



SUSTAINABILITY REPORT 2019

# Empowering Innovating Operating





# Sustainably leading the way

Our first sustainability report laid the groundwork for sustainability at Ascend Performance Materials. In this, our second report, we begin to build on that foundation.

In 2019, we began work on several large sustainability initiatives and set a path for our efforts well into the future.

We have a responsibility to lead our industry in sustainability by empowering people, innovating solutions and operating without compromise.

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## Looking Ahead

This report is intended to be read digitally, with links for easy navigation throughout the report.

Join us in reducing waste by keeping this report digital.



# Ascend Values

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## **One Ascend**

All together, with a common set of goals and an eye toward the future.

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## **We care**

We operate safely with high integrity for our employees, our customers and our communities.

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## **Customer-focused**

We exist for our customers; they drive our actions. Their success is our success.

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## **Better every day**

We invest in our people and our processes to improve every day.

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## **Agile**

We think broadly and lead proactively in a constantly evolving organization and industry.

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## A MESSAGE FROM OUR CEO

At Ascend Performance Materials, our values are not simply words on a poster. They guide our decisions and actions throughout the company and everyone, from operators to managers to executives, is expected to live our values.



**Phil McDivitt**  
President and CEO





# A message from our CEO

In our 2018 Sustainability Report, we committed to setting a strategy for our sustainability efforts. Over the course of 2019, we took time to understand the sustainability landscape and sought input from the people we serve: our employees, customers, vendors and community partners.

We are proud of the strategy we developed. It was created after a rigorous process, focuses on the issues important to the people we serve, and most importantly, aligns with our values.

At the heart of our strategy are three pillars centered on the essential components of our business: people, products and plants.

The pages of this report illustrate some of the initiatives already in place to make Ascend a more sustainable company.

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## ► Empowering People

Ensuring we have a safe and healthy work environment where people have a voice, strive to be better every day and show we care about each other, our communities and our work.

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## ► Innovating Solutions

Being agile in developing customer-focused products and services that protect people and the environment, move innovation forward and help our customers grow responsibly.

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## ► Operating Without Compromise

Working as one Ascend to use resources responsibly, reduce waste and operate safely for people and the environment.

Each of these pillars has several areas we're working to improve, from investing in our employees' professional development to reducing greenhouse gas emissions throughout our operations. We intend to evolve our sustainability efforts over time, making them more comprehensive and addressing new areas as they arise.

Sustainability is a challenge for everyone to solve. While our strategy is in place, we still value the feedback and input of our people, customers and neighbors. Please feel free to share your thoughts with us at [sustainability@ascendmaterials.com](mailto:sustainability@ascendmaterials.com).

Phil McDivitt  
President and CEO



# Our mission

For all of us at Ascend Performance Materials, sustainability is about protecting the environment and people – employees, their families, the communities in which we live and countless people across the globe. Sustainability informs who we are, how we operate and what we make.

*We will continue to focus on compliance, responsible business practices, ethics and values, and we believe we will achieve our mission through the following three pillars.*

## EMPOWERING PEOPLE

- Workforce health and safety
- Employee engagement, recruitment, and development
- Diversity and inclusion
- Community engagement and relations

## INNOVATING SOLUTIONS

- Sustainable products
- Research and development
- Circular economy
- Supply chain

## OPERATING WITHOUT COMPROMISE

- Energy
- Greenhouse gas emissions
- Air quality
- Water and wastewater
- Waste and hazardous waste

## CORE VALUES:

- One Ascend
- Customer-focused
- Better every day
- Agile
- We care



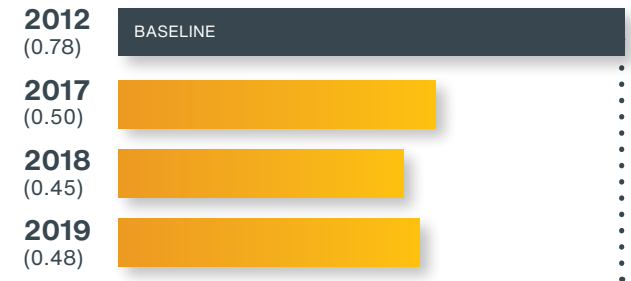
# By the numbers

One of our values is to be better every day. The first step in that is to understand our performance today. The metrics in this report are the foundation of our sustainability improvements across the pillars of our framework.

