces an average of three megawatts of electricity per facility, totaling 50 megawatts per year — enough to power 2,000 homes, or a combined total of about 40,000 across the entire POET network.

## Carbon Capture

Our energy efficient production process allows carbon dioxide to be captured for commercial use. In fact, POET is the fastest-growing renewable CO2 business in the US, and more renewable CO2 means that less CO2 is harmfully extracted from below the ground.

## Total Water Recovery

POET's patented Total Water Recovery system filters, treats, and recycles water used in the production process. This system essentially eliminates liquid discharge from POET's network of bioprocessing facilities, except for steam and water present in bioproducts that exit the facility.

## Solar Power

As of mid-2021, the majority of POET's headquarters in Sioux Falls, SD is powered by the first POET solar farm. The 400 kW solar farm is the largest of its kind in the city and, in the summer months, will generate more power than what is needed for our office building. The additional power produced will go back to the grid to power local homes and buildings.

As we have grown, we have increasingly recognized our capacity to improve upon our processes and become even more ambitious in our actions, both inside and outside our walls. In addition to our large-scale improvements, we have implemented internal efforts to conserve waste, including recycling, paper conservation, reusable dishes and tableware, and the transition to LED light bulbs. We have also encouraged local community conservation efforts across our locations.

Most importantly is that at our core, we strive to be highly ethical and moral — to simply do the right thing. The POET team holds ourselves to a high standard of treating others with respect and dignity, which we believe serves our ultimate goal of leaving the world a better place than we found it.



# Looking to the Future

As POET looks toward what is next — and at what type of world we want to leave our children and grandchildren — we realize that there is always room to think bigger. We intend to go all in, charting a path toward carbon neutrality while bringing value to rural America, engaging team members, and strengthening our internal commitment to sustainability.

## GOALS

POET has set six goals to help guide us toward a more sustainable future for everyone.

The goals have been separated into **two pillars** — one that is focused on investing in technology and improving our overall operations, and one focused on advocating for a sustainable society.

## Public Policy

It is important to note that many of the carbon reduction pathways POET is considering will require state and federal policy support and significant capital investments.

## PILLAR 1

### Invest in technology focused on achieving carbon neutrality & increasing the use of plant-based products

- 1 Reduce the carbon intensity of bioethanol by 70% compared to traditional gasoline by 2030.
- 2 Continue to invest in technology to advance the development of low-carbon bioproducts that can displace more fossil-based fuel products.
- 3 Transition POET's bioprocessing facilities to carbon neutrality by 2050.

## PILLAR 2

### Advocate for a sustainable society

- 4 Continue to drive policy that supports biofuels and bioproducts.
- 5 Bolster and expand POET's Carbon Strategy Team.
- 6 Create programs and opportunities that allow our team members to give back to causes that align with our mission.





PILLAR 1

# Invest in technology focused on achieving carbon neutrality & increasing the use of plant-based products

## Carbon Reduction Strategies

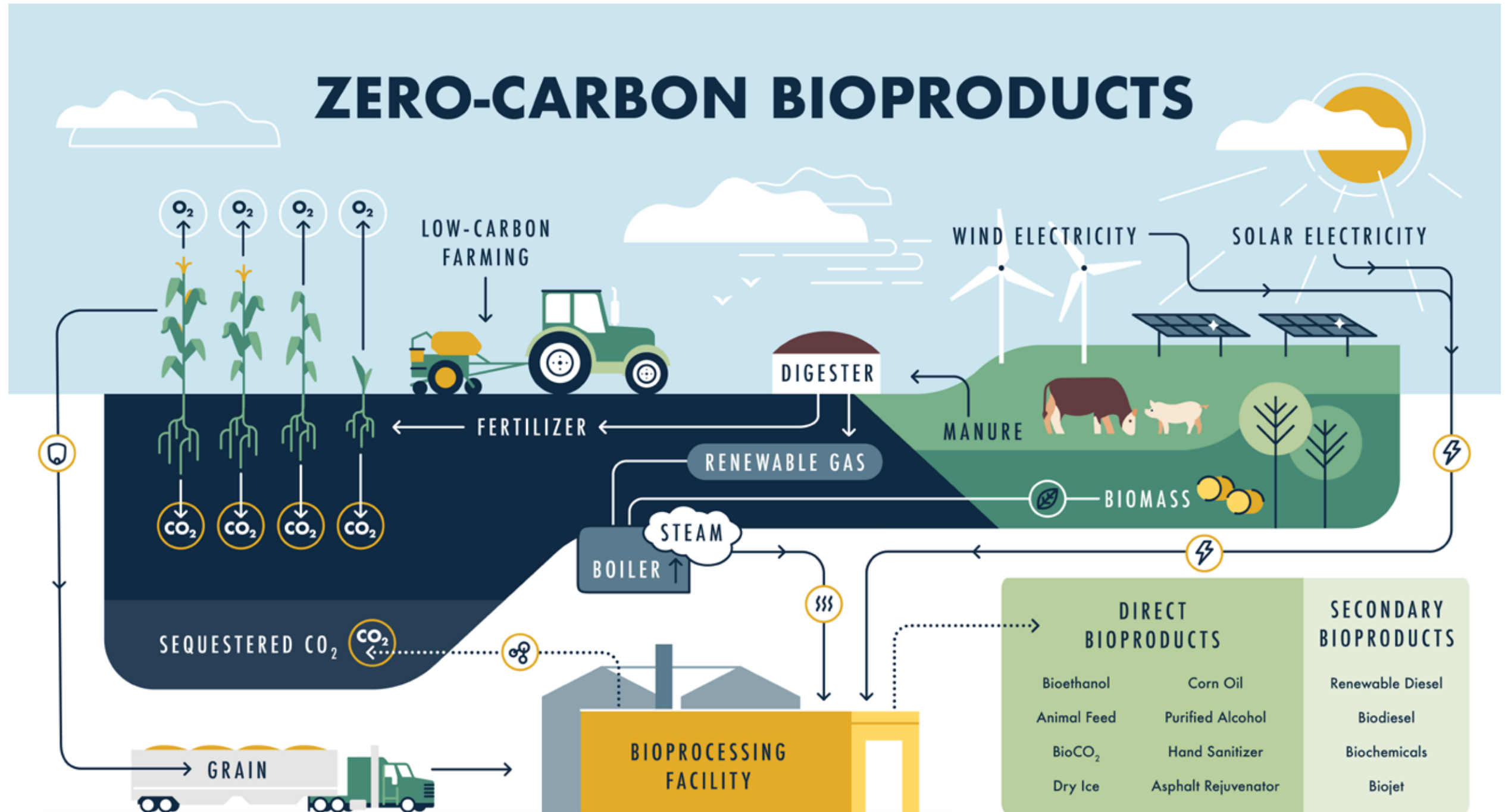
The most critical strategy for achieving our environmental goals is to capitalize on advancements in all facets of existing and emerging technology in the bioproducts sector.

