

# SHAPING THE FUTURE

**2016** SUSTAINABILITY REPORT





# Our Sustainability Journey

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“The critical components of a sustainable business guide our day-to-day operations and long-term growth.”

**Mark E. Lashier**  
President and CEO  
Chevron Phillips Chemical

# A Message from Our CEO

## Shaping a Sustainable Future

Since our inception, we have remained steadfast in our commitment to build a business that is sustainable for our employees, customers, communities and owners. We believe sustainability involves keeping the health and safety of our workforce and surrounding communities a top priority in our daily operations, being a responsible steward of the environment, continually evaluating the chemical building blocks of our products to craft solutions that will exceed customer expectations and advance society, and acting responsibly and ethically across our global business dealings. These critical components of a sustainable business guide our day-to-day operations and long-term growth.

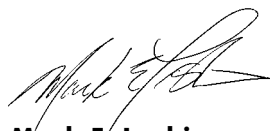
One of the most exciting aspects helping to shape the future of our company is our \$6 billion U.S. Gulf Coast (USGC) Petrochemicals Project. The project entails a 1.5 million metric ton per year ethane cracker at our Cedar Bayou facility in Baytown, Texas and two polyethylene units in Old Ocean, Texas, with a total design capacity of 1 million metric tons per year. Both facilities are on track for completion in 2017. To learn more about the project, visit our USGC Emerging Possibilities page at [www.cpcchem.com/usgc](http://www.cpcchem.com/usgc).

In addition to making progress on our USGC project, 2016 was our best year ever for our combined employee and contractor injury rate and best year ever for process safety performance. Additionally, we tied our best year ever for reportable emission events. While we met our targets and set several best-ever records in 2016, this does not overshadow the tragic fatality of a contractor that occurred on our USGC Petrochemicals Project in the spring of 2016. We conducted a thorough investigation after the incident to ensure that all stakeholders leveraged available learnings to prevent such an incident in the future.

Twenty-one of our facilities had zero employee or contractor injuries, including all 10 of our Performance Pipe sites. The exemplary safety performance of our pipe division reminds us that attaining zero injuries is an achievable goal, even in a challenging environment like manufacturing polyethylene (PE) pipe.

To support our focus on safety in 2016, we rolled out *Our Journey to Zero*, a blueprint to achieve what is already a clear objective for our company: the elimination of events that could inflict injuries to employees or contractors, result in process safety events, or otherwise fail to comply with the many environmental, health and safety laws and regulations that apply to our operations around the globe. This strategy builds on many of the successful initiatives already embedded in the safety culture of our company.

Whether celebrating our greatest accomplishments or working to overcome our most difficult challenges, we strive to remain transparent and authentic in all our business dealings. The only way we can achieve that is to remain connected to all our stakeholders. As you read this report, my sincerest hope is that you will see the transparency of our efforts to shape a sustainable future for all.



**Mark E. Lashier**  
President and CEO  
Chevron Phillips Chemical



*USGC Petrochemicals Project –  
Cedar Bayou facility in Baytown, Texas*



*USGC Petrochemicals Project –  
Old Ocean facility in Sweeny, Texas*

# Perspectives from Our Global Sustainability Manager



## Focusing on a Sustainable Future

In our last report, we introduced our seven sustainability focal points, which further define our sustainability efforts under the guiding pillars of people, planet and profit. The focal points were established as a result of discussions with our internal and external stakeholders about the most critical components of our sustainability journey. Throughout 2016, we focused on shaping our practices to support the resulting areas of emphasis.

As a company, we believe that people are our most valuable asset. That's why our Social Enrichment efforts focus on both current and potential employees, as well as fostering an environment of diversity. Having a strong workforce not only makes us better prepared to compete in the marketplace, but also puts us in the best position to continually recruit the industry's best and brightest individuals. In 2016, we introduced our Women and Veterans Thrive Here initiatives, sponsored education programs supporting science, technology, engineering and mathematics (STEM), and introduced new learning and development programs to better develop our current workforce. Additionally, we celebrated Diversity & Inclusion across our global facilities by introducing the Leading with ICARE awards, which recognize employees who demonstrate and promote the ICARE principles of inclusion, cooperation, accountability and respect every day.

Safety is a core value, impacting everything we do. To better define our Environmental, Health & Safety (EHS) efforts, we launched *Our Journey to Zero*, a strategy that sets the framework for safer operations and lower environmental impact for the future. This strategy builds on the many successful initiatives already embedded in the safety culture of our company, including our Life Saving Rules, Tenets of Operation and Guiding Principles.

Additionally, in the area of Product Responsibility, we worked to reduce the impact of our products across the value chain by engaging with users of our products, their customers and communities to develop better product life cycles. This is accomplished in part through our involvement in organizations like the American Chemistry Council (ACC), Plastics Industry Association, Flex Packaging Association, Flex Film Recycling Group, the World Plastics Council and others, where we have provided leadership to support better outcomes. In 2016, we launched an education piece on plastic film recycling, engaged in the discussion on marine litter, and explored ways to optimize materials to support a circular economy and sustainable materials management (SMM) practices. These systematic approaches evaluate how materials can be used and reused more productively over their entire life cycle.

To improve our Integrity and Compliance practices we have added human rights issues to our supplier and contractor dialogue, and began investigating processes to evaluate suppliers' compliance with anti-slavery and anti-human-trafficking laws.

We are proud of our accomplishments in 2016 and continue to seek new opportunities to support the sustainability discussion taking place around the globe. Please help us further the dialogue by providing your feedback on our efforts to shape the future of Chevron Phillips Chemical in our sustainability journey.

A handwritten signature in black ink, appearing to read 'Rick Wagner', written over a white rectangular background.

**Rick Wagner**  
Global Sustainability Manager,  
Chevron Phillips Chemical

# Sustainability Focal Points

In 2014, Chevron Phillips Chemical conducted an assessment with internal and external stakeholders to understand what sustainability issues are most pressing to each of them and most important to our success as a company. We identify our stakeholders as employees, communities, NGOs, governments, suppliers/customers and the industry trade sector.

The results of our interaction with these groups led us to identify seven sustainability focal points, which we introduced in our 2015 report. These areas of emphasis have helped guide the content of this report so that the details provided are of the most value to our stakeholders.



# U.S. Gulf Coast Petrochemicals Project Spotlight

## Shaping the Future of Our Company

One of the most influential elements helping to shape the future of our company and the petrochemical industry is our U.S. Gulf Coast (USGC) Petrochemicals Project.

In 2013, Chevron Phillips Chemical received board approval to execute its groundbreaking \$6 billion USGC Petrochemicals Project, which is slated for completion in 2017. Located in Old Ocean and Baytown, Texas, the USGC Petrochemicals Project will use abundant shale feedstocks to meet the ever-increasing global demand for plastic products.

The project includes a 1.5 million metric ton per year ethane cracker, which will produce ethylene, and two world-scale polyethylene units that will each produce 500,000 metric tons of resin every year.

While the economic impact is vast, the project alone has added 400 permanent jobs and generated 10,000 engineering and construction jobs.

Efforts in 2016 focused on the installation of pipe, as well as electrical and instrumentation equipment, readying previously installed components as the project nears the finish line. In addition to the physical progress made in 2016, the project also advanced its organizational capability activities to ensure that upon completion of the new facilities we have the people and processes needed to reliably deliver the new products to our customers.

The polyethylene units in Old Ocean are expected to start up in mid-2017, and the ethane cracker at our Cedar Bayou plant in

Baytown is expected to be completed in the fourth quarter of 2017.

Once production begins, the project will serve the growing demand for high quality plastics in industries as varied as rigid and flexible packaging, industrial films, automotive, pressure pipe and conduit, and various consumer goods.


For stories and updates about the project, visit our Emerging Possibilities site at [www.cpchem.com/usgc](http://www.cpchem.com/usgc) and sign up for weekly news alerts to learn more about the people behind the herculean effort, as well as the products that will be manufactured and used to enhance the quality of life for people across the globe.

### CEDAR BAYOU


**ETHANE CRACKER**  
PLOT THE SIZE OF  
**44** AMERICAN  
FOOTBALL FIELDS 

CRACKER TO  
PRODUCE **1.5** MILLION METRIC  
TONS PER YEAR

PROJECT IS  
MADE UP OF

**350** MILES  
OF PIPE 

**16,000** MILES OF CABLE 

**40,000** TONS OF STEEL 

**\$6**

BILLION  
INVESTMENT


**1** ETHANE  
CRACKER

**2** POLYETHYLENE  
UNITS

**400** LONG-TERM  
JOBS 

**10,000**  
CONSTRUCTION  
JOBS 


### OLD OCEAN

**2** POLYETHYLENE UNITS PRODUCING  
UP TO **500,000**  
METRIC  
TONS EACH 

**23 ACRE**  
PLOT FOR PE UNITS

**600,000** FEET OF  
PIPE 

**1,500** HOPPER  
CARS 

A TRAIN HOLDING 1 YEAR OF  
PRODUCTION WOULD BE  
**11,000** CARS LONG  
STRETCHING  
**140 MILES** 



# Chevron Phillips Chemical by the Numbers



billion in assets



manufacturing and research & technology facilities worldwide



25 BILLION

pounds of chemical products manufactured annually

70,000+

products use the materials we produce

140

Trusted supplier to customers in nearly 140 countries

18 of 19

U.S. sites have achieved STAR designation through OSHA's Voluntary Protection Program (VPP)

NEARLY ONE MILLION \$

in workforce development donations in 2016



4,883

employees worldwide



raised for United Way chapters in our communities in 2016



Good Neighbor

20,000+ hrs

volunteered in our local communities in 2016

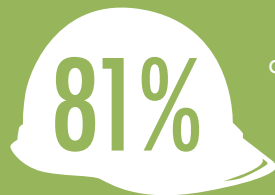
21

facilities with zero injuries in 2016



80+

commercial reactors using our MarTECH® loop slurry process



81% decrease in combined employee and contractor recordable incident rate since 2002

# About Chevron Phillips Chemical

As one of the world's top producers of olefins and polyolefins, and a leading supplier of aromatics, alpha olefins, styrenics, specialty chemicals, and piping, Chevron Phillips Chemical Company LLC and its affiliates are committed to driving sustainable practices throughout all of our businesses.

Our chemicals and plastic resins are essential to the manufacture of more than 70,000 consumer and industrial products. We are highly invested in preserving natural resources, developing our employees, and caring for the communities in which we do business.

Our company was founded on July 1, 2000, when Chevron Corporation and Phillips Petroleum Company, now Phillips 66, combined their worldwide petrochemical businesses. Chevron and Phillips 66 and their wholly-owned affiliates each continue to own 50 percent of Chevron Phillips Chemical.

Headquartered in The Woodlands, Texas, Chevron Phillips Chemical has \$15.5 billion in assets, more than \$8.8 billion in annual revenues, interest in 33 facilities worldwide and nearly 5,000 employees.