## Empowering People

### Recordable Injuries

(TRIR)



In 2019, we instituted [Hazard Recognition Plus™](#) at our manufacturing sites and have seen considerable improvement in our recordable injury rate

VOLUNTEERS

3,721

CO-OPS

95

VOLUNTEER HOURS

13,783

MENTORSHIPS

92

ON-SITE HEALTH  
CLINIC VISITS

12,464

In 2019, we launched a new mentorship program that matches employees with a leader based on their career objectives.



## Innovating Solutions

8

NEW PRODUCTS LAUNCHED  
WITH SUSTAINABLE BENEFITS

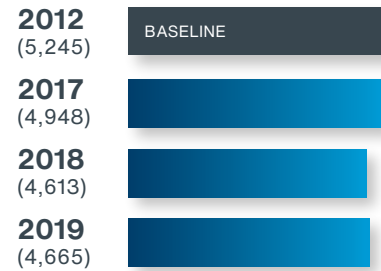
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A2E4C PROJECTS TO HELP  
CUSTOMERS REDUCE WASTE

## Operating Without Compromise

### Energy Efficiency

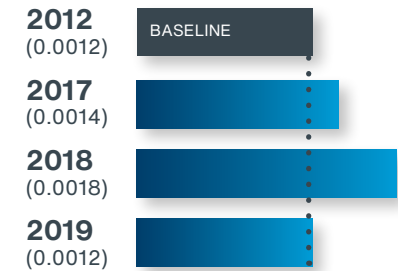
BTU/lb produced



We've made significant Improvements over the last five years. To take us further, we have assigned an A2E black belt resource to identify and prioritize energy efficiency improvement projects.

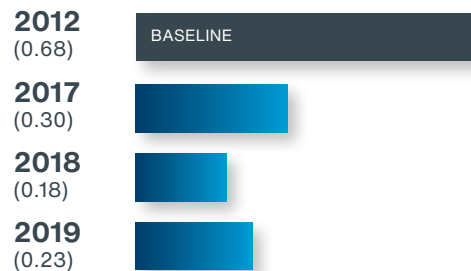
### GHG Intensity

lbs co<sub>2</sub>e/lb produced



As we look to our GHG emissions, we have developed new technology to achieve improved performance in the next two years. See how we plan to reduce our [GHG emissions](#).

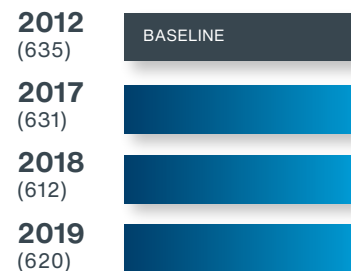
### Process Safety Events



While overall process safety incidents increased, the severity of those events were reduced in 2019. Our new [process safety team](#) is making considerable improvements across our operations.

### NOx Intensity

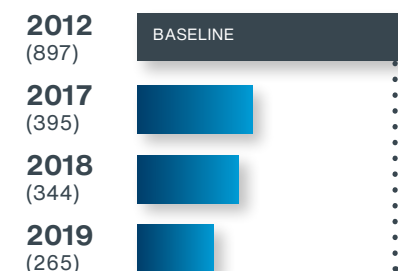
Emissions (lbs)/production (Mlbs)



Our NOx emissions will see improvements as we move forward with the investments in our [developed technology](#).