## Zero-Carbon Bioproducts

The adjacent graphic illustrates many of the carbon intensity (CI) reduction strategies that POET will consider in order to achieve our carbon neutrality goals.

We believe that each of these technologies could be used to lower CI at our facilities, but in order to maximize efficiency, each location would select the technologies that are best suited to their location.

POET's ability to continually improve our processes and implement carbon reduction technologies across our network is contingent on state and federal policy. The bioproducts industry will require support from policymakers to create incentives that will drive lasting change.



The below chart represents the Life Cycle Analysis (LCA) for bioethanol and bioproducts made from corn. According to a recent peer-reviewed study by Environmental Health & Engineering (EH&E), the baseline CI score for the bioethanol industry is 51.4 gCO<sub>2</sub>e/MJ. This result is in line with Argonne National Laboratory's most recent GREET LCA model. POET's facilities score better than the industry average with an average CI score of 49.4 gCO<sub>2</sub>e/MJ.

This chart gives more detail on POET's current CI score and outlines some of the opportunities that exist to help us achieve our carbon neutrality goals. The far right column summarizes the potential CI reductions that could come from implementing each item on the list. It's important to note that many of the items below are complex and would require both policy support and significant capital investment to achieve. However, with the right policies in place, implementing a combination of just some these options at each facility could help us reach our carbon goals.

| Category                                      | Current POET Ave. CI Score (gCO <sub>2</sub> e/MJ) | Potential for Reduction in CI Score (gCO <sub>2</sub> e/MJ) |
|---|--|---|
| <b>Facility Operations</b>                    | <b>27.6</b>  |   |
| Operational Efficiencies                      |  | -8.6  |
| Energy Inputs                                 |  | -19   |
| Carbon Capture & Sequestration                |  | -35   |
| <b>Agriculture</b>                            | <b>26</b>  |   |
| Co-Product (animal feed) credit               | -12.8  |   |
| Improved Agriculture Techniques               |  | -40   |
| <b>Product Transportation &amp; Logistics</b> | <b>4.7</b>   |   |
| <b>Land Use Change</b>                        | <b>3.9</b>   |   |
| Update Methodology                            |  | -3.9  |
| <b>Total</b>                                  | <b>49.4</b>  | <b>-106.5</b>   |

Below is more detail on the categories where POET feels we can make the most impact.

**Facility Operations**

This category includes all aspects of operating bioethanol and bioproduct facilities including energy inputs and carbon emissions.

POET is always seeking increased productivity and efficiency in our bioprocessing facilities while also ensuring no compromises on safety or product quality. Some of the operational efficiencies that will contribute to the overall goal of reduced carbon include continuing to improve bioethanol yield through research and technology development and reducing electrical and natural gas inputs in the creation of biofuel.

A key area of opportunity is to increase use of renewable energy, such as solar, wind, biomass, and biogas, as well as continuing to dry less animal feed and pursue alternative on-site energy generation technologies, reducing our use of fossil fuels.

POET is also researching emerging opportunities and technologies for carbon capture and sequestration.

**Agriculture**

Agriculture is at the core of all we do, and POET has been a longtime proponent of the power of agriculture to combat climate change. We are working toward partnerships with farmers to incentivize more sustainable farming practices, such as precision technologies that reduce fertilizer inputs, decrease soil tillage, and utilize cover crops.

In September 2020, POET announced a partnership with Farmers Business Network (FBN) to boost profits for farmers while promoting sustainable agricultural practices through Gradable — a platform that matches farmers who use environmentally friendly practices with buyers who pay a premium for low-carbon corn. Gradable focuses on using proven science to measure the benefits of conservation practices used by farmers on their land.

To further support these efforts, POET, FBN and Argonne National Laboratory partnered to run a Gradable pilot to measure the actual CI in the supply chain at our facility in Chancellor, SD, which spanned 7.5 million bushels and 126,000 acres of land. The pilot was a great success not only from a grower interest and participation perspective, but it also

demonstrated that the Chancellor plant's current CI score attributable to farming was well below the national average.

The pilot also showcased a wide variability of growers' CI scores, incentivizing those who had adopted sustainable agricultural practices to continue doing so and encouraging others to consider integrating more sustainable agricultural practices. As more states adopt a low carbon fuel standard (LCFS), it will open new markets for lower CI grain, encouraging adoption of more sustainable agricultural practices.

Our relationship with FBN demonstrates our commitment to developing innovative practices that not only improve the bottom line but also advance sustainability practices.

**Land Use**

Indirect Land Use Change or Land Use Change (LUC) is a theory that suggests that the use of corn for biofuel production in the United States could lead to changes in international farming practices, which could ultimately lead to carbon emissions. This theory has been questioned since it was initially posited in 2008, and estimates of LUC impacts have dramatically decreased as more data has become available.

For example, in the Environmental Health & Engineering study discussed in this report, the authors estimated that LUC impacts are far less than previously believed.

Many of the reports reviewed by EH&E during the writing of their report assessed LUC at neutral (zero CI) or even net negative.

The change in score in more recent studies is due to better data inputs for LUC modeling that consider both the economic value and productivity of cropland. Previous models assumed new land would be cleared in response to an increase in the price of corn. This assumption has been proven to be inaccurate by extensive data on corn production and price over time.

Technology advancements in recent decades have led to substantial increases in corn yields and a significant increase in surplus grain across the US – without increasing the acres of farmland. Biofuels have helped to create markets for this surplus grain, which has led to positive impacts to rural economies and agriculture around the world.