In 2016, our asset base continued to grow as we advanced construction of our U.S. Gulf Coast (USGC) Petrochemicals Project. Located across two sites, Old Ocean and Cedar Bayou, Texas, the \$6 billion project will use abundant shale feedstocks to meet the ever-increasing global demand for plastic products.

This project includes a 1.5 million metric ton per year ethane cracker, which will produce ethylene, and two world-scale polyethylene units that will each produce 500,000 metric tons of resin every year.

The project will increase the company's North America ethylene capacity by 40 percent and our polyethylene capacity by the same percentage. Completion and startup of the facilities is expected in 2017.

*USGC Petrochemicals Project –  
Old Ocean facility in Sweeny, Texas*





*Saudi Chevron Phillips Company (S-Chem) – Al Jubail, Saudi Arabia*

## Joint Ventures

**Saudi Chevron Phillips Company (S-Chem)** (in operation since 2000) and Jubail Chevron Phillips Company (operational in 2008) are 50/50 joint ventures between a Chevron Phillips Chemical subsidiary and the Saudi Industrial Investment Group (SIIG).

**Saudi Polymers Company (SPCo)** is a joint venture company formed in 2007, that is owned by a Chevron Phillips Chemical subsidiary (35 percent) and National Petrochemicals Company (Petrochem) (65 percent), a joint stock company incorporated in the Kingdom of Saudi Arabia.

**Petrochemical Conversion Company (PCC)**, formed in 2011, is a joint venture between SIIG (50 percent) and a Chevron Phillips Chemical subsidiary (50 percent).

**Gulf Polymers Distribution Company FZCO (GPDC)**, a distribution company in Dubai, United Arab Emirates, formed in 2011 and is jointly owned by Petrochem (65 percent) and a subsidiary of Chevron Phillips Chemical (35 percent).

**Qatar Chemical Company Ltd. (Q-Chem)** and Qatar Chemical Company II Ltd. (Q-Chem II) are joint ventures between a subsidiary of Chevron Phillips Chemical (49 percent), Mesaieed Petrochemical Holding Company Q.S.C. (49 percent), and Qatar Petroleum (2 percent). Q-Chem commenced operations in 2003, while Q-Chem II began operations in 2010. The Ras Laffan Olefins Company (RLOC) facility is operated by Q-Chem and owned 53.15 percent by Q-Chem II, 45.85 percent by Qatofin and 1 percent by Qatar Petroleum.

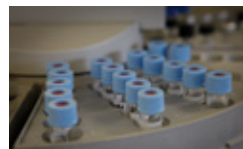
**Chevron Phillips Singapore Chemical Pte. Ltd. (CPSC)** was incorporated in April 1980, and is a joint venture between a Chevron Phillips Chemical subsidiary (50 percent), Singapore Economic Development Board Investments (30 percent) and Sumitomo Chemical (20 percent). CPSC is based on Jurong Island, a world-class industrial hub located one mile off the Singapore mainland.

**Shanghai Golden Phillips Petrochemical Co., Ltd (SGP)** is a joint venture between a Chevron Phillips Chemical subsidiary (40 percent) and Shanghai Petrochemical Industrial Development Company (60 percent), a subsidiary of Sinopec (China Petroleum and Chemical Company). SGP was founded in 1995.

Chevron Phillips Chemical operates one of the largest loop slurry high-density polyethylene units in North America at its Cedar Bayou facility in Baytown, Texas, and shares production on a 50/50 basis through a sharing venture, formed in 2003, with INEOS.

**Americas Styrenics LLC**, founded in 2007, is a combination of the second largest polystyrene producer and the third largest styrene producer in the Americas through a 50/50 joint venture with Trinseo.

*Reflects current information as of August 2017*



## Research & Technology

We have a long history of developing innovative technologies. It's these technologies and the people who create them, that help us retain our competitive advantage, produce our materials safely and efficiently, and create industry-changing advancements and process improvements.

We have two research and technology centers that support customers around the globe.

The Bartlesville Research & Technology Center, located in Bartlesville, Oklahoma, is home to the world-renowned, Plastics Technical Center—a technical service and application support resource for customers worldwide.

The Kingwood Research & Technology Center, located in Kingwood, Texas, supports our worldwide operations by providing technical support including catalyst, product and process development, process design, and manufacturing support.

Chevron Phillips Chemical holds approximately 3,200 domestic and international patents and patent applications, and employs nearly 265 scientists, researchers and engineers who conduct a range of research activities. Laboratory/bench and pilot scale process development, analytical and mechanical testing, patent support, and technical and service support for customers worldwide are only a few of our activities.

Chevron Phillips Chemical continues to build on a long history of scientific discoveries. Our proprietary MarTECH® loop slurry process is one of the most widely licensed petrochemical processes for the production of high-density polyethylene and polypropylene in the world with more than 80 commercial reactors using this technology. Other proprietary technological achievements include:

- Metallocene polyethylene technology
- On-purpose 1-hexene technology
- Full-range normal alpha olefin technology
- Conventional and high viscosity polyalphaolefin manufacturing technology
- E-Series® acetylene reduction technology
- First and second generation functional drilling fluids
- Aromax® catalyst and process technology for on-purpose benzene production
- Methyl mercaptan process technology

### Next Generation Polyethylene Pilot Plant Completed

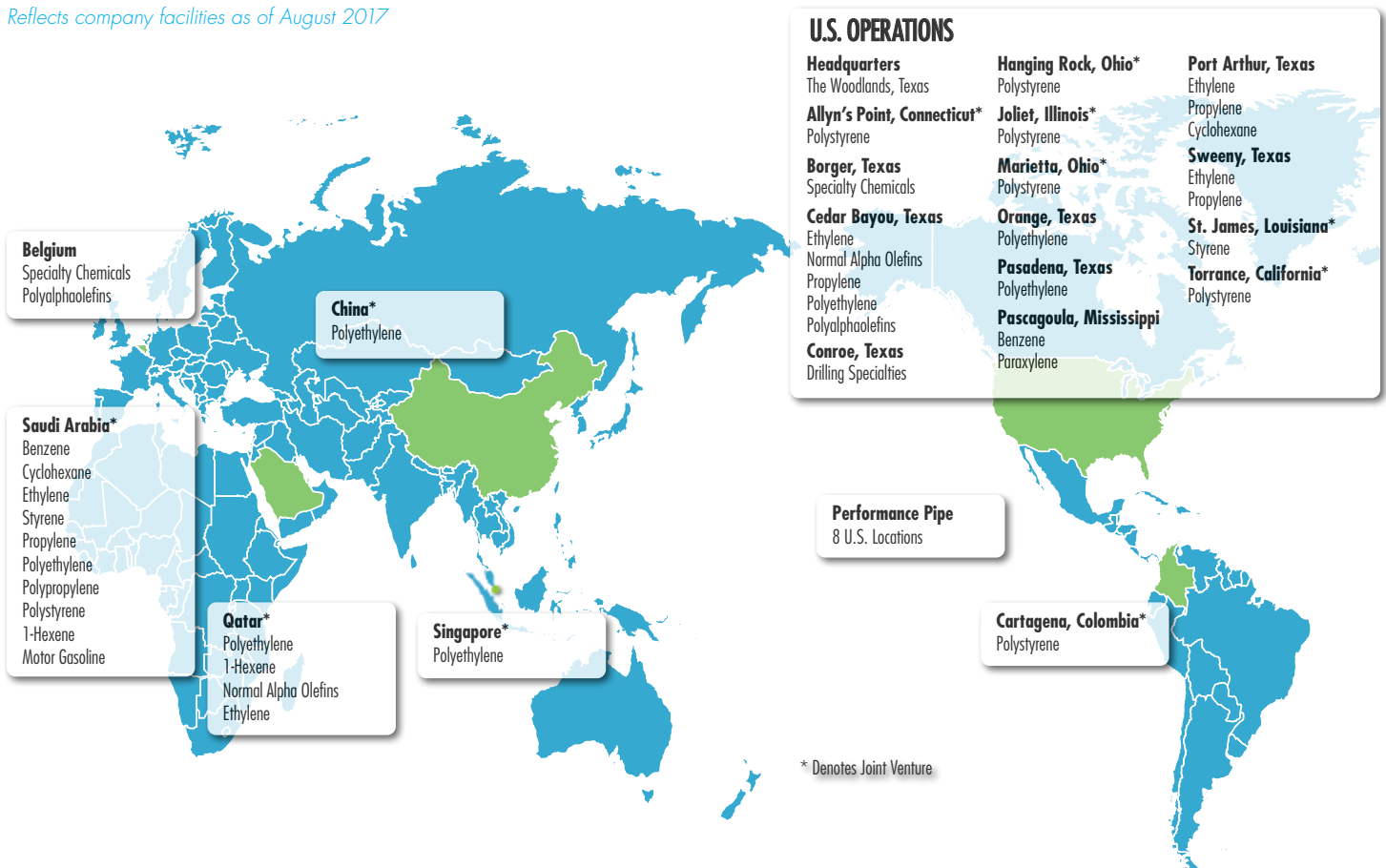
In July, we celebrated the completion of our new state-of-the-art polyethylene pilot plant at the Bartlesville Research & Technology Center. The plant enables polyethylene research, such as new catalyst and polymer development, to take place on a pilot scale prior to implementation in full-scale operations, including the company's new \$6 billion USGC Petrochemicals Project.

Utilizing Chevron Phillips Chemical's premier MarTECH® polyethylene technology, the new unit will support customers around the world from concept to commercialization, enabling companies the opportunity to go to the marketplace following proven polyethylene research.



# Production Facilities

Reflects company facilities as of August 2017



## Going Green in Belgium



In May, Chevron Phillips Chemical moved its headquarters for the Europe, Middle East and Africa region to Diegem, Belgium, near Brussels. The Environmental, Health & Safety team helped design the space to ensure that in addition to functionality, health and safety remained a top priority.