### SOx Intensity

Emissions (lbs)/production (Mlbs)



We are transitioning away from coal as an energy source to natural gas. This conversion will be complete with the 2021 startup of our [cogeneration units](#) in Decatur, Alabama.



# Empowering People

We're more than a company. We are over 2,500 people with families, friends and neighbors. We care about our impact on lives and strive to play an active role in our communities.

We empower people by operating safe and healthy work environments where people demonstrate a Commitment to Zero personal injuries, process safety incidents and environmental releases. We offer careers that develop with training and opportunity. We value diversity. And we support our neighbors with community projects.





## Empowering People

COMMIT  
MENT TO  
**ZERO**  
↓



### Safety

Every person who enters our facilities is empowered to stop unsafe behaviors and situations. We are committed to zero personal injuries, environmental releases and process safety incidents. We are conscious of our responsibility not only to the people inside our walls, but the community they support and are supported by.

### Recruitment and development

We want to be a company that people are proud to work for. A company where they have a voice and opportunities to develop. We invest in the health and well-being of our people and we recognize their contributions and support their passions.

### Community engagement

Our communities are vital to our success, and we have an obligation to support their success. We aren't just an employer. We are members of the communities where we operate. We support local education from pre-K to post-secondary. We work with community partners to provide essential services to those in need, and we encourage our people to put their skills to work for causes that bolster our communities.

\* [Read more about how we support our communities in our annual Ascend Cares Report.](#)



## Empowering Safety

A step closer to zero

The safety of our people is foundational to our work. It is the basis upon which all our decisions are made. If something cannot be done safely, then it is not worth doing, and if a situation becomes unsafe, then we stop work until it is made safe.

That belief is codified throughout the company with our Commitment to Zero. It is the goal that we operate without personal injury, environmental release or process safety incident.



With thousands of people working across our sites around the world, ensuring everyone's personal safety requires a thorough understanding of the types of situations that lead to injuries. After researching more than 500 safety incidents, we discovered that in

more than 70% of cases, failure to recognize hazards was the leading cause of personal injury.

So we found a tool to help people recognize hazards.

First introduced by safety leaders in our Chocolate Bayou site in Alvin, Texas, Hazard Recognition Plus™ is a thought process used to plan and perform work more safely and successfully. It helps reveal unnoticed hazards by evaluating energy sources in a systematic manner.

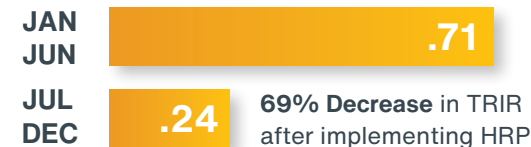
"We went from recognizing eight hazards to recognizing 58," says Bryan Turbyfill, a maintenance supervisor in our site in Decatur, Alabama, who led one of Ascend's earliest teams to fully integrate HRP. "Some of my employees said they felt like they've had blinders on. It has really changed our thought process."

A key component of HRP is how it helps identify stop-the-job triggers, says ESSH vice president Paul Cartlidge. "If you don't have the proper PPE or tools, or if the scope of work has changed, HRP empowers our people to stop work and reevaluate."

People working at our sites have now been trained and now include HRP in their job planning. It's an extra step, but one that Paul says is well worth it.

"The focus is on putting in the time to prepare our work, understanding the hazards, and most importantly mitigating those hazards before we work is the focus. That will take a little bit more time, and that's ok."

### 2019 TRIR



Since adopting HRP, our total recordable injury rate has improved considerably.

In the extra moment we take for HRP, we move one step closer to achieving our Commitment to Zero.

We have done a fair amount of work on all three aspects of our Commitment to Zero; Read about our work on [reducing environmental releases](#) and [improving process safety](#).





## Empowering Development

Opening up opportunities for our people

**B**etter every day is an Ascend value. It's the idea that our growth as a company comes from finding opportunities, both big and small, to improve. It's an idea that applies not only to how we run our plants, but also to our people's careers.

