Our mission is not only to look for immediate benefits, but also focus on long-term development.

FPC USA has existed for more than 40 years. We must have the vision to look toward the next 100 years, even 200 years. That is what we do. So please, my dear fellows, let’s take a long view and aim for the future, in honor of our founders. No matter how our organization changes, let’s work together to do the right thing.

We have a social responsibility to seek improvement and care about how we move forward. We have only one clear goal, which is the sustainable development of FPC USA.

That is our mission.
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**Photo credit:** Bill Harvey
“Our efforts are guided by our sustainable development principles”
Our efforts are guided by our sustainable development principles:

- Embrace continual improvement in all aspects of our work.
- Respect and comply with all environmental and safety laws and regulations.
- Instill the concept of safety and health in all our activities.
- Conserve resources, prevent pollution, protect and enhance the environment wherever possible.
- Be a force of positive change in communities where we work and do business.
- Promote an engaging workplace for diverse and talented people who want to make a difference.
- Establish a connection between financial success and contributing to society.
- Learn from our experiences, listen to the ideas of others, and regularly report our progress to the public.
Looking back on 2018, I’m pleased with the significant progress we have made in improving our company safety program. Over the past five years, we have reduced the FPC USA injury rate by 81%. This achievement reflects the strength of our commitment to our Health and Safety Professionals program, strict enforcement of standard operating procedures, and regular engagement with our Operating Units to identify hazards and mitigate problems before they occur. The petrochemical industry, as a whole, is one of the safest in the country, currently ranked 8th out of 519 sectors tracked by the US Bureau of Labor Statistics [2017 data].

Our environmental professionals have also worked diligently to ensure that the sites are operating in accordance with all permit requirements and that we anticipate changes to regulations to ensure that the company has projects initiated well in advance of any mandated emission control changes.

Process Safety also remains a critical area for improvement with the addition of new staff and a mandate to improve the quality and consistency of our Process Hazard Analysis (PHA) and mechanical integrity programs. FPC USA will continue to invest in this area, both in terms of manpower and tools, to ensure that we will achieve a best-in-class program as the company continues to expand its operations and range of products.

The company has also made a substantial commitment to engage in the problem of plastic waste and marine pollution through a newly formed organization, the Alliance to End Plastic Waste (AEPW). Plastic waste in the environment, particularly the ocean, is a serious global challenge that calls for swift action and strong leadership. Despite the many benefits plastics bring to people and communities around the world, including improvements in living standards, health, safety, and sustainability, unmanaged plastic waste has become a global challenge. This CEO-driven nonprofit organization was established to directly deal with the leakage of plastic waste into the world’s oceans through four pillars of action: Infrastructure Development, Cleanup, Education & Engagement, and Innovation. Please follow our progress at www.endplasticwaste.org.

I trust you will find this year’s report informative, as well as useful, in describing our programs and practices. It is our goal to create a report that presents concise information with sufficient context to allow comparisons to our peer companies in the petrochemical industry and beyond. Transparency and openness regarding our operations is essential to maintaining a dialogue with the public and the communities in which we operate.

John Pastuck
Assistant Vice President
Environment, Safety and Communications Division
Corporate EHS Policy

The company is committed to the protection of our environment, the safety and health of our employees and the community.

This is accomplished through the use of clear and well-documented systems and procedures, proper training and qualification, high performance expectations, continual improvement in pollution prevention, minimization and recycling, as well as workplace hazard analysis and prevention.

Through the joint efforts of every employee, we shall maintain full compliance with all applicable environmental and safety laws and regulations, conserve natural resources, reduce wastes and keep our environment clean and our workplace free of health and safety hazards, for ourselves, for the community and for future generations.
Sustainability

The goal of FPC USA’s Sustainable Development Plan is to move toward the realization of an industrial setting that provides for a restorative process for the earth and a system that supports the fabric of the local community. It must be understood that this process is a long-term commitment. Key elements of our plan include: community partnership supporting education, employment and worker satisfaction, resource conservation, and environmental stewardship. FPC USA is committed to the long term; we will continually work to improve, evaluate our performance, be willing to accept change, admit failure when confronted, and recognize and accept the challenge to move in a new direction when faced with adversity. Our industry is fundamental to solving the world’s most pressing sustainability issues such as food security, clean water, and affordable shelter. We will never stop working toward that goal and encourage you to follow and track our progress. The organizations described below are only a few examples of the initiatives that we support to further our objectives.