The new office, located in the Airport Plaza Stockholm Building at Leonardo Da Vincilaan 19, 1831 in Diegem boasts impressive features, including:

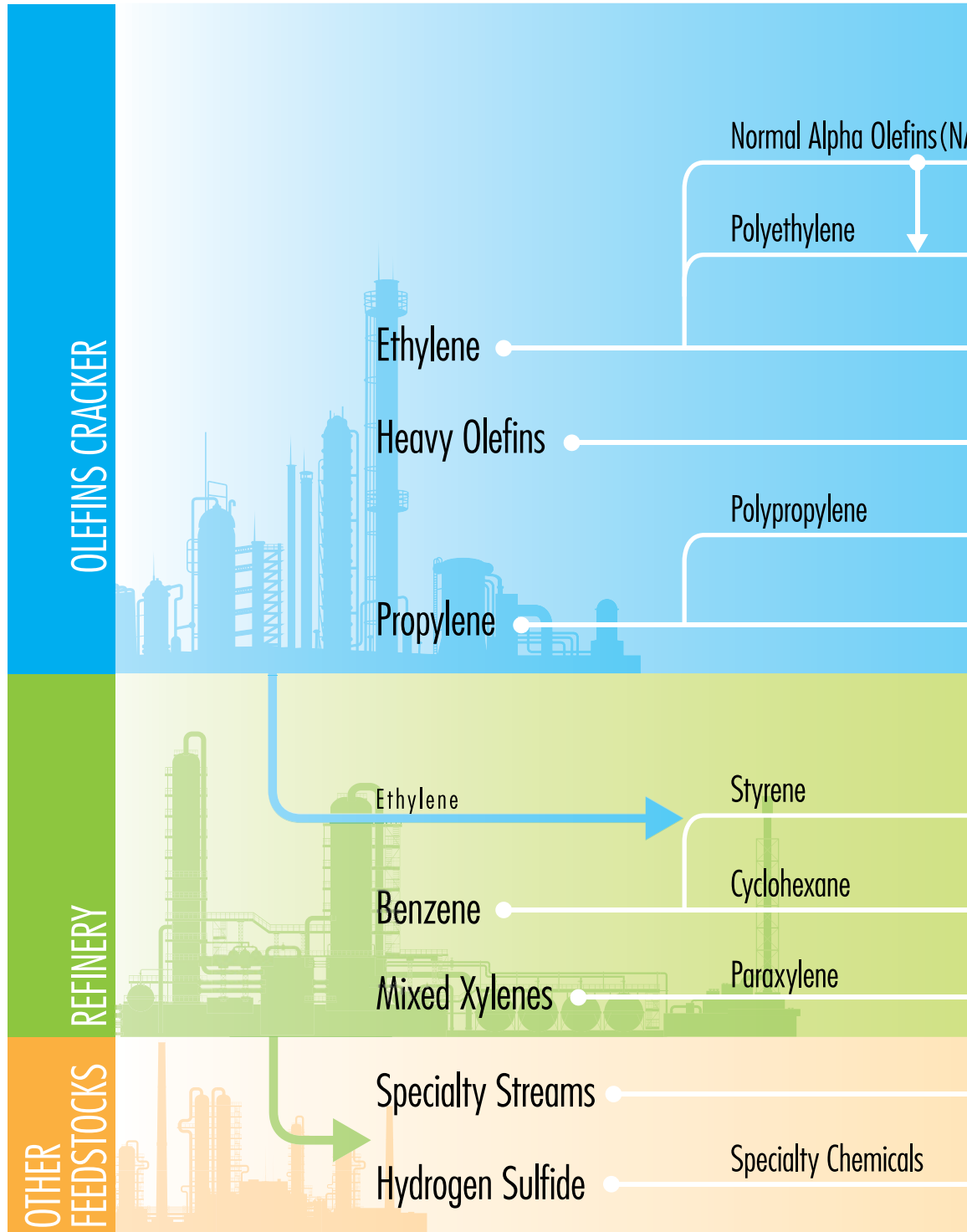
- Sit-stand desks to improve ergonomics
- Energy efficient windows
- Low energy lamps
- Lighting control by presence sensor
- Water management systems
- Hydro saving solutions in the washrooms
- Good acoustic performance
- Recyclable waste storage

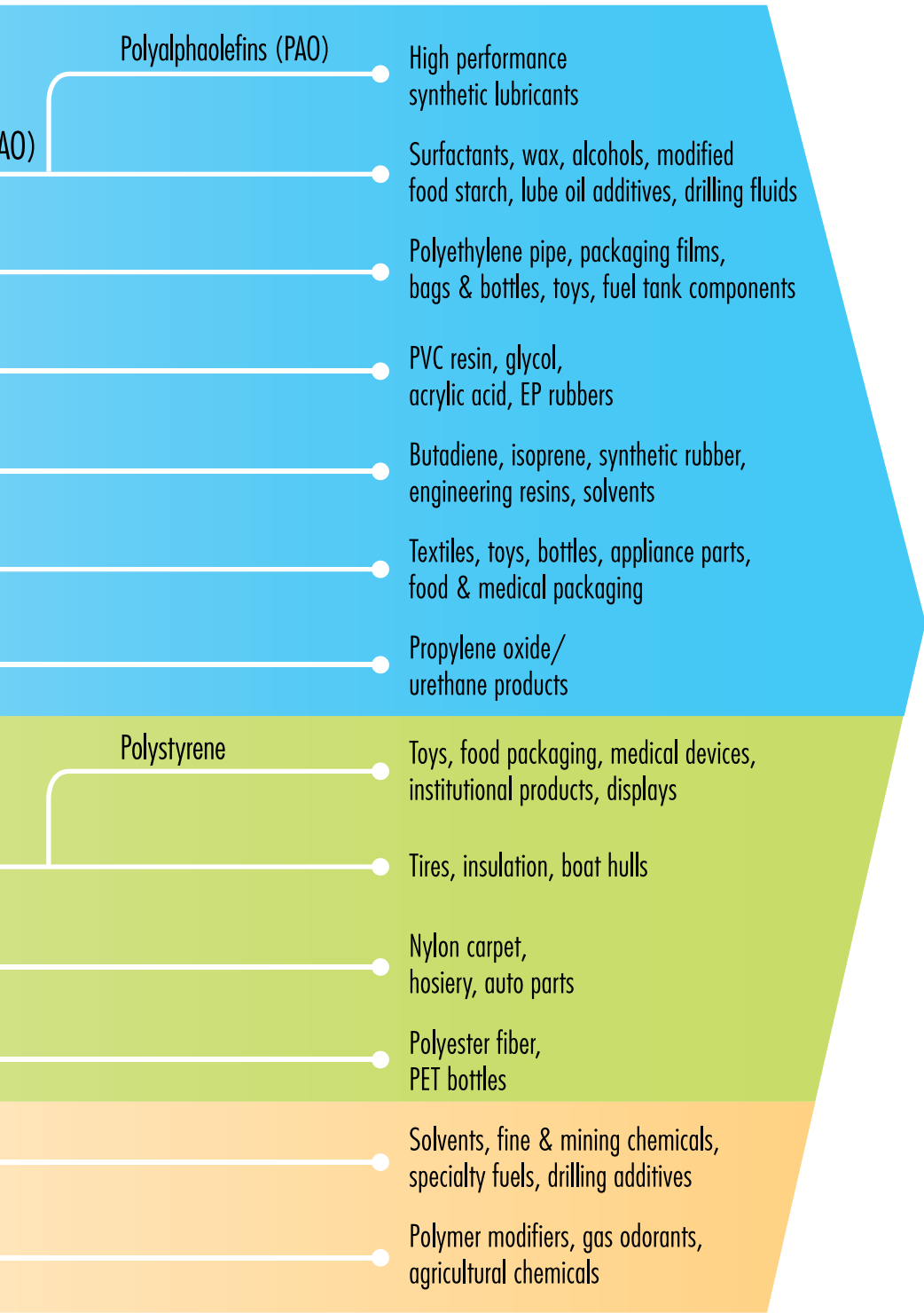
In addition, the building meets the latest environmental requirements of the Building Research Establishment Environmental Assessment Method (BREEAM), having obtained a BREEAM "GOOD" certification and compliance with the Energetic Performance of Buildings (EPB) regulation. BREEAM is a tool that allows the owners, users and designers of buildings to review and improve environmental performance throughout the life of the building.



**QUALITY PRODUCTS**

- Benzene
- Cyclohexane
- Drilling Additives
- E-Series® Catalysts
- Ethylene
- Mining Chemicals
- Normal Alpha Olefins (NAO)
- Paraxylene
- Polyalphaolefins (PAO)
- Polyethylene
- Polyethylene Pipe
- Polypropylene
- Polystyrene
- Propylene
- Specialty Chemicals
- Styrene





## Primary Brands



# Corporate Governance & Senior Leadership

## Board of Directors

Our company is governed by a Board of Directors comprised of eight representatives, under the terms of a limited liability company agreement. There are three voting representatives each from Chevron and Phillips 66; the chief executive officer and the chief financial officer of Chevron Phillips Chemical are non-voting representatives. Representatives from the Board of Directors serve on committees, providing strategic direction and input on policies covering a range of topics, including auditing, compensation, and environmental, health and safety. Certain major decisions and actions require the approval of the Board. All Board actions require the approval of at least one representative each of Chevron and Phillips 66.

## Sustainability Governance Review Team

Major initiatives at Chevron Phillips Chemical require formation of Governance Review Teams (GRT), made up of senior leaders, to provide input on strategies, confirm that milestones are met and ensure successful implementation. Four members of the company's senior leadership sit on the Sustainability GRT—Don Lycette, Peggy Colsman, Kate Holzhauser and Dave Morgan, along with Public Affairs Manager Bryce Hallowell—to direct reporting practices, stakeholder engagement and other company-wide sustainability issues.

*Reflects senior leadership as of August 2017*



**Mark Lashier**  
President & Chief Executive Officer



**Scott Sharp**  
EVP Manufacturing



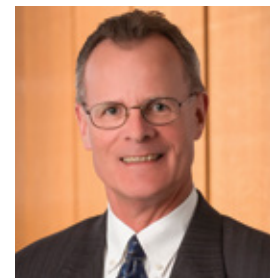
**Ron Corn**  
SVP Petrochemicals



**Tim Hill**  
SVP Legal and Public Affairs, General Counsel & Corporate Secretary



**Tim Leveille**  
SVP, Chief Financial Officer & Controller



**Don Lycette**  
SVP Research & Technology



**David Morgan**  
SVP Polymers & Specialties



**Dave Smith**  
SVP Corporate Planning & Technology



**Jim Becker**  
VP Polymers



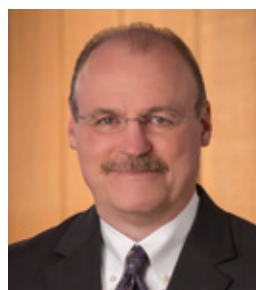
**Peggy Colsman**  
VP & Chief Information Officer



**Kate Holzhauser**  
VP Environment, Health, Safety & Security



**Todd Monette**  
VP Manufacturing



**Jim Telljohann**  
VP Specialties



**Greg Wagner**  
VP Human Resources



**Kelly Radcliffe**  
General Manager, Auditing



# Executing Our Business Strategy to Shape Growth

Chevron Phillips Chemical’s vision for the future is to be the premier chemical company, achieving superior financial results while protecting people and the environment. With this vision at the center of everything we do, the company’s business strategy is clearly defined and uses our core values of safety, mutual respect, integrity and being performance driven as its foundation. We are aligned around four strategic elements to support our growth structure: Operational Excellence, Organizational Capabilities, Competitive Advantage, and Profitable Growth.

In 2016, the challenging economic conditions and impact of lower crude oil prices was evident. However, the company continued its efforts to control costs and minimize the impact of the reduction in margins for our products. Throughout these turbulent economic times, our commitment to executing our business strategy to ensure long-term sustainable growth remained steadfast.