In 2019, we developed a new training program for the people in our maintenance organization – the men and women who keep our plants and equipment running smoothly. This maintenance development program offers specialized training and certification in valuable skills they can use to advance their careers at Ascend and beyond.

Billy Hardin, a mechanic in Decatur, Alabama, was one of the first to sign up for the program and has taken courses in precision maintenance, pumps and motors alignment and ball bearing installation. "It is a huge morale booster," says Billy, who has been with Ascend for 13 years. "When we are trained, tested, and certified for our new skills — that's actual proof that this training works and is beneficial."

Micah Trahan, who joined Ascend in 2018 as an instrumentation electrician in Foley, Alabama, says the program is a demonstration of support. "Ascend is willing to invest in us, and that means a lot to an individual out in the field," he says. "It opens you up to more opportunities and makes you more of an asset to the company."

The program also helps reduce time-consuming rework, says Sam Salazar, an instrumentation electrician in our Chocolate Bayou site in Alvin, Texas. "The training has really helped our efficiency out in the field."

Talent and development programs, such as MDP, are an integral part of being better every day. We invest heavily in programs and work to make them available to all employees. To date, over one-third of our employees are engaged in development programs, and we have plans to grow in the future.





## Empowering Leadership

FUELing personal and professional growth

Ascend's FUEL Rotational Program, allows new talent, often recent college graduates, to work in different departments within the company over the course of three years. Rick Hamman, senior director of talent development, developed the FUEL program in 2018 as a means of identifying promising candidates who could take over the roles of retiring managers.

FUEL participants rotate through departments such as project management, commercial sales, business development, and product safety.

In order to choose the right employee for the role, Hamman says, FUEL helps Ascend "develop talent and hire potential talent rapidly, so they have a broad overview of the business." We figured out what backgrounds we wanted to recruit, and looked internally to see if there were any recent college

graduates who were open to joining the program." There are now 19 FUEL participants, and each rotates to a different role every year.

One of those participants is Madeline Yerby, a rising star within the company, who joined Ascend's research and development team in 2016. Prior to joining FUEL, Yerby had been working in a lab. Her first rotation was in a logistics role, which, she says, "is very much 180 degrees away from what I had been doing before. But it was a really great opportunity to see other parts of the plant, other parts of the business, and how we're all integrated and how they influenced each other."

Madeline says her second-year rotation will put her in a global supply-chain role, where she'll learn more about the commercial and business sides of the organization." Because of her Ascend mentors, she's "been able to grow professionally and develop her leadership skills."

Not only does Ascend develop the talent of FUEL program participants, but also allows them to work with nonprofit organizations within their communities. Madeline received a \$3,000 Community Impact

Grant from the Ascend Cares Foundation, a nonprofit organization funded and led by Ascend employees, to put toward supporting a nonprofit she volunteers with. The organization she chose was Fostering Hope, which helps equip foster families to connect with traumatized children.



"I'm very grateful for the opportunity," Madeline says of the FUEL program. "The type of projects that I have been given responsibility for are very high-impact, and it's been a huge growing experience that I don't think I would have gotten anywhere else but here."





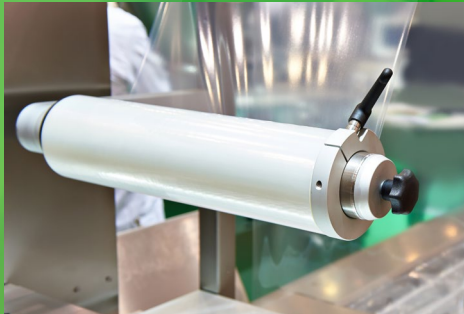
# Innovating Solutions

Our products touch countless lives daily. Whether it's the life-saving fabric of an air bag or an electrical connector that helps solar panels produce clean energy for decades, people count on us to deliver solutions that improve lives throughout the world.

We're committed to developing solutions that not only make modern life safer and cleaner, but also continue to do so well into the future.