Vinyl Sustainability Council (VSC) & +Vantage Vinyl™

FPC USA was pleased to join the +Vantage Vinyl™ program as the first member of the pilot effort in 2018. This is a voluntary program to advance the U.S. Vinyl Industry’s contribution to sustainable development. +Vantage Vinyl™ is sponsored by the Vinyl Sustainability Council (VSC), part of the Vinyl Institute, and supported by the vinyl product associations.

AEPW

FPC USA joined The Alliance to End Plastic Waste as a founding member in 2018 and is committed to working with this nonprofit organization over the next five years to reach its goal of investing $1.5 billion to reduce plastic waste in the environment. The Alliance is currently comprised of nearly 40 companies located throughout the world.

While plastics are extremely efficient materials that help lower our environmental impact in almost every part of modern life, we need to do a better job of minimizing waste, as well as recycling and recovering plastics after they are used.

“Formosa will continue to work on this global effort while also supporting local initiatives in the communities where we work. Everyone agrees that plastic waste does not belong in our oceans and the environment. This is a serious global challenge that calls for swift action and strong leadership.” said Ken Mounger, EVP of FPC USA.

The Alliance is a not-for-profit organization that includes companies that make, use, sell, process, collect, and recycle plastics. This includes chemical and plastic manufacturers, consumer goods companies, retailers, converters, and waste management companies throughout the plastics value chain. The Alliance has been working with the World Business Council for Sustainable Development as a founding strategic partner.

Operation Clean Sweep - OCS

Operation Clean Sweep (OCS) is a product stewardship program of the American Chemistry Council’s Plastics Division and Plastics Industry Association (PLASTICS).

The OCS’ goal is to achieve zero pellet, flake, and powder loss through good housekeeping and containment practices. The OCS’ program is working in thousands of plants around the world and Formosa is pleased to be a member of the team, adding to this effort to protect the environment.

While consumers are responsible for the proper disposal of the products they use, the plastics industry must similarly address the proper containment of the products we use – plastic pellets, flakes, and powder, the basic raw materials of our industry. FPC USA will continue to aggressively prevent the loss of pellets, flakes, and powder from getting into any waterways.
Production & Operations

“We plan to add new olefins production capacity, as well as new PE/PP capacity and new LDPE products.”
Production and Operations

FPC USA is comprised of several wholly-owned subsidiaries, including three chemical manufacturing companies, which are the subject of this report. Environmental, health, and safety activities at our manufacturing subsidiaries are conducted, managed, and evaluated according to corporate policies and procedures, and reported cumulatively on behalf of the corporation.

FPC USA has traditionally reported only one dimension of environmental performance: the impact of manufacturing operations. This has included emissions, waste generation, the number of instances of reportable releases, and permit exceedances. Figure 1 reflects the production levels we use to benchmark our report.

One way to measure, and compare, environmental performance is to normalize results relative to production, which is what we have done in parts of this report. For example, environmental performance measurements for waste generation were calculated by dividing total annual hazardous waste generation by the aggregated annual cumulative amount of products produced.

The benchmark production materials for this report include suspension and dispersion polyvinyl chloride (PVC), high density polyethylene (HDPE), linear low density polyethylene (LLDPE), polypropylene (PP), and caustic soda (NaOH).

We plan to add new olefins production capacity, as well as new PE/PP capacity, and new LDPE products.

Terminology

Formosa Plastics Corporation, U.S.A. FPC USA
Formosa Plastics Corporation, Texas FPC TX
Formosa Plastics Corporation, Louisiana FPC LA
Formosa Hydrocarbons Corporation, Inc. FHC
Circulating Fluidized Bed Energy Unit CFB

Formosa Receives 9 Awards

The Vinyl Institute’s (VI) Safety Excellence Awards are based upon federal OSHA recordable incidents, which are defined as an occupational injury or illness resulting in medical treatment. This award recognizes plants with five or more consecutive years with no recordable incidents.

- FPC USA PVC Compounding Plant, Point Comfort, Texas (7 consecutive years of performance)

The VI’s Safety Performance Awards recognize efforts to improve worker safety based upon OSHA’s recordable incidence rate. This award recognizes plants with no recordable incidents for the reporting year.

- FPC LA, VCM & PVC plants
- FPC TX, VCM & PVC plants
- FPC TX, Specialty PVC plant
- FPC TX, PVC Compounding plant

The VI’s Environmental Excellence Awards are based on outstanding track record of performance for five or more consecutive years under EPA’s NESHAPs, and other environmental permit requirements. The following facilities demonstrated continued outstanding performance in 2018:

- FPC TX, EDC plant, (6 consecutive years of performance)
- FPC TX, PVC Compounding plant (7 consecutive years of performance)
“In the last 5 years, the FPC USA injury rate decreased by 81%.”
Safety Performance

Personnel Safety Performance

Our Recordable Injury Rate (RIR) showed continuing improvement in 2018, decreasing from 2017. As shown in Figure 2, our RIR was 0.23 injuries per 200,000 hours worked across the corporation. In comparison, the BLS Plastics Materials average for 2017 was 1.6 and the AFPM average was 0.34.