## Operational Excellence

- Decreased our combined employee and contractor recordable incident rate by 81 percent since 2002
- Achieved zero recordable injuries for our entire Performance Pipe division
- Introduced *Our Journey to Zero*, a blueprint that connects our current safety endeavors with a clear vision and a strategy to achieve it

## Organizational Capabilities

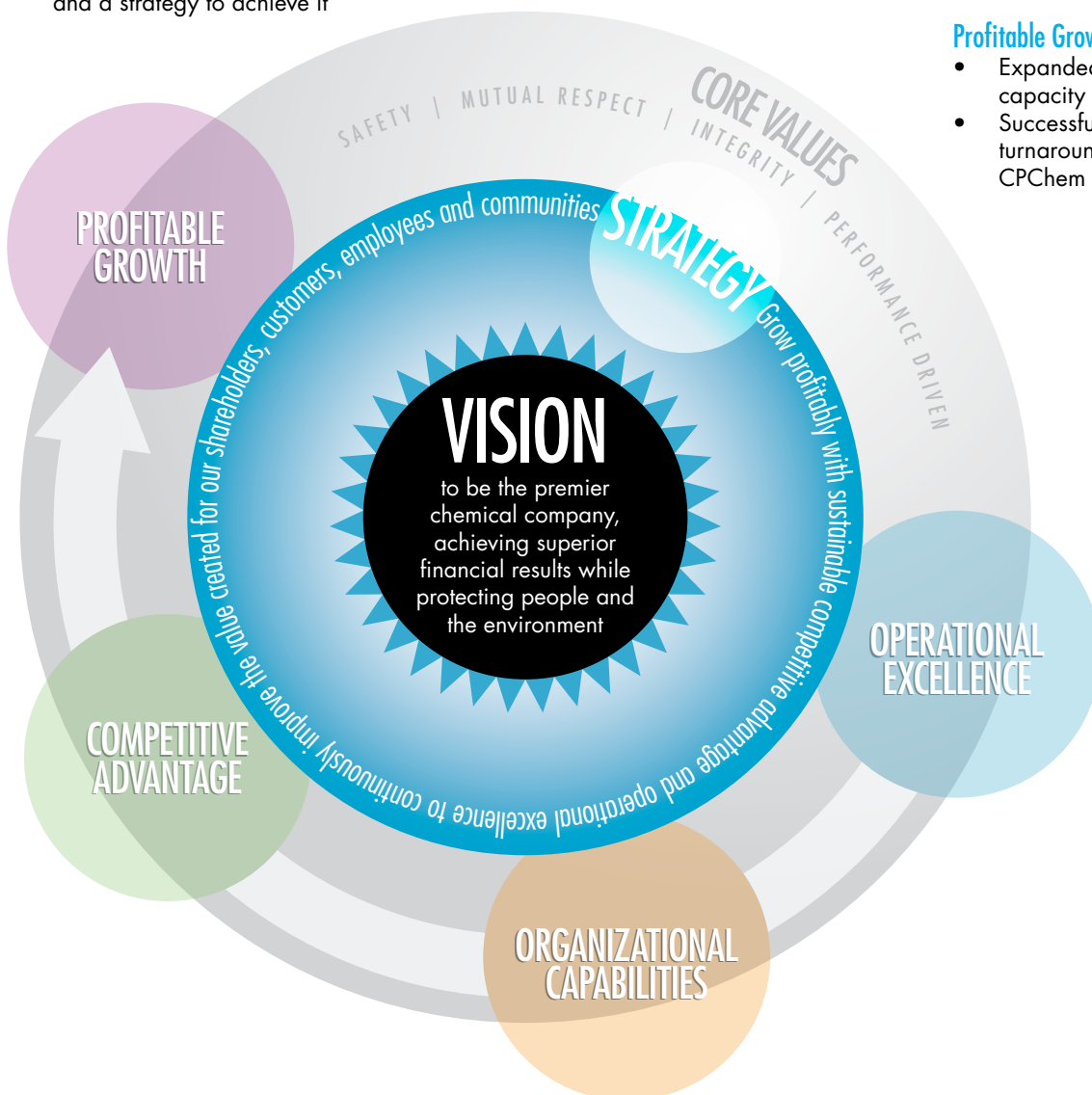
- Implemented the First Level Leader Development Program (FLLDP)
- Launched the “Inclusion: A Recipe for Success” campaign and continued to spread awareness of inclusion, cooperation, accountability and respect every day (ICARE) across the company

## Competitive Advantage

- Completed a state-of-the-art polyethylene pilot plant at our research facility in Bartlesville, Oklahoma
- Made significant investments in storage, transportation and rail to prepare for the unprecedented amounts of polyethylene to be produced by our USGC project

## Profitable Growth

- Expanded polyalphaolefin (PAO) capacity at our Cedar Bayou plant
- Successfully completed a major turnaround at SPCo, the largest in CPChem history



# Health & Safety

Shaping our future at Chevron Phillips Chemical involves creating a culture that puts the health and safety of our employees, contractors, customers, neighbors and the environment at the forefront of everything we do.

We consistently deliver top-quartile industry results in personal and process safety. To continue our focus on safety, we introduced *Our Journey to Zero*, further enhanced our efforts toward Operational Excellence, expanded our Voluntary Protection Program involvement, and explored new ways to safely execute major projects, including turnarounds.



## Our Journey to Zero

Chevron Phillips Chemical has had a strong record of improving environmental health and safety performance since the company's inception in 2000.

Over the years, our company has put core concepts and programs in place to help shape the safety and operating culture of Chevron Phillips Chemical, including our Guiding Principles, Tenets of Operation, Operational Hierarchy, Operational Excellence System, Stop Work Authority and Life Saving Rules.

Compared to the industry, our personal and process safety outcomes are excellent and the mechanisms we use to get there work, but we want our results to be outstanding.

With this goal in mind, our EHS Strategy — *Our Journey to Zero*—was born. *Our Journey to Zero* is a blueprint to achieve what is already a clear objective for our company: to eliminate events that could inflict serious injuries to employees or contractors, or result in severe process safety events.

To help us achieve zero, employees are expected to:

- Understand and follow established procedures
- Reduce their own risk
- Speak up
- Keep learning

Our.  
to journey  
zero

Only when we work as a team will we be able to reach our goal of zero.

## Operational Excellence

### Striving for Operational Excellence

Our company utilizes a risk management process we refer to as our Operational Excellence (OE) System. The OE System is a global framework, that promotes continual improvement in certain focus areas, including personal and process safety, pollution prevention, product safety, security, distribution, and community outreach and awareness. The Chevron Phillips Chemical OE System is further

enhanced by welcomed input from our employees and contractors, regulatory agencies, communities, customers and other stakeholders. Our OE System is structured to meet requirements established by the American Chemistry Council's (ACC) Responsible Care® Management System. Adherence to codes and management practices are certified through third-party audits sanctioned by ACC.



**RESPONSIBLE CARE**®  
OUR COMMITMENT TO SUSTAINABILITY

### Recognizing Continuous Improvement

At Chevron Phillips Chemical, continuous improvement in OE performance is expected every year. While the effort can be challenging, the company annually recognizes the best of its global facilities with the President's OE Awards. These awards celebrate exceptional performance in personal and process safety, environmental awareness, product stewardship, reliability and security. Winners of the 2016 awards featured throughout this report are denoted by the gear icon.



### SPCo Safely Completes Company's Largest Turnaround

With 8,000 employees and contractors involved, and a budget of approximately \$126 million, the effort to conduct the largest-ever turnaround at Saudi Polymers Company (SPCo) was no small undertaking.

The goal from the beginning was to simplify this engineering challenge into something that could be safely and effectively managed. This was achieved by dividing the site into two areas. Each area had a separate access gate, including turnstiles and badge scanners, as well as separate satellite warehouses, hydro-jetting pads and teams.

Nearly 3.7 million work-hours were required to complete the complex project which comprised utilities, five production units, transfer bagging and logistics.



During the execution of the turnaround, approximately 60 safety coaches were present in the field to mentor and encourage the large number of employees and contractors to keep safety top-of-mind while performing their tasks. Leaders and subject matter experts from the Petrochemical Conversion Company (PCC), S-Chem, and Chevron Phillips Chemical also had a tremendous field presence, which aided in setting a successful tone for the entire turnaround.

## Facilities Recognized by American Fuel & Petrochemical Manufacturers



Chevron Phillips Chemical's facility in Borger, TX received the Elite Silver Safety Award from the American Fuel & Petrochemical Manufacturers (AFPM) at the organization's annual Safety Awards dinner in New Orleans. The Borger plant is the first Chevron Phillips Chemical facility to receive this award and did so in back to back years for both its 2015 and 2016 performance.

The AFPM Elite Silver Safety Award recognizes the top five percent of safety performers in the fuels and petrochemical manufacturing industry. Recipients are chosen by a selection committee made up of members of the AFPM Safety & Health Committee.



At the event, the Borger facility also received AFPM's Meritorious Safety Performance and Safety Achievement awards for exceeding award expectations for its employee total recordable incident rate and working more than 1 million hours without a lost employee workday due to injury. The plant recently observed three years without a recordable injury/illness.

Four other Chevron Phillips Chemical sites were also recognized by AFPM for their performance in employee and process safety, including Bartlesville, Oklahoma, and three facilities in Texas—Conroe, Port Arthur and Sweeny.

## Building a Sustainable Management of Change Process



In 2014, employees at our Research & Technology facilities identified a need to improve Management of Change (MOC) processes within their laboratory operations. With this in mind, a cross-functional team from the Kingwood Research and Technology Center, Bartlesville Technology Center and the Environmental, Health, Safety & Security (EHS&S) group was established.

Together they sought to develop a streamlined change management system, eliminate paper forms and improve workflow efficiency by utilizing a custom-built software application, which was designed in partnership with personnel from the corporate IT department.

The application was expanded over the course of 2016 to include an onboarding/personnel MOC module known as the Electronic Passport Program. The Electronic

Passport is a web-based tool that tracks new employee requirements to become active and productive members of their local facility, meet their colleagues and reinforce the messages of *Our Journey to Zero*.

Today the improved tool provides more than 150 specific questions developed by R&T staff that are directly related to the types of hazards found in a laboratory environment. These tools were recognized as a best practice by OSHA VPP auditors at the Kingwood Research and Technology Center audit in early 2015, and again during the 2016 corporate OE Review.