POET is in the process of actively working with California Air Resources Board (CARB), Environmental Protection Agency (EPA), and other regulators to update their CI models to reflect the most recent estimates of LUC so that the true lifecycle GHG benefits of bioethanol are accurately reflected in regulatory programs.



**EH&E REPORT**

In 2019, POET engaged a leading environmental consulting firm to conduct a life cycle analysis study on the carbon intensity of corn bioethanol in the United States.

[The report](#), published by the peer-reviewed Environmental Research Letters in early 2021, found that greenhouse gas emissions from corn bioethanol are 46% lower than gasoline, up from the estimated 39% done by previous modeling. The report, led by David MacIntosh, Chief Science Officer of Environmental Health & Engineering, Inc. (EH&E) and Adjunct Professor of Environmental Health at Harvard's T.H. Chan School of Public Health, and consulted by dozens of experts in academia, updates bioethanol's carbon intensity score to reflect how continuous improvements in technology and practices have driven further emissions reductions in the lifecycle of bioethanol and could lead to net-zero renewable fuel in the future.

The study outlined great potential to lower the CI score even further with increased use of renewable energy to power bioprocessing facilities, more bioproduct production, increased use of precision agriculture techniques, and carbon sequestration options.

## Products and Technology

POET is committed to continuing to invest in cutting-edge technology and the development of bioproducts that can replace petroleum products, helping society to reduce its environmental footprint while improving human health.

## Bioproducts

POET is the world's largest producer of bioethanol. We got our start in fuel-grade bioethanol more than 30 years ago and have been a leader in advancing technology and advocating for the industry ever since.

Today, although biofuels are still at the forefront of our product line, we are much more than just a fuel company. We have created a suite of bioproducts that further leverage our production process to offer clean renewable solutions in several product categories — including those that have traditionally relied on petrochemicals.

### Biofuel

#### Bioethanol

Fuel-grade bioethanol is a clean-burning, renewable alternative to fossil fuel that is made from plant materials. It boosts octane, lowers GHGs, and, when blended with gasoline, enables petroleum-based fuels to meet emissions and fuel efficiency standards — all while saving consumers money at the pump.

Bioethanol is by far the most widely produced renewable fuel in the world today, with approximately 15.7 billion gallons produced in



Bioethanol **replaces the most expensive and toxic chemicals that are found in today's fuel supply**, which have been proven to cause cancer, asthma, and a number of other health problems.

Biofuels also utilize surplus grain, which helps make agriculture a profitable industry, enabling farmers to more readily invest in conservation practices.

the U.S. in 2019. Many Americans might be surprised to know they use it every day; 98% of fuel sold in the U.S. contains up to 10% bioethanol.

The majority of bioethanol in the U.S. is made from corn starch, but it can also be produced from other feedstocks like sugarcane, sorghum, wheat, barley, potatoes, and agricultural residue.

There are significant benefits to bioethanol. At POET we believe it is the best, most sustainable and economically viable liquid fuel available to meet environmental and human health goals today.

### Corn Oil

#### Voilà®

POET produces a low-Cl distiller's corn oil called Voilà that is used as a feedstock for biodiesel and renewable diesel. In other words, it's a co-product that makes it possible to produce biofuels as a byproduct of biofuels. Two of our 33 bioprocessing facilities produce a more clarified corn oil product called Voilà Premier, which is an ideal feedstock for many renewable diesel refineries as it eliminates the pretreatment step.

#### JIVE™

POET's patented BPX process enables us to make JIVE, a safer, healthier, more cost-effective asphalt rejuvenator, modifier, and shingle coating additive. JIVE is an extremely effective bio-based alternative to its petroleum-based counterparts.

### Renewable CO2



POET has been capturing and selling renewable CO2 — which is used in everything from carbonated beverages and beer to flash freezing for food to fire suppression systems and welding gas — since 1988. Our CO2 is derived from the bioethanol process, which means it is 100% renewable; in fact, POET is now one of the fastest-growing



renewable CO2 distributors in the U.S., with over a dozen different manufacturing facilities across the Midwest.

#### Dry Ice

We have also been able to turn our CO2 into dry ice pellets at POET Bioprocessing – Macon, helping to support the increased demand of dry ice that is critical to COVID-19 vaccine distribution. POET Pure Dry Ice is also used for a number of food, medical, and e-shipping applications.

### Purified Alcohol

#### POET Pure Grain Neutral Spirits (GNS)

Our food-grade alcohol is distilled six times to meet the highest standards for purity, including the FDA's Good Manufacturing Practice (GMP) label standards and the Global Food Safety Initiative's Safe Quality Food (SQF) Program standards, and it also adheres to kosher guidelines.

#### POET Pure Ethyl Alcohol (USP)

In response to the COVID-19 pandemic, POET engineers worked



around the clock to create a higher purity alcohol than what is required for fuel. POET's newest bioproduct is plant-based purified alcohol which replaces synthetic and petroleum-based alcohols in cleaning and sanitizing products as well as cosmetics, personal care items and pharmaceuticals.

During the pandemic, we used our purified alcohol to produce our own liquid and gel hand sanitizer. POET has donated thousands of gallons of sanitizer to nonprofits, hospitals, schools, and first responders.

### Animal Feed

#### Dakota Gold®

POET's longest-standing coproduct division is animal nutrition. Distillers grains like our Dakota Gold are a nutrient-rich coproduct of the bioethanol production process that offer a high-quality, low-cost feed ingredient for livestock.

When starch is extracted from a corn kernel for bioethanol production at POET facilities, the remaining protein, oil, and nutrients are converted into animal feed and other bioproducts — ensuring that no part of the corn kernel goes to waste. As a result, the bioethanol industry increases the nutrition available to the world.

Today POET has many different feed products available. Whether high-fiber, high-protein, or high-oil, we have the ability to create different combinations of nutrition formats based on customers' needs.

## Selection of POET's animal feed products

Today, POET has many different feed products available to address the world's protein shortage, including a new higher protein product called NexPro®.

Additionally, due to POET's patented BPX process which eliminates the cooking step in bioethanol production, studies show that POET's feed products are more digestible, reducing methane emissions from livestock.