## Innovating Solutions



### Sustainable products

As our customers look to make their products more sustainable, we must continue pushing the boundary on performance and reducing environmental impacts. It's not just about using recycled products. It is about creating products that perform reliably with the smallest environmental footprint possible.

### Sustainable solutions

Reducing waste and using resources efficiently are central to our sustainability philosophy. We pride ourselves on partnering with our customers to find the best solution for their challenges. We're taking that partnership further to develop solutions with our customers to improve yield and reduce waste in their operations.





## HiDura™ PTR

Reducing food waste through innovation

Over 30% of all food is never consumed. Some never makes it to market and the rest is thrown away in supermarkets, restaurants and homes. This wasted food, from production, transportation and preparation, is the cause of 8% of the world's total greenhouse gas emissions.

There are myriad solutions for reducing food waste, but one of the easiest and fastest to implement is better packaging. We spent years developing HiDura PTR, a polymer that makes flexible packaging 40% more resistant to punctures and tears, specifically to address the problems of food transportation.

“What we saw in the market was entire shipments of food being sent back to the producer because of one bag failure,” says Ed Nerlich, global segment leader for packaging. “This effectively doubles the carbon footprint of that shipment without the benefit of providing nourishment to people. It’s a huge waste.”

Beyond transportation, plastic films like those made with HiDura PTR reduce food spoilage by increasing the shelf life of fresh and prepared foods. Greater shelf life means more time to ensure the consumption of that food and ultimately support growing populations across the globe.

“No matter the food, whether it’s fresh produce or soup, smart packaging increases the amount of time that food is consumable. That extra time makes the food far less likely to be wasted,” continues Ed.

Because of its strength, HiDura PTR can also reduce the amount of plastic being used today. “Let’s assume that all the films being used today are strong enough to prevent food waste. Replacing that film with HiDura PTR to match the current puncture and tear resistance would make the film about 40% less thick,” says Ed. “That would be an immediate 40% decrease in plastic used for films. That’s thousands of tons of material saved.”





## Innovating Customer Solutions

Helping others reduce waste

We recognize our customers have choices when it comes to the materials they use. Besides the high performance of our materials, our customers value our ability to solve their challenges.

Within Ascend, we have a set of tools we use that help us work together to solve business problems and save time and reduce waste. We call it Ascend to Entitlement or A2E and we use it in every aspect of our business, from manufacturing to human resources.

In 2019, master black belt Annie Dodson led a new effort to share these valuable tools: She's taking A2E to our customers.

Annie, a senior continuous improvement specialist in our Pensacola, Florida, site worked on A2E projects that helped customers before, and those teams had one thing in common: They were chasing problems. "I kept thinking, why can't we be proactive instead of waiting for problems to occur?" Annie says.

In A2E for Customers, or A2E4C, Annie works closely with our sales and technical support teams in the field to better understand our customers' challenges. The results have been positive, as A2E4C has helped customers analyze data in new ways to reveal hidden inefficiencies.



One project eliminated packaging material waste for a customer in Japan, a pressing concern for the island nation. Another identified a polymer over drying issue that saved energy and improved product quality. A cable tie manufacturer reduced unplanned downtime by 76% on one line, reducing waste and turning more material into usable products.

Helping customers find ways to work more efficiently shows our innovation goes beyond our products, Annie says. "We're demonstrating that we don't just sell products, we sell solutions. We offer value."

Our customers agree. One called A2E4C "the piece that sets Ascend apart from others... I don't know of anything like this being offered by your competitors." Another customer said the program shows Ascend's commitment to long-term mutually beneficial relationships. One year in, it appears that A2E4C is a win for all involved.