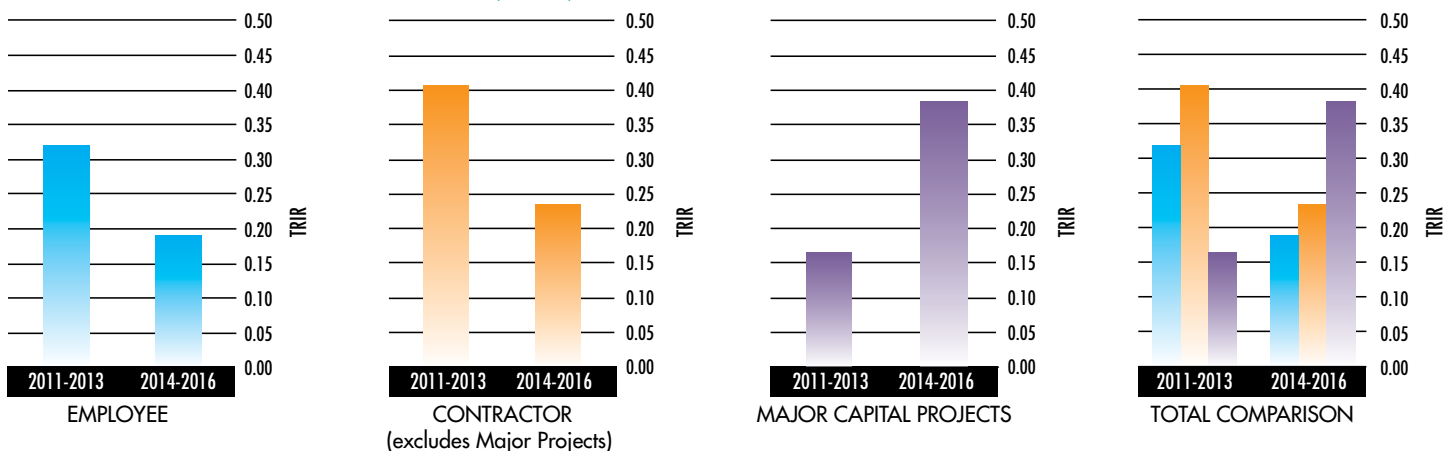
## S-Chem Supply Chain Meets Compliance Standards



In the Middle East, the Gulf Petrochemicals and Chemicals Association (GPCA) is an organization that serves 250 member companies of the downstream hydrocarbon industry in the region. In 2016, GPCA conducted a Sustainability and Quality Assurance Assessment (SQAS), with a focus on Logistics Service Providers (LSP) who transport and store chemicals on behalf of manufacturers. SQAS is an operational excellence program for the logistics industry, similar to American Chemistry Council's Responsible Care® initiative in the chemical industry.

The comprehensive third-party assessment serves to both evaluate and improve EHSS&Q performance among LSP companies. In 2016, all S-Chem supply chain contractors completed their assessments. This marked a significant milestone, as the company's in-kingdom supply chain is now fully SQAS and ISO 9001 compliant.

## Total Recordable Incidence Rate (TRIR)<sup>1</sup>



# Employee and Contractor Health & Safety

## Sweeny Achieves VPP Star Status

In September 2016, the company celebrated its Sweeny, TX facility being designated by the Occupational Safety and Health Administration (OSHA) as a Voluntary Protection Program (VPP) Star site. With this achievement, all of the company's U.S. manufacturing facilities now boast VPP Star status, the highest level of VPP certification.

The VPP Star award requires companies to go beyond minimal OSHA standards and provide the best feasible protection at the site via continuous improvement programs. OSHA first launched VPP in 1982 to promote effective worksite-based safety and health initiatives. VPP Star site recognition is OSHA's top-tier designation for exemplary worksites with comprehensive and successful safety and health management systems. Companies in the Star Program have achieved injury and illness rates at or below the national average of their respective industries.

For the last two years in a row, 16 of our facilities have operated without an employee or contractor recordable injury or illness,



with two of those facilities operating without a single employee or contractor recordable injury or illness since the company formed in 2000.

In 2016, Chevron Phillips Chemical created the VPP Coordinators Network Team to connect all domestic VPP coordinators and provide a forum for sharing best practices and lessons learned throughout the company.



## Managing the Heat

Each year during the hot summer months of May through September, Chevron Phillips Chemical promotes its global "Summer of Safety" campaign to heighten employee and contractor awareness of heat-related injury prevention. The theme in 2016 of "It's Personal" encouraged workers to:

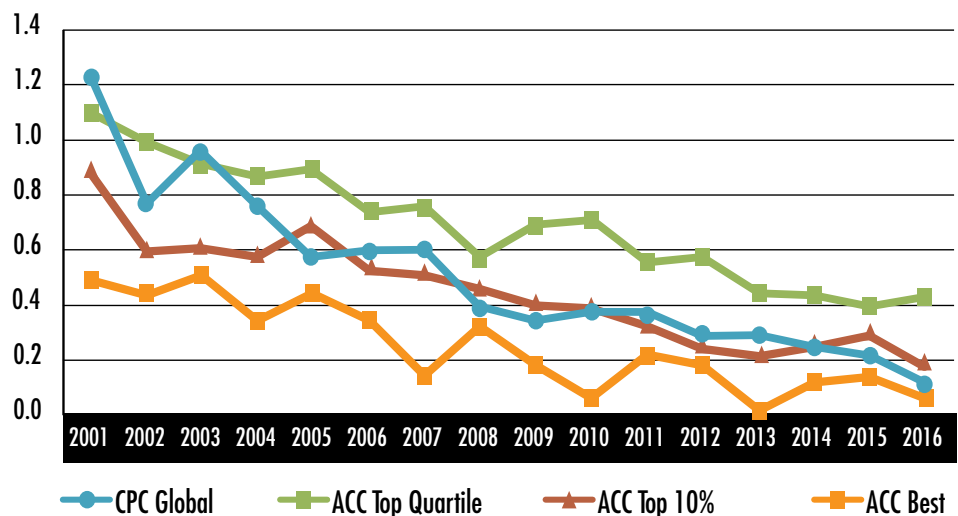
- Be aware of how personal factors, such as medications, lack of sleep and physical activity outside of work can affect job performance.
- Learn how to manage individual factors that can contribute to heat-related injuries.

When compared to 2015 summer months, we saw a 27 percent reduction in the number of combined employee and contractor injuries at our facilities (excluding major capital projects) and employees as a singular group experienced a 57 percent reduction in the number of injuries as a result of the campaign.

Of course, our goal is always zero injuries and incidents.



## Employee Performance vs. ACC Member Companies<sup>2</sup>



# Community Health, Safety & Security

## Partnering with First Responders in Our Communities



Chevron Phillips Chemical values the partnerships it shares with government agencies and first responders in the communities where we operate. The following are just a few examples of those partnerships in 2016.

The Borger Complex Emergency Response Team is a combined service with members from Chevron Phillips Chemical, Phillips 66 and Solvay. In 2016, the team completed a multi-agency response drill with Omnitrax, Panhandle Northern Railroad, Borger Fire Department, and the Borger Office of Emergency Management. This was the first drill led by the Borger facility that involved multiple outside agencies. The exercise simulated a small railcar chemical release, just outside the facility's property.

Multiple personnel from each group participated by responding in the field and the Emergency Operations Center



(EOC). At the conclusion of the drill, the partnering agencies offered valuable, positive feedback as to how the Borger Complex Emergency Response Team and Emergency Operations Center performed during the exercise.

In Asia, personnel from Chevron Phillips Singapore Chemicals (CPSC), as well as other companies at the complex, participated in a multi-governmental agency security exercise in October. The drill included representatives from the Singapore Civil Defence Force, Singapore Police Forces and Jurong Town Corporation.

The security scenario involved two unidentified intruders who were in the complex for nefarious purposes. This exercise served to evaluate the coordination between the complex and first responder government agencies, as well as to validate CPSC's Emergency Response Plan.

In Europe, employees at our facility in Tessenderlo, Belgium provided emergency response training to representatives from neighboring schools and institutes in November. Part of its annual Seveso Emergency Communication program, this effort helps keep the plant connected to its partners in the community.

## Bicycles Help Improve Conduct of Operations and Operational Discipline at the Borger Plant



In 2016, the Borger plant's goal was to train 100 percent of its employees in Conduct of Operations and Operational Discipline (COO/OD) principles, so a curriculum was developed in-house which involved having employees assemble bicycles. The assembly instructions would represent COO principles, and the actual work of bolting all the parts together would be relevant to Operational Discipline.

The hands-on exercise was ultimately a big success for the plant and its employees. The course helped each participant recognize the importance of referring to policies and procedures before continuing in a work process. In fact, the classes were so successful that the training team was invited to the VPP Regional Conference to share the lesson with other leaders in the industry.

At the completion of the plant training, six assembled bicycles were donated and delivered to *Women & Children First: The Center against Family Violence* shelter in Little Rock, Arkansas.

## Facility Security

Security at all Chevron Phillips Chemical facilities is a top priority, as the safety and security of our people, products and assets is an integral aspect of our business culture. As residents of the communities where we operate, we understand the importance of working closely with law enforcement, government representatives and emergency response professionals to prepare for, prevent and manage facility incidents.

Accordingly, Chevron Phillips Chemical is a member of the American Chemistry Council (ACC) and subscribes to the principles of ACC's Responsible Care® program, which includes the Responsible Care Security Code. In addition, Chevron Phillips Chemical's own Operational Excellence program has specific security related requirements for our facilities, including a requirement to conduct regular security risk assessments. Further, our individual petrochemical facilities are compliant with one or more additional security standards or regulations, as dictated by location, facility type, chemicals onsite, or products produced. The most typical are the Chemical Facility Anti-Terrorism Standards (CFATS), Maritime Transportation Security Act (MTSA), and DOT HM-232.

Chevron Phillips Chemical is also proud to partner with U.S. Customs and Border Protection (CBP) to better secure the international supply chain to the United States, and supports CBP's homeland security mission. CBP validated Chevron Phillips Chemical in 2008, 2011, and 2015 as a Tier II participant in CBP's Customs-Trade Partnership Against Terrorism (C-TPAT) program, a voluntary partnership between CBP and members of the trade community to safeguard the world's trade industry from terrorists.

While we manage our business with the goal of preventing incidents, we maintain world-class emergency response capabilities to minimize the potential impact of an event to our facilities and surrounding communities. Employee emergency response teams coordinate with local and regional experts to maintain operational readiness in case of an incident. This is accomplished through frequent emergency response training, briefings and drills that simulate potential events such as product spills, fires, explosions, natural disasters and security incidents.



## Process Safety



Several Chevron Phillips Chemical facilities were recently honored with awards from the Texas Chemical Council (TCC) for demonstrated commitment toward safe operations and exemplary results in 2016.

For the second consecutive year, the Pasadena Plastics Complex was awarded the Best in Texas and Distinguished Service awards. In 2016, the facility completed a major turnaround with no recordable injuries, conducted a successful health fair for employees and contractors, and logged nearly 8,000 volunteer hours in the community assisting with education in the schools, building a Habitat for Humanity home, cleaning a local veterans' cemetery and participating in the city's health and safety fair, among other activities. Additionally, the facility set new environmental records, achieving the lowest number of environmental recordable events (a 29 percent reduction from the previous year) and setting a record for the lowest number of Title V deviations, with a 43 percent reduction since 2013.

Other Chevron Phillips Chemical facilities recognized include the Baytown and Orange Plants, which both received Distinguished Service awards; the Port Arthur Plant, which received both the Distinguished Service and Zero Incident Rate awards; and the Borger Plant, which earned both the Zero Incident Rate and Zero Contractor Incident Rate awards.