### Distillers Grains

#### Dakota Gold®

Dakota Gold is POET's branded Distillers Dried Grains with Solubles (DDGS) product that is known for consistency and quality. DDGS are a nutrient-rich, co-product of the bioethanol process that offer a quality, low-cost alternative feed ingredient. Additionally, they're rich in protein, minerals and fiber.

#### NexPro™

NexPro is a next-generation protein ingredient produced at two POET bioprocessing facilities. As a 50 percent protein product, NexPro is a great choice for a multitude of animal feeds — from poultry to swine, aquaculture to pet food.

#### ProPellet™

ProPellet is made up of 100% Dakota Gold DDGS and boasts the same nutritional benefits and consistency, but appears in a more dense, pelleted form that reduces waste when feeding in pastures where wind and rain can cause product shrink.

#### Wet Distillers Grain

POET Dakota Gold Distillers Wet Grains feature the same benefits our dried product but require less energy to produce – lowering the carbon intensity of the feed.



### Syrup, Solubles & Corn Oil

#### Syrup

Dakota Gold Corn Condensed Distillers Solubles is an economical liquid feed ingredient predominantly used in ruminant diets.

#### Distillers Corn Oil

Distillers Corn Oil is used in animal feed rations to add a high-quality source of energy to the diet.

## Technology & Innovation

At POET, we believe it is our duty to provide sustainable solutions for the planet and all those who call it home. That belief extends to our research and product development process, which always starts with sustainability in mind. With every new offering, our goal is to create renewable products that have the smallest possible environmental footprint, minimizing our overall carbon intensity.

Most of POET's innovations begin at the R&D facility in Sioux Falls, where testing and innovating are highly encouraged. As new processes and potential products go through lab-scale testing and demonstrate the ability to be scaled for commercialization, POET researchers can then test them at bench and pilot scales in our state-of-the-art facilities to see what new solutions are feasible.

One of our breakthroughs in efficiency is BPX, our patented raw-starch hydrolysis, which removes the energy-intensive cooking process from our bioethanol production process.

**BPX decreases energy and water use up to**

**15%**

**in comparison with the conventional process of making bioethanol.**

BPX is also the foundational technology that enables POET to produce and enhance our suite of bioproducts.

**By adding BPX and other technologies to POET production facilities, we have been able to decrease the GHG intensity of bioethanol production by**

**10%**

**since 2005.**

Because the spirit of ceaseless innovation POET was founded on is alive and well today, we are never satisfied with "good enough." Our product and process development team focuses on the continuous improvement of bioethanol and other bio-based products.



## PILLAR 2

# Advocate for a sustainable society



### Team Members

Advocating for our team members starts with equipping them with what they need in order to bring their best to work each day. At POET, we believe in taking a multifaceted approach to team member wellness. This includes not only providing them with excellent health benefits and a holistic wellness program, but also creating opportunities for team members to contribute to a more sustainable future.

To that end, we will continue to focus our efforts on creating more programs that enable our team to identify issues they feel passionate about, act on them, and ultimately enhance our communities. More details about opportunities we provide for our team members can be found in the upcoming Creating Community section.

### Leadership & Public Policy

#### Carbon Strategy Team

While we consider sustainability to be at the core of what each and every one of our team members do each day, to help ensure that our sustainability commitments continue to move forward, in 2021 we established a carbon strategy team at POET composed of experts and leaders from across the company. Focused leadership will be necessary to meet our goals.

#### Improved Government Policies

No one organization, company or even nation can reverse the effects of climate change on their own. It will take a concerted effort. The role of government policy will be critical in advancing many of the necessary actions needed for the transition to a sustainable economy - including

POET's carbon neutrality goals. The transition to net-zero emissions will require sound public policy that appropriately incentivizes carbon decisions.

Developing and implementing federal and state policies that accurately reflect the scientific merits of biofuels for reducing greenhouse gas emissions and improving air quality and public health will also be key. We will continue to advocate for these policies.



# Aligning with Global Initiatives

While our company's roots are in the Midwest, we are keenly aware of the impact our actions can have on a global scale. POET supports various worldwide efforts to advance a more sustainable society, including the **Paris Climate Agreement** and the **United Nations' Sustainable Development Goals**.

Through Seeds of Change, POET's international nonprofit founded by Jeff and Tammie Broin and family, we support communities all over the world by transforming lives through the power of education and the miracle of agriculture.

As we move along our sustainability journey, we hope to expand to other parts of the world.



## Paris Climate Agreement

In line with its ambition to combat climate change, POET supports the goals of the Paris Agreement to limit global warming to below 2 degrees Celsius, compared to pre-industrial levels.

## United Nations' Sustainable Development Goals

POET's business model is oriented toward achieving a more equitable, healthier world for all. As such we have identified five of the 17 UN Sustainable Development Goals (SDGs) where we feel POET can best affect some level of change and positive impact.



POET team members and their families have the opportunity to join an annual service trip to Kenya through Seeds of Change



# Creating Community

With more than 2,200 team members across multiple locations, POET is dedicated to hiring, training and retaining a top-notch team. POET's goal is to foster a company culture that makes POET a great place to work and advance a fulfilling career.

The company deeply cares for all of its team members. As a result, POET is committed to creating a work environment in which all team members treat each other with respect and dignity, where team members feel empowered to make suggestions about their work and the company's method of doing business, where all team members receive the support they need to succeed and develop additional skills, and where all team members value each other's cultural heritages, unique talents, and contributions to the company.

## Our People

“ POET took a chance on me. I was fresh out of college with no background in or knowledge of agriculture, but my managers invested in me and helped me develop my knowledge. Fast forward 8.5 years and I have held many different positions and have had the opportunity to become a manager.”



**Marie Moran**  
Merchandising Manager  
Sioux Falls, SD

“ What I enjoy most about POET is each day at a bioprocessing facility presents new and unique challenges; there is no cookie cutter day. We are a team of humble problem-solvers that rely on each other's specific strengths and experiences to both create value and innovation as well as resolve imperfections within the plant.”