# Operating Without Compromise

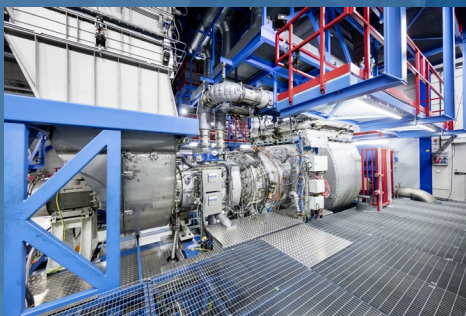
We operate some of the largest chemical production units in the world. Operating any production facility is a resource-intensive endeavor. But that doesn't mean our sole responsibility is production.

We have an obligation to operate safely and responsibly – ensuring our people and neighbors are secure and the natural resources around us support viable ecosystems and communities.





## Operating Without Compromise



### Emissions

Our view is simple: Every carbon or nitrogen atom emitted is an atom wasted. Our goal is to develop technologies and processes that use every available atom to make the products that make modern life possible. Besides reducing waste, this view has the benefit of dramatically reducing our emissions.

### Sustainable supply chain

Sustainability doesn't begin or end at our gates. We have an obligation to make responsible decisions in sourcing energy and materials, in packaging and transporting our products to customers.

### Process safety

The biggest impact we can have on our communities is to operate safely and reliably. We invest in control technologies that ensure safety mechanisms are in place when needed, and we regularly maintain our equipment to keep it running smoothly. Most importantly, we do not take safe operation for granted.





## Operating More Cleanly

Reducing our emissions

Several years ago, Ascend began working on a set of capital improvement and technology innovation projects to reduce our emissions. An early effort focused on steam loss across our plants, which you can read about in our [2018 Sustainability Report](#). But we quickly moved on to bigger things.

In 2019, we announced plans to install cogeneration units at our Decatur, Alabama, facility. These units produce both steam and electricity simultaneously, eliminating the need to use traditional boilers to generate steam for the entire site. Once complete, the \$175-million project will be the largest single investment we have made in our 10-year history.

Replacing the coal-fired boilers with cogeneration units will reduce that site's emissions by 60% overall and produce electricity to power most of the plant.