### Performance Pipe Achieves Record Safety Performance

The Performance Pipe division of Chevron Phillips Chemical achieved an especially remarkable safety milestone in 2016, with no recordable injuries throughout the division compared to the industry average for 2015 of 4.40, which equates to more than 4 in 100 workers going home with an injury or illness. Performance Pipe's ability to send everyone home safely in 2016 was truly exceptional within its industry.



### What Gets Measured Gets Managed

There's a saying that "what gets measured, gets managed." This is certainly true when it comes to manufacturing. In 2016, we began implementing Meridium, our new Computerized Maintenance Management System (CMMS), at each of our wholly-owned facilities.

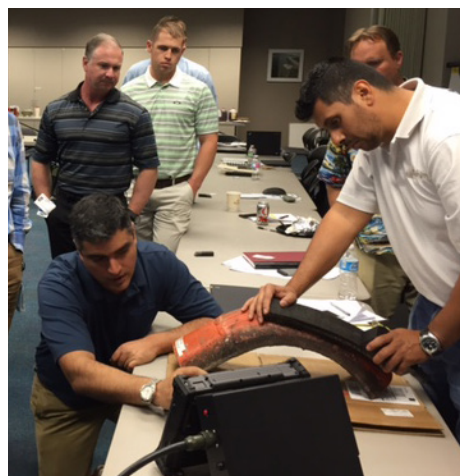
Rather than spending time manually searching through multiple systems and databases, employees can now obtain meaningful data, and have the ability to analyze it, using convenient dashboards and queries.

Highlighting our performance via standard outputs of key metrics on a periodic basis will help us drive continuous improvement in important areas such as personnel safety, process safety, equipment integrity and reliability behaviors across the company.

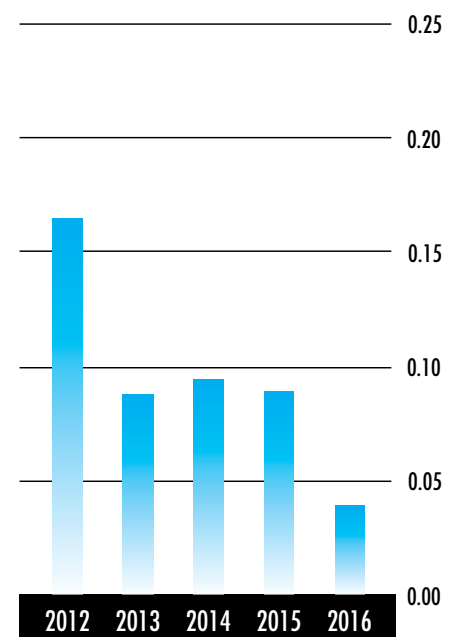
For our efforts in developing clearly defined work processes and driving a successful enterprise implementation of the CMMS, we were honored with the Asset Performance Management Best Practice Award in 2016, Meridium's highest customer achievement honor.

### First-ever Mechanical Integrity Summit

In 2016, Chevron Phillips Chemical hosted its first-ever Mechanical Integrity (MI) Summit, which brought together employees with varying years of experience from domestic and international facilities to discuss best practices in mechanical integrity. Together they discussed opportunities for improvement, with the overall goal of increasing alignment and standardization across our company and further enhancing performance.



### Tier 1 and Tier 2 Process Safety Event Rate<sup>3</sup>



# Resource Efficiency

We strive for continuous improvement in the usage of all resources required to manufacture our products. This commitment toward shaping our future includes implementing corporate practices to more efficiently use energy, water, and raw materials, which affect the company's environmental footprint and profitability.

Ten years ago, Chevron Phillips Chemical implemented its Energy Best Practice Team to establish a baseline and measure ongoing energy performance, as well as to implement projects to reduce energy consumption. Today, the Energy Best Practice Team is still going strong and in 2016 continued its focus on flare operation, steam system performance for energy savings and plant reliability, and awareness of fresh water consumption and efficiency, resulting in sustained energy improvements.





# Energy Efficiency and Conservation

## 5 Facilities Receive ACC Awards for Energy Efficiency

For the company's conservation efforts, five of Chevron Phillips Chemical's facilities were recognized with the American Chemistry Council (ACC) Responsible Care® Energy Efficiency Awards for 2016 performance, with a total savings of 1.5 trillion Btu's of energy. All five projects received "Significant Improvement in Manufacturing" honors, which are given to companies that improve energy efficiency in their manufacturing operations through technological innovations, creative projects or novel procedures or actions.

The Orange, TX plant received an award for "Significant Improvement in Manufacturing, Operating Unit." This was a direct result of the Orange plant's Reactor Improvement Team, which seeks to improve the reliability and energy efficiency of the facility. As a result of the Improvement Team's efforts with its Gas Phase Unit, the plant reduced its energy consumption per pound of product, saving 163,000 million Btu of electricity, fuel and steam throughout 2016. The equivalent greenhouse gas (GHG) emissions reduction was 9,400 tons of CO<sub>2</sub>.

Our facility in Sweeny, TX received an Exceptional Merit award for "Significant Improvement in Manufacturing, Operating Unit." The Olefins Unit improved its energy efficiency performance by executing key efforts in its March 2016 turnaround. These efforts included various repairs, cleanings and upgrade projects. As a result, the Unit reduced its energy consumption per pound of product from 2015. This equates to 620,000 million Btu per year energy saved, and a GHG emissions reduction of 36,000 tons CO<sub>2</sub>.

Our Port Arthur, TX plant also received an Exceptional Merit award for "Significant Improvement in Manufacturing, Plant Site." The facility implemented changes to its dryer regeneration procedures to reduce the amount of nitrogen used, which in turn reduced the use of supplemental fuel gas for the flare system. From April through December of 2016, the facility saved 235,000 million Btu of fuel gas and reduced CO<sub>2</sub> emissions by 13,800 tons.

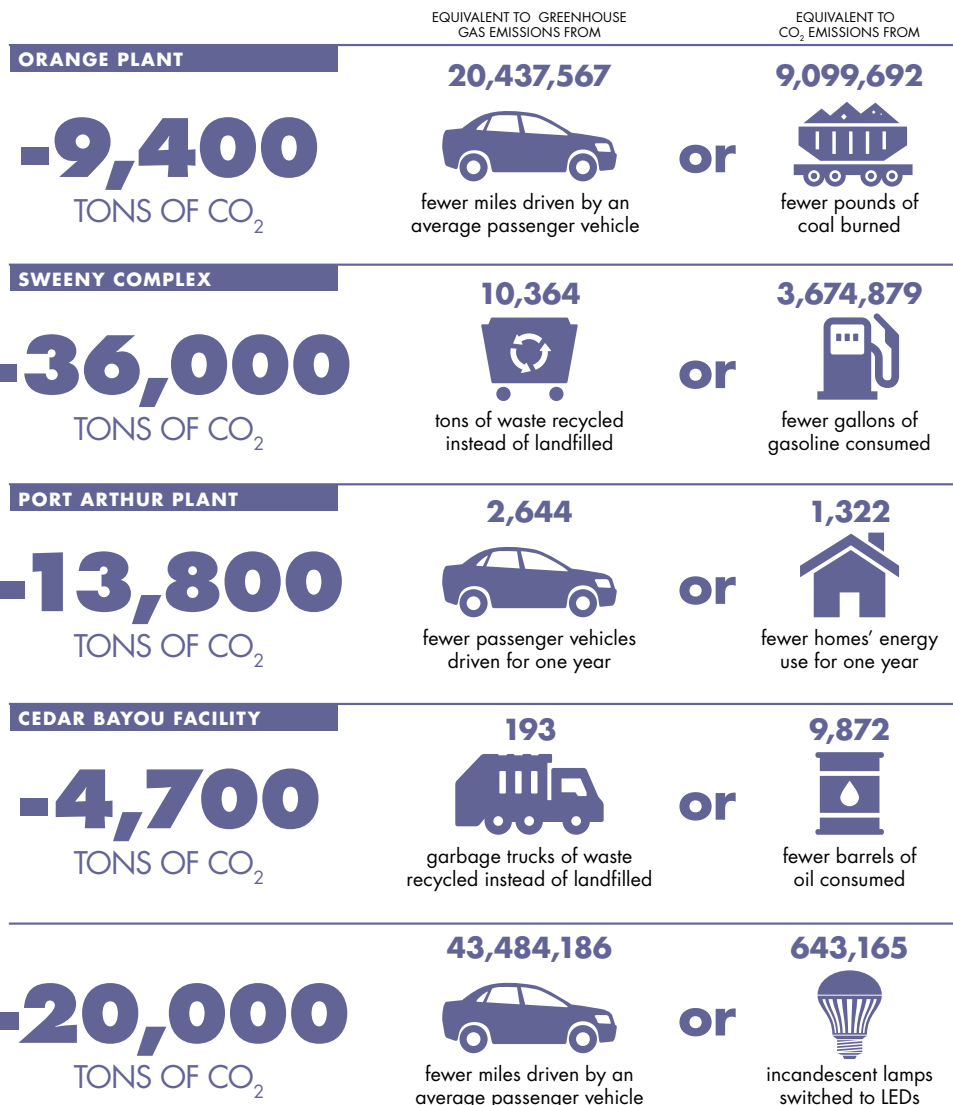
The Cedar Bayou facility in Baytown, TX received two awards. One of Cedar Bayou's Polyethylene Units received an

award for "Significant Improvement in Manufacturing, Operating Unit." This was a result of advances made to its energy efficiency performance through increased reliability and capacity utilization, which helped reduce its energy consumption per pound of product from 2015. These energy reductions equate to a savings of 84,000 million Btu of electricity and fuel gas. The equivalent GHG emissions reduction was 4,700 tons of CO<sub>2</sub>.

In addition, the Cedar Bayou Alpha Olefins sector received an Exceptional Merit award for "Significant Improvement

in Manufacturing, Plant Site." The team enhanced its energy efficiency performance through a combination of continuous improvement focus areas utilizing the company's Operational Excellence (OE) program. There are four Alpha Olefins units at Cedar Bayou, producing normal alpha olefins (NAO), polyalphaolefins (PAO) and 1-hexene. The entire sector reduced its combined energy consumption per pound of product from 2015. These energy reductions equate to a savings of 347,000 million Btu of electricity and steam. The equivalent GHG emissions reduction was 20,000 tons CO<sub>2</sub>.

## Energy Savings<sup>4</sup>



**TOTAL SAVINGS OF 1.5 TRILLION BTU'S OF ENERGY**

## U.S. Energy Consumption

The company's U.S. annual energy consumption in 2016 was 125 trillion Btu, which is 3 trillion Btu lower than in 2015. The decrease was the result of energy efficiency projects and slightly lower production, partly offset by planned turnaround activities.

Energy efficiency is determined by measuring energy performance in terms of Energy Intensity (EI) and the Energy Intensity Index (EII) for each operating unit. A baseline EII of 100 was established in 2008.