**Ben Arentson**  
General Manager  
POET Bioprocessing - Hanlontown, IA

“ I've been on an amazing journey with POET for 16 years. I've been given the opportunity to increase my capacity through education, observation and association within the support of the management team. Knowing that I am contributing to keeping our drivers safe and compliant with FMCSA and DOT Regulations is worth every minute in the workplace.”



**Denise Enlow**  
Safety and Compliance Coordinator  
Wichita, KS

“ I love POET's dynamic, entrepreneurial, and innovative nature. We don't sit still for long on whatever the matter may be and this demonstrates real leadership in the industry and within the business. I'm grateful to work for an employer with a mission and vision to make the world a better place and improve the lives of those around us, and that never settles, but always challenges.”



**Laura McAreavey**  
Director of Finance and Procurement  
Sioux Falls, SD

“ I've gotten to know many of my colleagues closely over the years; POET is like my 2nd family.”



**Erick Hoffman**  
Data System Analyst  
Sioux Falls, SD

“ [My favorite part of POET is] my co-workers. We learn a lot from each other and we laugh together. They make coming to work fun.”



**Casey Ottmar**  
Mechanical Engineering Designer III  
Sioux Falls, SD

“ I love working for a company that helps save the environment, and I really like my team. I never feel like, 'Oh, it's Monday. I don't want to go to work.' It's always, 'It's Monday, and I get to go to work and see my friends.'”



**Tapasway Muppaneni**  
Research Scientist II  
Sioux Falls, SD

“ [To me, POET means] to strive to be better every day. We want to be better in safety, for the environment, at making our product, at running the company, developing our team members, and being neighbors within our communities. That type of leadership mission and goal makes me extremely humbled to be part of the movement.”



**Emily Boynton**  
General Manager  
POET Bioprocessing - Caro, MI

“ At POET, opportunities and fellowship can be found everywhere.”

**Dominic Boyer**  
Operations Engineer  
Sioux Falls, SD



POET offers a competitive Total Rewards package that allows employees to select benefit coverages that best fit their individual needs.

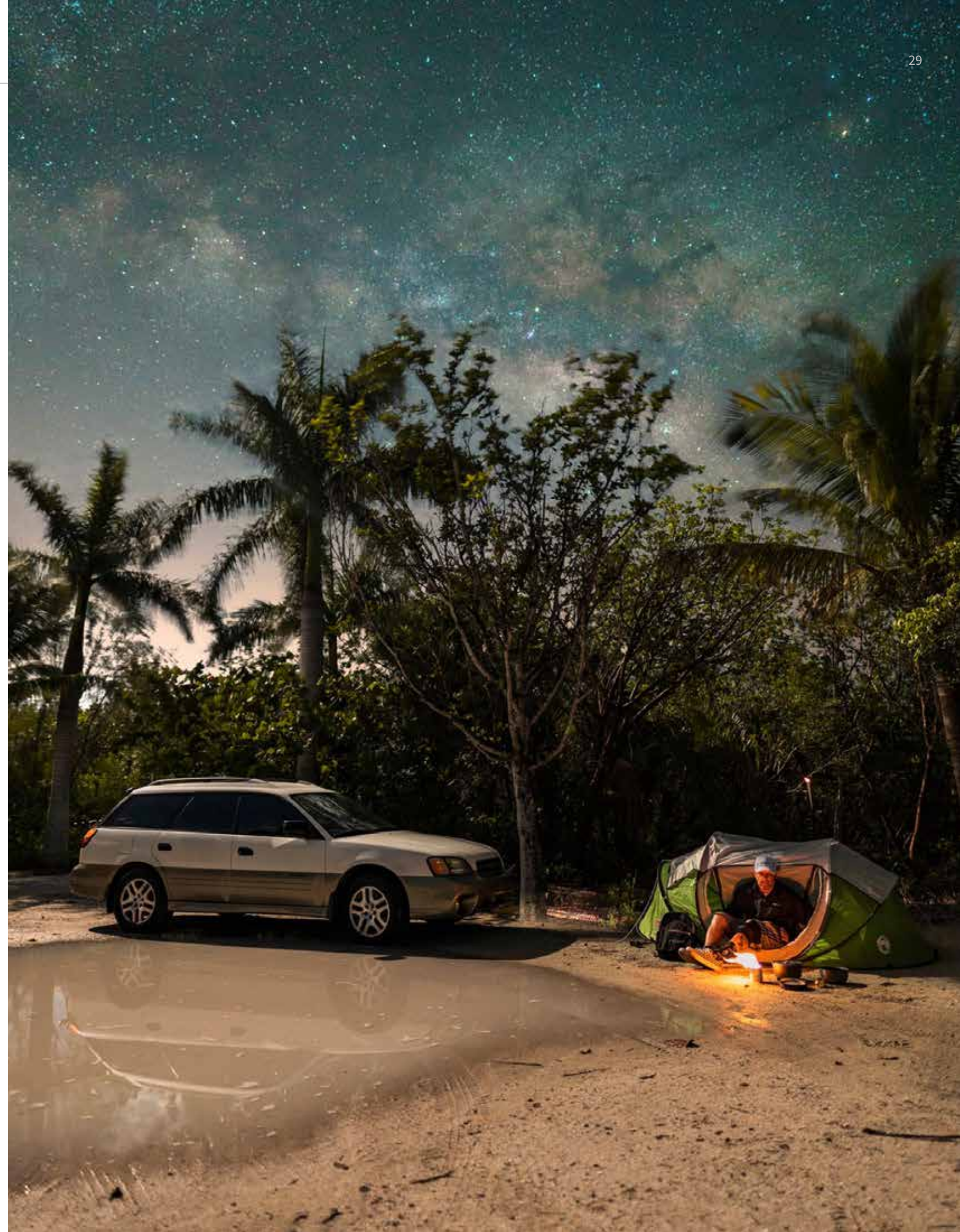
| HEALTH & WELLNESS   | BEYOND THE BASICS  | PERKS & GROWTH   |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Health Plans:</li> <li>• Health Savings Account</li> <li>• Flexible Spending Accounts: Health + Dependent Care</li> <li>• Dental Plans</li> <li>• Vision Plans</li> <li>• Onsite Fitness Center or Gym Member Reimbursement</li> <li>• Holistic Resources</li> </ul> | <ul style="list-style-type: none"> <li>• 401(k) Plan with Company Match</li> <li>• Profit Sharing</li> <li>• Paid Time Off</li> <li>• Military Paid Time Off</li> <li>• Paid Holidays</li> <li>• Tobacco Free Workplace</li> <li>• Family Leave</li> <li>• Income Protection Plans:                             <ul style="list-style-type: none"> <li>• Short/Long Term Disability</li> <li>• Company Paid Life Insurance</li> <li>• Supplemental Life Insurance</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Tuition Reimbursement</li> <li>• Lunch &amp; Learns</li> <li>• Industry Related Seminars</li> <li>• Professional Seminars</li> <li>• Mentorship Program</li> <li>• Nursing Mother's Room(s)</li> <li>• Team Member Assistance Program</li> <li>• Community Partnership(s)</li> <li>• Auto &amp; Home Insurance Discounts</li> </ul> |