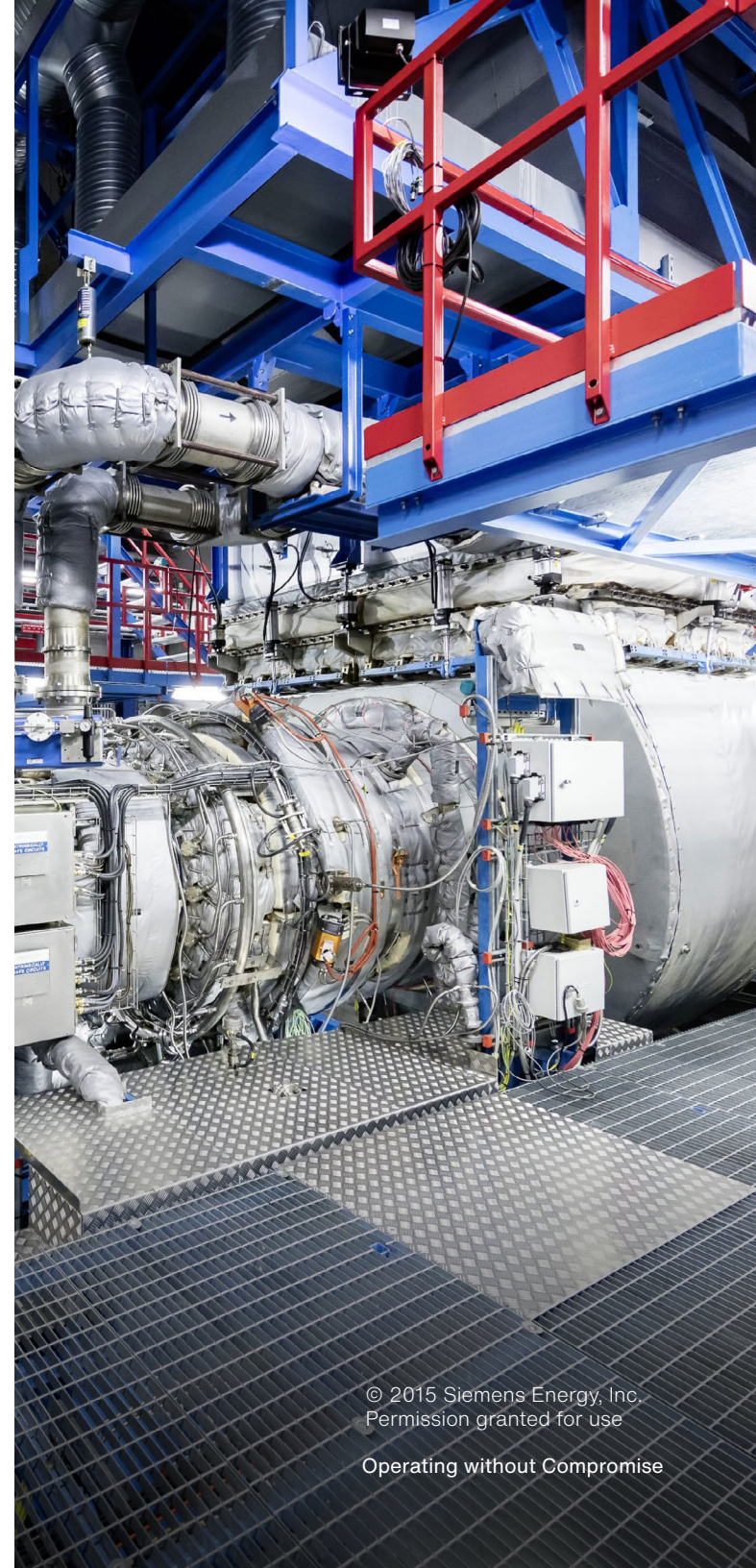
Also in 2019, we moved forward with a plan to curb another source of emissions. After several years of research, we have developed a new technology that captures nitrous oxide emissions and converts them to nitric acid, a useful raw material.

We have started building the first phase of this new technology, which will capture about half of our N<sub>2</sub>O emissions. Phase two, which will be completed around 2022, will convert nearly all the remaining emissions.

# 50%

DECREASE IN N<sub>2</sub>O EMISSIONS AFTER  
COMPLETION OF PHASE ONE

These two projects are just the beginning for us. One of the pillars of our sustainability strategy is operating without compromise. It is the idea that we do not have to choose between financial success, environmental stewardship, the safety of people or the health of our communities. We are committed to implementing solutions that achieve each of these goals, now and well into the future.



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Operating without Compromise



## Operating Cleaner Transport

Reducing our footprint

Ascend's logistics team in Europe works constantly to identify opportunities to be more efficient in the way we ship products and raw materials. Trucks are convenient, but also the least environmentally friendly mode of transport. "Any shift we can make toward greener intermodal transport options like barge, rail or short sea is an opportunity to reduce CO<sub>2</sub> emissions," says logistics manager Wim Vangoidsenhoven.



Teaming up with certified logistics partners yielded positive results in 2019. Ascend received certificates noting total CO<sub>2</sub> reduction of 470 tons, a 30%

improvement over the previous year. That's the equivalent of removing 451 full truckloads from the road. In addition, our Tilburg, Netherlands, site eliminates around 1,000 truck trips per year by using barge or rail to move raw materials over the 70-mile route from the port to our plant site.

We put our European experience to good use when analyzing U.S. operations for opportunities to improve. 50,000 tons of products are shipped annually between our sites in Pensacola, Florida, and Greenwood, South Carolina with around 90% of that freight moved by truck. The capacity to load and unload rail cars at our sites was not large enough to meet demand, so we developed a plan to tap into this greener option.