Chevron Phillips Chemical's U.S. energy index increased in 2016. The U.S. Annual EII was 101.6, compared to the 2015 EII of 99.5. The increase was mainly attributed to planned shut-down and startup activities associated with two major turnarounds for improving the long-term efficiency of those facilities.

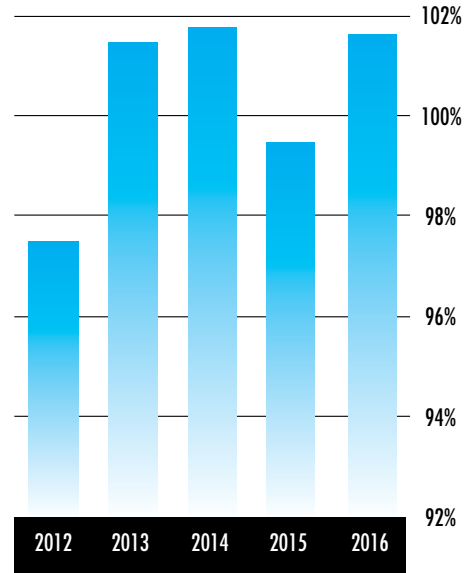
The increase offset energy improvements implemented throughout the year in the U.S. such as:

- The implementation of several energy projects across the company, including five announced winners of the ACC Responsible Care® program, saving 1.5 TBtu
- Work practices and tools to continuously optimize process and steam systems
- Upgrading facility light fixtures to LEDs

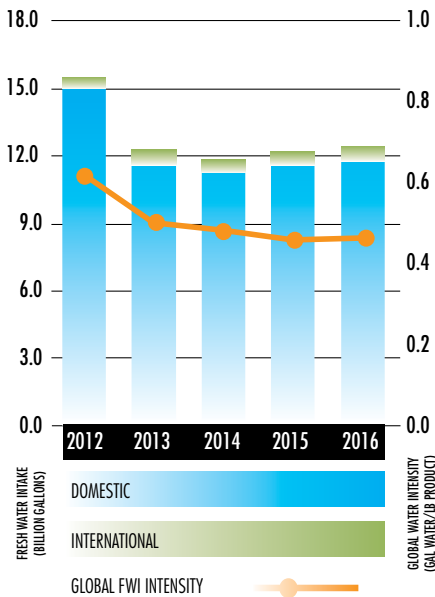
In the long term, Chevron Phillips Chemical's expansions will incorporate new process technology to continuously improve the company's energy efficiency, including the completion of more efficient polyethylene and olefins facilities at our Baytown and Old Ocean, TX facilities as part of the U.S. Gulf Coast Petrochemicals Project.

## US Manufacturing Energy Intensity<sup>5</sup>

Actual Energy Consumed Divided by Expected Energy Consumption



## Fresh Water Intake<sup>6</sup>



## Global Water Consumption

The management and conservation of fresh water resources is critical to the sustainability of our business, our communities and our future. At Chevron Phillips Chemical, we are committed to the ongoing development of management practices, that conserve and protect fresh water resources, as well as enhancing water efficiency at our facilities.

Water is a critical element used at all of our manufacturing facilities to generate steam and cooling water, which is required for the balanced and efficient creation of olefins, polyolefins and many other chemical and plastic products.

Nearly all Chevron Phillips Chemical facilities partner with neighboring third-party manufacturing plants to share and recycle water for multiple uses, thus reducing the overall water consumption used by industry.

Our 2016 total fresh water usage at international sites was lower than in 2015, while our domestic usage showed a minimal increase. On balance, global fresh water use has been stable.



## Quality H<sub>2</sub>O at Cedar Bayou

If you had to name one of the compounds we use to make plastic, water would probably not be the first thing to come to mind. Nevertheless, it's used in every region of our facility and might be the only compound that leaves our plant to re-join the natural environment. Here's a brief look at our stewardship of this most basic and necessary natural resource.



### Cedar Bayou

**6** Once process water has completed its treatment cycle, it is discharged out to Cedar Bayou to rejoin the natural environment.



### Test Samples

**5** After clarification, samples are collected for testing purposes. Biomonitoring is done periodically to test the toxicity of the water we discharge to Cedar Bayou. During these tests, shrimp and inland silverside minnows (representative of life within Cedar Bayou) are

exposed to varying concentrations of our effluent water to assess the effect it has on their survival and reproductive rates.

"Most of our results come back with 100% survival rates, compared to our permit requirement of 67%," said Environmental Specialist Joe Reza. "There have actually been instances where Cedar Bayou water has killed the test animals and we have not, but that hasn't happened since 2013. We pass our biomonitoring with flying colors."



### Raw Water Canal

**1** Raw water (provided by the San Jacinto River Authority) comes into the plant via the raw water canal.



### Pulsator

**2** It's pumped from the canal to the pulsator, where chlorine and polymers are added to clarify the water. It's then distributed to the site, primarily for use as cooling tower make-up (60%). Some of the clarified water (20%) is further treated and combined with condensate to make steam, which is distributed to the process units.



### Biotreater

**3** When it has reached the end of its useful life, process water gets sent to wastewater treatment for biotreatment. This is where the magic happens. Here, process wastewater goes through a de-contamination process that can take the level of TOCs (total organic carbons) from 117 ppm down to 9.9 ppm. That's a 91.5% reduction! What makes this possible are the microscopic organisms (bugs) that grow by feeding on chemical waste. The abundance of food, oxygen and space in the biotreater create an optimum environment for them to feed, grow and reproduce. And as they feed and grow, the water is cleaned.



### Clarifier

**4** Water from the biotreater is then sent to clarifying tanks, where solids and sediment are removed.

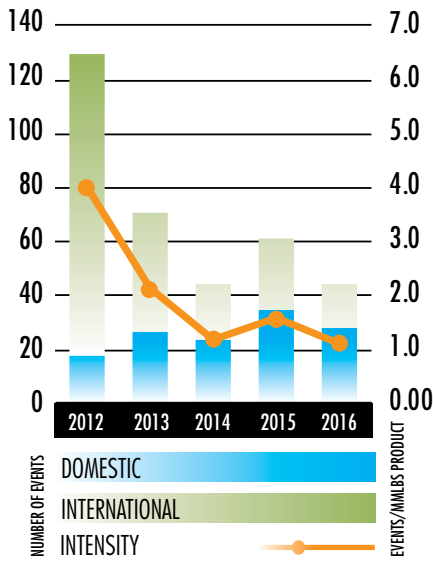
# Emissions

At Chevron Phillips Chemical, we track and work to reduce emissions generated throughout the lifecycle of our products to shape a better future for our environment. We accomplish this by tracking emissions generated during production, evaluating the sourcing and transportation of raw materials, selecting transportation options to direct customers, and considering the use of products through the end or renewal of their life.

To improve our emissions reduction performance, we have implemented tools to monitor emissions events and intensity. We've also continued to enhance our Mechanical Integrity program, which seeks to ensure that our process equipment is properly constructed, installed and maintained to improve unit safety and operational reliability.



## Reportable Emission Events<sup>7</sup>



### Reportable Emission Event Metrics

We monitor and investigate global emission events to demonstrate good stewardship of the environment. In 2016, we tied our previous record best performance year for the fewest number of reportable emission events globally. We also achieved our lowest intensity rate in 2016, reducing it by 65 percent from 2012. Our goal is to not only repeat but to improve upon our 2016 record performance.

Additionally, we have invested in new and improved technologies for our U.S. Gulf Coast Petrochemicals Project to help further reduce potential emissions.

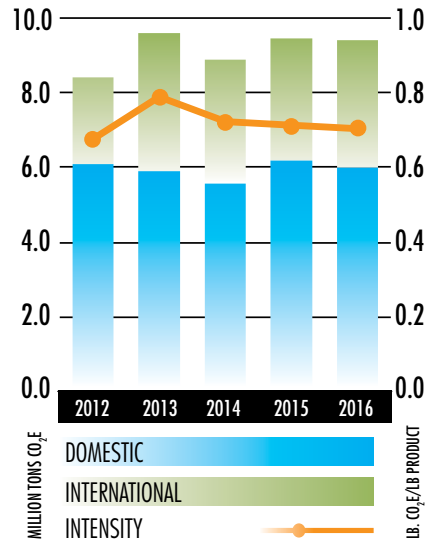
### Optimizing Our Operations

Chevron Phillips Chemical is always looking for ways to improve efficiencies and reduce emissions, not only in the way we manufacture products, but also in their transport. In 2016, this was accomplished by utilizing existing underground pipelines for transporting products to the local port instead of using large trucks.

Using the pipeline resulted in the elimination of approximately 25-30 truck deliveries per day between our Cedar Bayou facility and the port, improving safety on the road, decreasing the potential for quality issues such as peroxides from transportation and reducing transportation VOC emissions by approximately 15 percent.

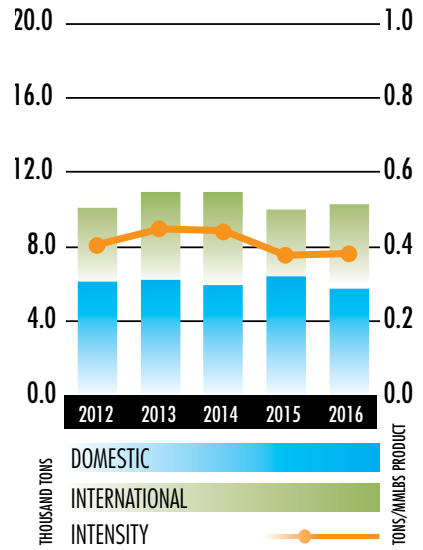
## Greenhouse Gas Emissions and Intensity<sup>8</sup>

(direct and indirect)



## Global Emissions Inventory<sup>9</sup>

(aggregated NO<sub>x</sub>, SO<sub>2</sub>, CO, VOC, PM<sub>10</sub>)



## Greenhouse Gas and Global Emissions Inventory

Since our inception, Chevron Phillips Chemical's global operating capacity has grown to historically high levels of production. With this growth comes additional usage of resources and energy, which can increase emissions of greenhouse gases (GHG) and criteria pollutants such as NO<sub>x</sub>, SO<sub>2</sub>, CO, VOC and PM<sub>10</sub>. In 2016, we saw a slight decrease in global GHG tonnage from 2015, and a slight increase in criteria pollutants.

The GHG intensity metric is the measurement of pounds of CO<sub>2</sub> equivalent emissions per pound of product manufactured. The Global Emissions Inventory & Intensity metric is the tons of criteria pollutants per million pounds of product manufactured.

In 2016, corrections and refinements were also made to improve the accuracy of previously reported data.



# Integrity & Compliance

We pride ourselves on our strict adherence to all applicable laws and regulations. Our license to operate is ensured by the integrity with which we meet our compliance obligations and the level of ethics we require of our employees, suppliers and customers.

Chevron Phillips Chemical's reputation with stakeholders is built by the actions we take every day. To us, maintaining this reputation is simple: we comply with the law, we act with integrity in every aspect of our business, we keep people safe, and we operate in an environmentally responsible manner. Integrity is part of who we are, and as we continue to focus on our vision of becoming the premier chemical company, achieving superior financial results while protecting people and the environment, it is more important than ever that we conduct our business safely, lawfully and ethically.