### You Mean the World to Someone

Part of POET's role as a responsible employer is prioritizing the importance of workplace safety. We continually educate about safety in the workplace and have significantly reduced lost time accidents over the past decade.

Starting in 2016, we created a safety campaign featuring actual POET team members and their families. Today we still promote this behavior-based safety program — called **"Work to Live"** to give team members a personal reminder about why it is so important to make good decisions at work and return home safely each day.





## Investing in Communities at Home and Around the World

A key part of our mission to leave the world better than we found it involves giving back – both in the communities that we call home and communities all over the world.

This is largely demonstrated by POET’s employee giving and philanthropy program, **POET Gives Back**, as well as our international nonprofit foundation, **Seeds of Change**.

### POET Gives Back

#### Mission

At POET, leading with a servant’s heart is embedded in our culture. We strive to live out this mission beyond the workplace to leave a positive impact on the world around us.

Through POET Gives Back, team members have the opportunity to unite the calling to be good stewards of the Earth with the passion to love their neighbors. The goal is to create lasting impact by spurring community development, cultivating individual growth, and serving the greatest needs of others.

#### Pillars

##### The Earth

POET aspires to create a world with natural balance, where people no longer take from the planet, but rather utilize its enormous ability to

regenerate. That’s why POET uses the sun, the soil, and the seed to produce clean, renewable biofuels and bioproducts. POET partners with organizations who share their mission to preserve and improve the environment.

#### Agriculture

Since the beginning, POET has shared a fundamental connection with farmers. POET and farmers share a vision for a future in which we rely on the power of nature and the genius of the human spirit to use natural resources in ways we believe God intended. POET supports initiatives that promote and improve sustainable agricultural practices.

#### The Next Generation

POET believes that every child deserves to be nurtured and protected and that – given the right opportunities and a little encouragement – each young person has the ability to achieve great things. POET strives to cultivate creativity, confidence, and compassion in the next generation by providing support for the youth in our communities.



#### Goal

Through our giving back program, POET hopes to unite monetary gifts to our communities with team member action, engagement, and volunteerism.

#### Community Garden

POET offers a community garden space at our corporate office for our team members to use to grow vegetables and fruits. Team members and their families care for their garden plots and enjoy fresh produce all summer.

Each year, thousands of pounds of produce is donated to various community food banks and charitable organizations.

#### Never Satisfied Scholarship Program

At POET, we’re never satisfied with the status quo. There’s no such thing as “good enough.” We want to support the ambitions of young people who look at their goals with the same mentality.

POET’s annual Never Satisfied scholarship program awards scholarships to students enrolled in any two- or four-year post-secondary school, regardless of major or GPA. Never Satisfied scholars receive up to \$5,000 each, as well as the opportunity have a hands-on learning experience with POET team members in their fields of interest.

To date, POET has received applications from thousands of students across all 50 states. We have awarded 47 scholarships to students in a wide range of degree programs – from engineering to agriculture to film to public policy to pre-med and more – at several universities across the country.

#### Meeting Needs During COVID-19

In response to the COVID-19 pandemic, the research and operations teams at POET pivoted production to create an all-natural, bioethanol-based sanitizer at a time when there was a severe worldwide shortage. As a result, POET has donated thousands of gallons of sanitizer, produced at POET Bioprocessing – Chancellor, since the onset of the pandemic. Donations have gone to numerous cities, nursing homes, schools, assisted living facilities, relief organizations, first responders, and hospitals across the country.

Never Satisfied Scholars receive up to

\$5,000

and have the opportunity to experience a hands-on learning opportunity with POET professionals in their fields of interest.



# Seeds of Change

In 2012, the Broin family traveled to Kenya for what would ultimately become a life-changing service trip. Their group was assigned to a construction project: a simple remodel of the three small buildings that comprised **Kakuswi Special School for the Deaf**, located in the small village of Tawa.

Tawa is located in a rural area where farming is the primary occupation. During the course of the trip, Jeff observed that the quality of crops was dismal at best. Most farmers barely grew enough to feed their families, let alone make a profit. He believed that, with some simple changes, the overall state of agriculture in the area had a lot of room for improvement. The family also fell in love with the students at Kakuswi and lifelong friendships they made with the locals – and they knew they would be back.

Jeff decided the experience he had was something he wanted to share with POET team members and created an opportunity for them to travel to Kenya the following year. At the same time, connections were being made with partners that could assist in agriculture reform in Africa. Eventually the projects warranted an entity of their

own, and Seeds of Change was born.

Formally established in 2014, Seeds of Change is a nonprofit organization that strives to transform lives through education and agriculture. It was founded on the belief that every individual is entitled access to basic human needs like quality education, a reliable food supply, and a healthy environment. This belief has stemmed into three key program areas that focus on improving livelihoods while generating economic opportunities that allow individuals to pave their own paths to success.

These three projects all intend to create sustainable models for affecting change:

- 1 **Mission Hope**
- 2 **Mission Grow**
- 3 **Mission Thrive**

**Timothy Mukilya, headmaster of Kakuswi Special School for the Deaf, describes the impact of Seeds of Change on his school in Kenya:**

“When the school was starting as a day school, the needs were very basic. We needed classrooms, teachers, textbooks, and school uniforms for students. After becoming a boarding school, our needs expanded to include dormitories, electricity, furniture and other equipment. We also needed food, water, bedding, caretakers for the students, as well as additional financial support.