The Lost Work Day Case Rate across the corporation dropped to 0.13. See Figure 3.

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<th>Comparison of Recordable Injury Rates - 2018</th>
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<td>American Fuel &amp; Petrochemical Manufacturers (2018) – most recent data</td>
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<td>U.S. Labor Statistics Avg.</td>
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<td>NAICS 325211 Plastics Material (2017) – most recent data</td>
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Process Safety Performance

FPC USA, along with industry partners at the American Fuel & Petrochemical Manufacturers (AFPM), has modified annual safety data reporting programs to align with the ANSI Standard - API 754 “Process Safety Performance Indicators for the Refining and Petrochemical Industries.” Companies benchmark using AFPM Tier 1 Process Safety Event (PSE) and/or a Tier 2 PSE.

Figures 4 and 5 represent our performance under the new API 754 standard.

A Tier 1 PSE is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO2, or air) from a process that results in one or more of the following consequences:

- an employee, contractor or subcontractor “days away from work” injury and/or fatality;
- a hospital admission and/or fatality of a third-party;
- an officially declared community or third-party evacuation or shelter-in-place;
- a fire or explosion resulting in $25,000 or more direct cost to the company; or,

(continued on next page)
• a pressure relief device (PRD) discharge to atmosphere, whether directly or via a down-stream destructive device, with a discharge quantity greater than a threshold quantity listed in the standard in any one hour period that results in one or more of the following four consequences: liquid carryover, discharge to a potentially unsafe location, an on-site shelter-in-place location, or public protective measures (e.g., road closure).

The number of process safety events is divided by total man-hours in a year to generate a rate, much like a recordable injury rate is reported to OSHA. Each event is also scored for “severity” using a point system between 1 - 108 points, with 1 point being a relatively low risk - low severity event and 108 points being a very severe event with substantial impacts to employee health, off-site consequences, and national media attention.

19 companies, representing 172 petrochemical facilities, participated in the Tier 1 PSE Survey.
• 18 of these companies, representing 47 facilities, submitted at least one Tier 1 PSE for a total of 86 events.
• 125 petrochemical facilities reported zero Tier 1 events during 2018.
• AFPM reported a Tier 1 PSE rate of 0.076 per 200,000 workforce hours during 2018, meaning there was one recordable PSE for approximately every 2.64 million workforce hours.

FPC TX receives multiple awards from the Texas Chemical Council for their commitment to safety.
Environmental Performance

“Our operations employ modern combined cycle co-generation plants that produce some of the lowest cost, lowest emission electricity in the region.”
Maintaining Compliance

During 2018, FPC USA reported eight releases and experienced four permit nonconformances. As Figure 6 indicates, FPC USA continues to manage permit compliance successfully. The nonconformance data shown in figure 6 are mainly related to state authorized wastewater discharge permits. This data does not typically include individual air permit excursions, self-reported to state agencies under the Federal Air Permit program (Title V). Air permit deviations, for example, are more often related to missing data and downtime for air pollution control instruments with little or no impact on the environment. This chart tracks permit nonconformance incidents (NCRs) that involve an actual impact on the environment.

Federal regulations require facilities to report information to the National Response Center (NRC) immediately after an accidental release that is greater than a chemical specific Reportable Quantity (RQ). In the event that an accidental release occurs at one of our facilities, immediate action is taken to notify the NRC, and state agencies, and an investigation is promptly launched. The investigation team identifies the fundamental cause of the release, determines whether the incident demonstrates a trend and recommends corrective actions to prevent the release from recurring. Releases that do not reach the RQ threshold are investigated as near miss incidents.

Figure 7 presents our RQ releases over the past six years. The decrease in 2018 was largely due to improved maintenance and fewer operational upsets.

Citations and Penalties Paid

Notices of Violation (NOVs) are official documents received from state or federal regulatory agencies regarding air, water, or waste regulations. An NOV typically describes an allegation of non-compliance with an environmental or safety regulation.

All NOVs, warning letters, consent orders, and enforcement notices are tracked by our Corporate Environment, Safety and Communications Division, and reported through our Environmental Management System (EMS) to ensure that senior management addresses every item in a timely manner. Figure 8 shows the number of NOVs we received during the past six years.
Figure 9 presents the penalties paid during the same period. In 2018, FPC TX and FPC DE settled claims with the TCEQ, DNREC, and OSHA. Please note that this figure identifies the penalties in the year they are actually paid, not the year in which the violation occurred or the citation was received.