A three-year project to increase rail capacity in Pensacola and Greenwood is now under way with a goal to shift 70% of our freight between sites to rail. Removing over 1,100 trucks per year from the road would reduce greenhouse gas emissions by more than 560 tons.



Shifting these payloads to greener alternatives reduces emissions but also benefits our local communities. "Reduced traffic congestion and less wear and tear on local roadways make us a better neighbor," says Lynn Crear, director of operations in Pensacola.

Whether large or small, our efforts to find ways to be better every day add up. Continually looking for ways to improve our efficiency and our environmental footprint is a commitment we've made to ourselves and our communities.





## Operating Safely

### Processing safety

If you ever meet Paul Gathright, he will probably talk to you about “keeping the tiger in the cage.” Gathright, Ascend’s director of process safety, uses the phrase to illustrate how we as chemical plant operators have to minimize risks by keeping our potentially hazardous materials inside our pipes.

Successfully managing process safety won’t happen by relying only on regulations or top-down “push” programs, Gathright says. Instead, it takes a team approach — a coalition of operations, maintenance, engineering, management and other relevant groups working together to go beyond just achieving compliance but to go much deeper.

Gathright presented his point of view on process safety management at a 2019 American Institute of Chemical Engineers meeting. His presentation, “Trust Is Our Currency,” was published in the October issue of the AIChE’s Process Safety Progress journal.

At Ascend, effective process safety management requires us to understand the risks in our facilities, put in place controls to mitigate the risks and ensure those controls are effective. This takes good process hazard analysis and management of change.

To support Ascend in building this culture of cooperation and trust, Gathright built a team of process safety professionals to guide us in managing the potential risks. But successful process safety management doesn’t happen through a single team of experts – it takes all Ascend employees to work together. It takes all of us to plan jobs appropriately, stop the job if the situation changes and follow the procedures designed to keep us safe.

“To reduce risks, we all need to feel empowered and accountable,” Gathright says. “That’s how we’ll keep the tiger in the cage.”





# Looking ahead

Sustainability requires progress and accountability. Chris Johnson, our new director of sustainability, was appointed in January 2020 to drive our efforts forward and ensure that they align with our strategy of empowering people, innovating solutions and operating without compromise.

One significant action Chris has already undertaken is to map our emissions across our sites. The emissions map will help us target areas where we can make the greatest impact in our operations

Sustainability is not just minimizing environmental impacts, however. It also requires us to prepare for a stronger future by ensuring that our people and communities have opportunities to grow.

We are integrating safety initiatives across the company, from our manufacturing sites to our offices. And, we of course remain committed to zero personal injuries, process safety incidents and environmental releases.

We continue to invest in development programs and expand their availability to people across Ascend. Beyond that, we know that representation bolsters empowerment. We are implementing programs to ensure diverse thoughts and backgrounds are represented throughout the company.

Our Ascend Cares Foundation raised a record amount from donations in 2019, positioning the employee-led organization to support our community partners more than ever in the years to come.

Finally, we will focus on further reducing our own environmental footprint. Our projects to reduce emissions at two of our largest sites will hit milestones in 2020. But they are not the end of our efforts. We will continue to focus on emissions reductions and expand to other ways we can operate without compromise.

By living our values and following our sustainability strategy, we are confident in our ability to move forward

on sustainability at Ascend. But sustainability is not about one company, or even hundreds of companies, making progress. It is about all of us working as one to find and create opportunities, care about the future, strive to do better, focus on what matters and act quickly to make it happen.

Thank you for reading our report. We look forward to sharing our 2020 progress with you next year.

Paul Cartlidge  
Vice President of Environment,  
Safety, Security and Health



## LOOKING AHEAD

We learned in 2019 that sustainability is not just minimizing environmental impacts, it is also ensuring that our communities and people across the world have opportunities to reach their potential.



**Paul Cartlidge**  
Vice President of Environment,  
Safety, Security, and Health



**Chris Johnson**  
Director of Sustainability





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