The impact of Seeds of Change on Kakuswi Special School for the Deaf can't go unnoticed. There have been tremendous changes and everybody can attest to the vast improvements that have taken place, including the dormitory foundation for the boys' dorm, the dining hall, food store and kitchen, staff quarters for teachers, and employment of other staff. Additionally, the school administration and parents are very grateful for the contributions of Seeds of Change.

Over the next five years, I hope to develop a school that will fully nurture and develop the potential of deaf learners in Kakuswi and serve as a productive and beneficial institution in the region. I also hope to increase school enrollment through awareness and consistent advocacy for the empowerment and education for the deaf population.”

### Seeds of Change Areas of Impact



Today, with the support of Seeds of Change and others, Kakuswi Special School for the Deaf has grown from three small buildings where 24 students learned, ate, played, and slept (sometimes two or three to a single bed) to a full campus that houses more than 70 full-time students.

## Mission Hope

### Youth & Education

Mission Hope’s goal is to nourish the souls, minds, and bodies of some of the world’s most vulnerable youth by providing care, encouragement, and quality education.

Through this project, Seeds of Change maintains a strong relationship with Kakuswi in addition to providing full support to nearly 300 young women, from high school through university, and providing funds to feed hundreds of primary school students in Nairobi. Mission Hope has also branched into Uganda; the organization has aided in the construction of two schools, with three more underway in the next three years.



Seeds of Change follows the trajectory of these students, ensuring they are successful even after they move on to the next step in their educational journey.

# Mission Grow

## Agriculture & Food Security

Mission Grow was created to use what God provided — the sun, the soil, and the seed — to teach viable agricultural practices that enable farmers around the world to obtain food security and improved livelihoods for their families while building up their communities.

Seeds of Change partners with boots-on-the-ground partners in Africa to support farmers with the tools and resources they need to transform their farming operations. The organization is working on translating the program to be replicated in other countries, and it is currently succeeding in Kenya and Uganda.



To date, Seeds of Change has reached

**382,000**

farmers and, with an average of six people per farm, has impacted

**2,200,000**

individuals in Kenya alone.

Mission Grow utilizes “village based advisors,” or VBAs. These are local farmers elected by their communities to be the go-to sources for improved farming practices.



# Mission Thrive

## Human Health & Environment

Mission Thrive operates in order to improve human health and living conditions by promoting sustainable habits, creating access to clean air and water, and providing practical healthcare.

One of the main aspects of this project involves the distribution of clean, bioethanol-powered cookstoves to eliminate indoor air pollution, as more than 3 billion people worldwide still cook over open flames powered by hard fuels like charcoal and wood. This causes respiratory damage, leading to more annual deaths than malaria, typhoid, and AIDS combined. Each clean cookstove can offset 4 tons of carbon each year.

Additionally, through Mission Thrive, hundreds of thousands of lives have been impacted through wellness programs, clinics, and water wells in Madagascar, Nigeria, and South Sudan, with more projects on the horizon.



Mission Thrive has worked with partners to bring critical resources—like clean water and medical clinics—to rural areas in Nigeria, Madagascar, and South Sudan that would otherwise be deprived of such necessities.



In early 2021, Seeds of Change launched a bioethanol cookstove pilot program in Mozambique. Once families make the initial stove purchase — which is made affordable by Seeds of Change — they experience many economic, environmental, and health benefits compared to traditional cooking methods.

Seeds of Change believes in the power of partnership – that everyone can achieve much more by working together toward a common goal – and frequently collaborates with other organizations to complete meaningful projects.

Through Seeds of Change, POET also gives key stakeholders, including team members, vendors, and farmers, the opportunity to get hands-on engagement through annual service trips and fundraising events.



**Seeds of Change: Leaving Handprints on Our Hearts**

Board members Jeff and Brenda Pinkerman share a special bond with their “Kenyan daughters.”

During a Seeds of Change service trip to Kenya through Mission Hope in 2016, Jeff Pinkerman, CFO for POET, his wife, Brenda, and their son, Ben, have gotten to know two young women who attended an all-girls school supported by Seeds of Change - two sisters named Mary and Irene.

Brenda found an immediate connection with Mary during a crafting activity they did together involving tracing handprints and cutting them out. During this interaction, Brenda learned about Mary’s background and delayed education because of the loss of her parents. As a result, Mary experienced instability while growing up and was excited to find a school sponsored by Seeds of Change.



The following year, the Pinkermans had learned that Mary’s family home had been set on fire by hostile relatives, attempting to seize the property left to Mary and Irene. The girls felt hopeless, and after learning about this difficult year, Jeff and his family committed to helping Mary and Irene.

Irene had graduated from university with an Engineering Degree, but was not able to find a job and had no funds to continue her studies. The prospects for employment in Kenya are not particularly good for anyone, but especially a young woman without any connections. “Together we decided she would go back to her parents’ property to rebuild her home and start a farming operation,” said Jeff.

Eventually, with the help of Mission Grow – Seeds of Change’s agricultural initiative – Irene was educated in effective farming practices, which are critical for the operation to survive the area’s extreme climate.