**Resource Management**

Hazardous waste generation as a function of production remained near the all-time low, as shown in Figure 10. This reduction was achieved mainly by a continued effort to reclassify materials and a focused program to reuse resources. More importantly, the company has met its long-term goal of a 95% reduction in hazardous waste generation from our 1995 baseline level.

Future efforts will focus on the remaining waste streams at our operations and new methods to reduce, reuse, or recycle materials. For example, Formosa uses Catoxid® proprietary technology for the onsite recovery and reuse of a major process by-product. The technology enhances resource recovery and eliminates emissions associated with transporting the material.

For the past several decades, energy supply and demand have been at the center of many major environmental and sustainability debates. While Formosa is a major producer of energy, we’re committed to demand-side management. Better energy management reduces the cost of our products, as well as the energy demand of our production processes.

Our operations employ modern combined-cycle cogeneration plants that produce some of the lowest cost, lowest emission electricity in the region. See Figure 11.

As shown in Figure 12, our operations continue to assess and implement new methods to reduce water use even as we increase production, equipment, and employees.
Air Emissions

Federal regulations require that manufacturers who use threshold quantities of listed chemicals report a variety of information to local communities and to state and federal governments. One of the most substantive means to report this information is through the annual Toxic Release Inventory (TRI).

| Total TRI Air Emissions, Pounds |
|---------------------|-----|-----|
|                     | 2016 | 2017 | 2018 |
| FPC TX              | 861,044 | 978,611 | 1,097,611 |
| FPC LA              | 189,743 | 172,965 | 172,965 |
| FPC DE              | 104,372 | 84,599 | 84,599 |
| FPC USA             | 1,155,159 | 1,236,175 | 1,351,528 |

As shown in the table above, our total TRI air emissions increased slightly, due to a variety of factors. Emissions data are subject to year-to-year variability, caused by factors such as production rates (higher or lower emissions), unit shutdowns (lower emissions) and startups (one-time, higher emission events).

Overall, TRI air emissions were within expected variability; some increased, as others decreased. The increase in VCM emissions (Figure 13) in 2018 is the result of a few unplanned emission events during the year that are not anticipated to re-occur. EDC emissions (Figure 14) remained at historical levels following a one-time emission event.

Benzene emissions (Figure 15) remained essentially even, subject to year-to-year variability.

Chloroform emissions (Figure 16) essentially remained even, subject to year-to-year variability.

Greenhouse gas (GHG) emissions are reported in the Carbon Footprint Performance section of this report.
Social Performance

“Formosa values its employees; turnover is less than 50% of the industry average.”
Social Performance

FPC USA Employee Benefits

FPC USA offers competitive salaries and benefits that meet the changing needs of our employees. Our annual employee turnover remains low, at about 3%, as shown in Figure 17. This demonstrates our success at motivating and retaining a highly skilled, experienced workforce. Factors contributing to this success include our generous benefits package:

Healthcare Benefits
Medical/Dental/Prescription Plan: Nation-wide Network Coverage through Cigna.
- 2 medical plans: Traditional Preferred Provider plan (PPO) and Consumer Driven Health Plan (CDHP) with Health Savings Account (HSA)
- Wellness participants receive huge discounts on premiums and the company will also provide a match for the HSA (or FSA).
- CDHP is still free for wellness employees choosing a single plan – no employee contribution.

Health Savings Accounts (HSA)
- Employees are eligible to participate for this benefit only if they are in the CDHP.
- All eligible wellness employees who contribute to this plan will be matched as follows:
  - $500 for employee only
  - $1,000 for an employee plus child(ren) or spouse
  - $1,250 for an employee plus family

Savings Benefits
401(k) Savings Plan:
- Employees can contribute up to 30% of their base salary to the plan
- Auto Features: Automatic enrollment at 5% and an annual auto increase of 1% until the contribution rate reaches 10%
- Formosa provides a match for employees, if an employee contributes 5% or more of their salary, they will receive a 1% Guaranteed Match, and a 4% Profit Sharing Match

Pension Benefits- A Cash Balance Pension Plan
- This is a guaranteed benefit and is fully funded by the company. After 3 years of service, employees are 100% vested.
- The company contributes 5.25% of basic salary each year for employees with less than 15 years of service and 7.0% of basic salary commencing on January 1 following the 15th year of service. The 1-Year Treasury Bill rate is credited to each individual account every year.

Corporate Contributions
In 2018, as in past years, our corporate contributions focused on supporting key programs and services that improve the lives, health, and education of people who live in the communities where we operate. Figure 18 presents our results through 2018.