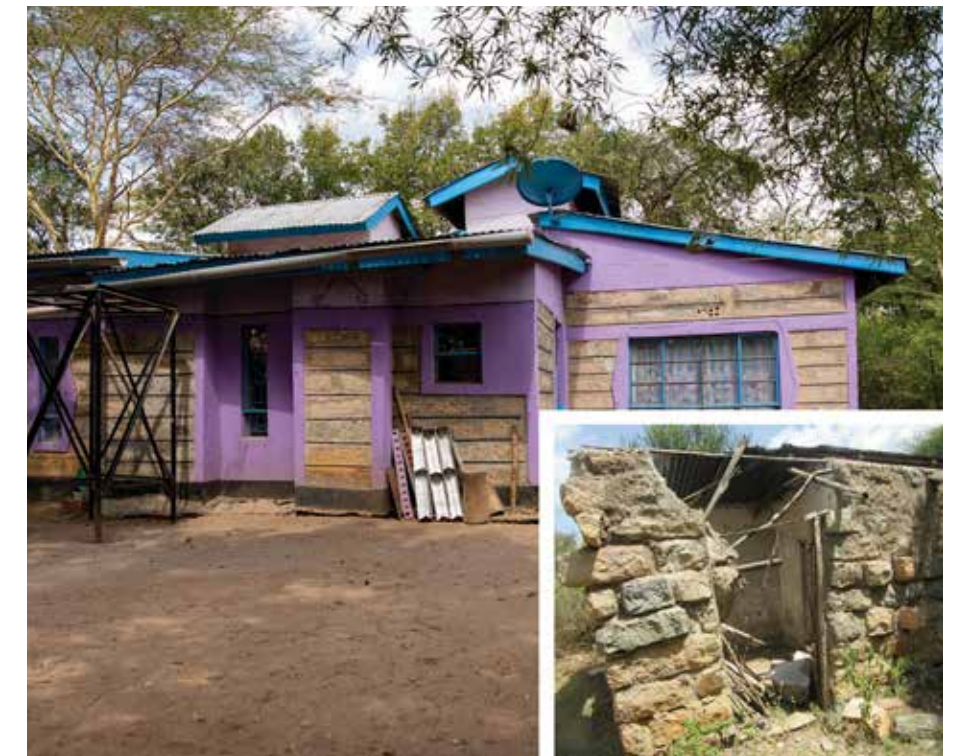
By using water conservation techniques and planting drought-resistant seeds, Irene was able to plant Chinese cabbage, pigeon peas, corn, beans and cowpeas. She also built a chicken coop, dug a deeper well and put in water tanks to capture and store rainwater. Irene established a successful farming operation on the land left to her and Mary by their parents. The operation is doing so well that she has hosted

several farm days on her property to educate local farmers about improved techniques.

After two years of establishing the farming operation, Irene has returned to University to pursue her master’s degree in Engineering. Mary is also enrolled in a university program through Mission Hope to study social work, where she has flourished. “She is a mentor and a leader at her university. She’s looking people in the eye and she has confidence and true hope,” said Brenda. “Wherever she ends up she will have the opportunity to help a lot of people. I really think she has the heart for it.”

**“She is a mentor and a leader at her university. She’s looking people in the eye and she has confidence and true hope.”**

For the full story, Leaving Handprints on Our Hearts, [visit this edition of Vital](#), POET’s quarterly news and media resource.



# Operating Responsibly

POET is committed to operating responsibly by adhering to state and federal laws and following our own conscience. As a company POET has high standards for honesty, integrity and fairness for everyone in the value chain, including employees, partners and suppliers.

## Advancing Public Policy

Through research, advocacy and ongoing dialogue with key stakeholders, POET works to advance public policy that expands opportunities for bioethanol and supports its adoption in Washington D.C. and in states across the country. Part of that includes increasing the volume of bioethanol in the fuel supply. Currently, E10 (referring to fuel that contains 10% bioethanol) makes up 98% of the nation's fuel supply, and E15 (15% bioethanol) is being more widely adopted.

Our political action committee — POET PAC — operates on the principle that bioproducts are a bipartisan issue. We support candidates on both sides of the aisle who believe in pursuing the production of clean, renewable alternatives to fossil fuels and are committed to being champions for America's biofuel and agricultural industries.

## Political Activities

POET contributes to dialogue

and decision-making on public policies affecting the company, our employees and operations.

## Ethical and Compliant Conduct

POET has established corporate policies that ensure strong and responsible corporate governance practices.

## Supplier Code of Conduct

The Supplier Code of Conduct Policy states that we will not establish or maintain a business relationship with a supplier if we believe that its practices violate local laws or basic international principles relating to human rights, anti-corruption, bribery, labor standards or environmental protection. We expect suppliers, and their suppliers, to adhere to environmental and social responsibility principles that are similar to those valued by POET.

## Complying with Laws and Regulations

All POET activities and business are to be conducted in compliance with all applicable laws and regulations. We expect our leaders and team members to conduct business in accordance with the letter, spirit, and intent of all relevant laws and to refrain from any illegal, dishonest, or unethical conduct. Any questions,

concerns, or known or suspected violations of applicable law should be promptly reported.

POET is committed to employing United States citizens and non-citizens who are authorized to work in the United States, and does not unlawfully discriminate on the basis of citizenship or national origin. In compliance with the requirements of the Immigration Reform and Control Act, as a condition of employment, all team members must complete the Employment Verification Form (I-9) and any other applicable documentation requirements.

## Environmental Stewardship and Climate Resilience

Climate change is a tremendous challenge that impacts the planet and all forms of life. To ensure POET is being a responsible corporate citizen, we are committed to measuring, transparently reporting, and reducing the carbon footprint of our operations.

## Human Rights

POET acknowledges and respects the fundamental principles contained in the Universal Declaration of Human Rights. Our core values and culture reflect a commitment to ethical business practices and good corporate citizenship, and our policies and practices require us to conduct business with uncompromising

integrity and to promote human rights within the company's sphere of influence. POET condemns all forms of exploitation of children, will not recruit child labor and supports the elimination of exploitive child labor.

## Equal Employment Opportunity Policy

We are committed to providing a work environment that is free from discrimination.

POET provides equal opportunity for all team members and applicants without regard to

race, color, religion, sex (including pregnancy, childbirth, and related medical conditions), national origin, age, disability, marital status, genetic information, sexual orientation, gender identity, gender expression, military status, veteran status, or any other legally protected status. All employment decisions are made based on qualifications, ability, merit and/or legitimate factors. This policy applies to all aspects of the employment relationship, including but not limited to recruiting, hiring, compensation, benefits, working conditions, promotions, and dismissal.

## Anti-Discrimination Policy

POET is committed to employing United States citizens and non-citizens who are authorized to work in the United States, and we do not discriminate on the basis of citizenship or national origin.

## Anti-Corruption and Anti-Bribery

POET values our reputation for ethical behavior, honesty and fair dealing.



## About this Report

Published in September 2021, this report represents POET's first formal sustainability communication.

For questions about POET's sustainability program, you can contact [sustainability@poet.com](mailto:sustainability@poet.com).







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