The sharp rise in 2017 was due to a significant one-time contribution that improved critical public infrastructure in the Point Comfort area.

In addition, we increased the annual stipend award to those students who receive a National Merit® Formosa Plastics Corporation, U.S.A. Scholarship.
**Corporate Citizenship**

FPC USA is proud to be a member of the communities in which we operate and is committed to making substantive contributions in each of them.

Over the past forty years, we have worked with local organizations to improve education, health, civic growth, spiritual development, and environmental protection. Donations of time and money are only the beginning.

A few representative examples of our corporate citizenship activities are highlighted below.

**Baton Rouge, Louisiana**

The FPC LA facility is engaged in a wide variety of charitable activities and community support projects, raising nearly $45,000 in 2018.

- Louisiana Earth Day
- Keep Baton Rouge Beautiful
- Junior Achievement of Baton Rouge
- United Way
- March of Dimes Walk-a-Thon
- Greater Baton Rouge Food Bank
- Scotlandville Magnet School – High School Engineering Professions
- Annual Charity Golf Tournament
- The Baton Rouge General Hospital Critical Care Burn Treatment Center (3 year period effective 2018)
- Baton Rouge Community College Foundation - PTEC Program
- Baton Rouge Area Foundation

**Point Comfort, Texas**

- Over 100 employees volunteered more than 13,000 hours to serve 75 different organizations in the community.
- Sponsored an event that raised $180,000 for The United Way of Calhoun and Victoria Counties.
- Partnered with local school districts for field trips to the plant to encourage students to consider a career in industry.
- Provided funding to the Calhoun County Independent School District to conduct environmental education classes at the Formosa Tejano Wetlands Outdoor Classroom.
- Held four blood drives that collected 547 units of blood, a company record.

Since 2015, the site has managed a monarch butterfly migratory “way-station”, propagation habitat and milkweed research program. Several types of milkweed are grown and planted, providing an abundant source of milkweed for both Monarch and Queen butterflies. Research includes efforts to determine the ideal soil and water conditions for seed germination and the raising of rare native Spider Milkweed to produce plants for distribution to local residents.

**Livingston, New Jersey**

- Continued our National Merit® Formosa Scholarships Program, providing renewable annual stipends for up to four years of full-time undergraduate study.
- Held its Annual Food Drive, resulting in donations of nearly 18 tons of food and 480 turkeys to the Community Foodbank of New Jersey.
- Received an award for encouraging and supporting employees’ participation in Reserves, National Guard, and related country readiness organizations.
Economic Performance & Carbon Footprint Performance

“We continue to invest in our plants and equipment, ensuring that Formosa has some of the most technologically advanced production capacity in the industry”
In 2018, we had revenues of $5 billion, and our employee count increased modestly. See Figure 19.

We again demonstrated the strength of our business strategy. You can expect that, in the future, we will follow the same principles that have guided our success thus far.

For example, we continue to invest in our plants and equipment, ensuring that FPC USA has some of the most technologically advanced production capacity in the industry. This includes completing construction and start-up of the new Olefins III, LDPE, and PE units in Texas. A new state-of-the-art medical facility provides on-site employee wellness and urgent care services. (See photo below).

As we move forward, a key success factor of our company strategy is making sure that we are positioned in the right markets to deliver growth. Part of this involves our continued exports to South America, Europe, and other regions.

We will stay focused on excellence in operations and maintain our financial discipline, while seeking new opportunities to create value for customers and contribute to society.

Figure 20 presents our carbon dioxide equivalent emissions, or carbon footprint, for the past six years, as reported to the U.S. EPA.

From 2013 through 2016, our carbon footprint slowly declined as operations improved their efficiencies, despite steady production output.

In 2017, however, Hurricane Harvey caused significant production losses as the site was fully shut-down for nearly two weeks resulting in fewer Greenhouse Gas Emissions.

GHG emissions in 2018 rose to levels similar to 2013 as the site went into an aggressive turnaround schedule resulting in higher start-up and shut-down emissions.

Several new production units (Olefins III, LDPE, PE III, and Utilities) are expected to have their start-ups in the 2019-2020 timeframe, which will again increase the overall GHG emissions for the company as we continue to grow.

Our Future Opportunity

Our future opportunity is how to achieve sufficient energy efficiencies to offset carbon emissions from production unit start-ups and expansions that will come online in the near future.

Randy Smith Health and Wellness Center at our Point Comfort, TX site.

Please note that GHG emissions are reported to the U.S. EPA as absolute Carbon Dioxide Equivalent (CO₂e) units, rather than absolute, or normalized, Carbon Equivalent (CE) units.
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