## Core Values

Our core values—safety, mutual respect, integrity and performance driven—are embodied in our Code of Conduct, which establishes the standards for ethical conduct and compliance with laws that apply to all of our employees.

- Employees are required to complete annual training on the Code of Conduct and to certify their compliance with its standards, or disclose any exceptions.
- Those who violate the spirit or letter of our Code of Conduct are subject to disciplinary action up to and including termination of their employment.
- We maintain a 24/7 ethics and compliance hotline where employees, contractors, community members, and other stakeholders may anonymously report via telephone or online portal good faith concerns regarding potential ethical misconduct or violations of law or policy. Each report is handled with the seriousness and attention it deserves.

## Code of Conduct

Our Code of Conduct reflects our core values and establishes the principles that guide our conduct.

The Code includes (but is not limited to) the following topics:

- Employment practices
- Environmental, health, safety & security, including information regarding our Operational Excellence system
- Privacy of information
- Intellectual property
- Anti-boycott
- Anti-corruption
- Global trade
- Fair competition
- Internal controls and fraud



## Continuous Improvement

As the global business landscape constantly evolves, our Ethics & Compliance Office seeks to continuously improve our policies, practices and training to adapt to the ever-changing regulatory and compliance environment.

For example, to improve our Integrity and Compliance practices, we have added human rights issues to our supplier and contractor dialogue, and began investigating processes to evaluate suppliers' compliance with anti-slavery and anti-human trafficking laws.

## Governance

Conducting our business with integrity requires an organizational structure that encourages ethical behavior and helps detect and prevent criminal conduct. That's why our Ethics & Compliance Program includes roles for a cross-section of our stakeholders, from our Board of Directors to front-line supervisors and employees.

## Supply Chain

We conduct all business activities in accordance with the highest ethical standards and we expect the same of our supplier base. Our supply chain practices integrate sustainable procurement criteria, our values and respect for human rights. We support the protection of the environment and society by seeking goods and services that are resource-efficient, while also balancing quality, availability and cost considerations.



# Product Responsibility

Chevron Phillips Chemical's products play a large role in shaping the lives of people across the globe, a responsibility we don't take lightly. We test and communicate results pertaining to the health, safety and environmental impacts of our products, including factors such as intended use, expected product lifetime, durability, reuse, recyclability and beneficial disposition.

Since our company's formation, our priority has been to create products and offer services that make life better for people around the world. The polymers and petrochemicals we produce are essential to the manufacture of more than 70,000 consumer and industrial products. From creating resins that consume less energy during processing and developing proprietary technology that improves quality of life, to manufacturing a product that helps make sunscreen waterproof, our chemicals and plastics benefit society in innumerable ways.





## Product Integrity

Chevron Phillips Chemical's Operational Excellence system continually drives us to provide quality products safely and efficiently. As a matter of policy, we strive to manufacture, handle, and transport our products safely and securely while using environmentally conscious practices. Further, we work with our carriers, distributors and contractors to encourage compliance with these goals.

Chevron Phillips Chemical continually monitors the performance of its third-party service providers. Bulk terminals, warehouse and box delivery providers are audited or reviewed on a yearly basis to assure that product integrity procedures are in place and being followed.

### SPCo Achieves ISO 9001:2015 Certification

Saudi Polymers Company (SPCo) achieved certification for the new ISO 9001:2015 standard in 2016. Although this certification is primarily a program in the United States, the effort was undertaken to satisfy customer product requirements, and covered the manufacture of polyethylene, polypropylene, polystyrene, and 1-hexane, as well as in-kingdom supply chain activities.

### Regulatory Compliance

Chevron Phillips Chemical remains vigilant in its effort to comply with regulatory requirements throughout the world. Through our membership with the American Chemistry Council (ACC), we are better able to keep up to date with existing and developing global chemical control laws.

Currently, 13 countries have formal chemical control laws, with which Chevron Phillips Chemical complies. Our REACH (Registration Evaluation and Authorization of Chemicals) Compliance efforts required by the European Union are on track. In the U.S., Chevron Phillips Chemical actively supported efforts to modernize the Toxic Substances Control Act (TSCA), providing the regulatory certainty needed to help our industry innovate, grow, create jobs and win in the global marketplace. The company is poised to comply with amendments to TSCA.

In addition, we support a total of 16 country-specific Safety Data Sheets formats in 34 languages.

## Innovative Customer Service

Customers have a choice when it comes to deciding with whom they conduct business. That's why ensuring that our customers are highly satisfied is critical to the long-term success of our company. With major strategic expansions such as the USGC Petrochemicals Project nearing completion, modernization of our legacy Customer Feedback System (CFS) was essential.

After two years and thousands of work-hours put in by an enterprise-wide global team, a complete bottom-up redesign of the CFS was deployed worldwide. At its core, the CFS system captures customer feedback and facilitates improvement to product and service quality.

The new CFS is a web-based, mobile-enabled cloud solution that boasts user friendliness, functionality and accessibility. It comprises five modules—customer feedback, supplier feedback, investigation and tracking, action items and a knowledge base.

Since its launch, the system has been accessed nearly 7,000 times with more than 60,000 user actions logged, with overwhelmingly positive feedback from users.



## Education

### EVERY Day is Earth Day

From milk jugs and detergent bottles to produce bags and cereal liners, plastic products help make everyday life more convenient. Better yet, many of these products can be recycled.

Coinciding with Earth Day 2016, Chevron Phillips Chemical produced a series of videos and other resources to educate the public about all the types of plastics that can be recycled, how easy it is to do so and where people can deposit recyclable items.



Visit [www.cpchem.com/filmrecycling](http://www.cpchem.com/filmrecycling) to view the videos, print your own refrigerator poster or find a film recycling drop-off location near you.

### Performance Pipe Partners with Distributor to Offer Training

In 2016, Lee Supply, a valued distributor of Performance Pipe, sought assistance in developing new training for a regional energy company.

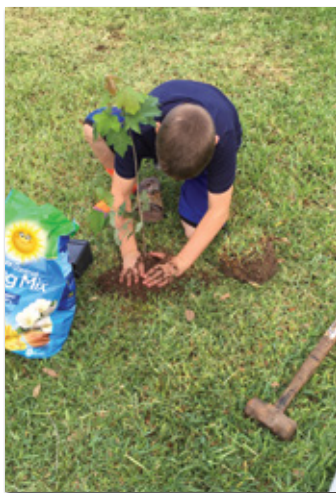
The distributor arranged for representatives from Performance Pipe to conduct the training during one of the energy company's quarterly safety meetings. The comprehensive training focused on five subjects: the Performance Pipe and DriscoPlex safety philosophy, lifting/handling polyethylene pipe and fittings, loading/unloading and transporting polyethylene pipe, pipe and fittings storage, and installation safety guidelines. Following the training session, Performance Pipe received very positive feedback from both Lee Supply and the regional energy company.



### Improving Efficiencies with Licensee Information Exchange Meetings

The process technologies developed by Chevron Phillips Chemical for manufacturing many of our products are a source of great pride for our company. Several of our proprietary manufacturing process technologies are licensed to other companies around the world. This also helps ensure product consistency for both customers and end users alike.

In the second half of 2016, Chevron Phillips Chemical conducted Information Exchange Meetings (IEM) with many of our licensees from around the world, with a typical IEM consisting of more than 100 participants and vendors. The meetings, held in Houston, Texas, brought together representatives from our manufacturing and technology facilities to engage with licensees and vendors. These meetings provided an opportunity for the exchange of ideas related to operation of our proprietary technologies and included discussions on safety, operational excellence and best practices.



### Operation Clean Sweep®

Our pellet-producing facilities in Pasadena, Baytown and Orange, TX participate in Operation Clean Sweep®, a program sponsored by the American Chemistry Council and the Plastics Industry Association.

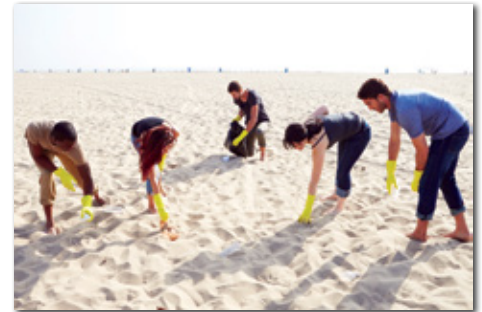
Operation Clean Sweep® promotes voluntary best management practices to help control the accidental release of plastic pellets into the environment. To help raise awareness about this program in 2016, members of our team participated in an Operation Clean Sweep® video that details measures we, along with other companies in the plastics industry, are taking to ensure that pellet, flake and powder loss doesn't end up in the marine environment.

Visit <http://bit.ly/2rjzpQu> on YouTube to learn more about Operation Clean Sweep® and how companies like Chevron Phillips Chemical are making a difference.



### Sweeny Complex Celebrates Arbor Day with Local Elementary Students

In 2016, employees of the Environmental, Health and Safety Excellence Team at the Sweeny Complex celebrated Arbor Day with Sweeny Elementary School. Third graders at the school were challenged to illustrate what Arbor Day meant to them in an art contest. The top three winners received a gift card and the top 12 best illustrations were published in Sweeny's 2017 shift calendar. What's more, all 175 third graders walked away with a crepe myrtle tree to plant and more information on how trees help improve the environment.



### Leading by Example to Eliminate Marine Litter

The global issue of marine litter requires local, regional and global partnerships, along with personal action, in order for solutions to be effective. Chevron Phillips Chemical is a leading member of the World Plastics Council, which supports the Trash Free Seas Alliance to work toward solutions for eliminating ocean debris. Each year, many of our employees also volunteer to collect trash along beaches and waterways to help raise environmental awareness, and keep our communities clean.

On October 14, 2016, volunteers from our Asia region headquarters were mobilized to assist with beach cleanup along Changi Beach in Singapore. The environmental awareness project encouraged participants to take greater ownership in caring for our planet and keeping our communities clean.

## Products that Reduce Environmental Impact

**Dimethyl disulfide** is used to reduce coking and extend catalyst life in the manufacture of commercial fuels from environmentally friendly feedstocks, such as non-edible natural oils and agricultural waste.



**Soltrol® isoparaffin** solvents carry the Low Vapor Pressure/Volatile Organic Compounds (VOC) designation in the State of California and meet Food and Drug Administration regulations for use in a variety of applications, including animal feeds, defoamers, cosmetics, household goods, water treatment products, waterless hand cleaner, paper for dry food contact and lubricants with incidental food contact.



**Marlex®** high density polyethylene (HDPE) products are used in rigid packaging formats that are widely recycled, including milk, detergent, oil and pharmaceutical bottles, and coffee containers. We also produce polyethylene resins that can be used with recycled resins.



**Marlex®** polyethylene is used in flexible packaging that reduces food waste by extending the shelf-life of pre-packaged fresh produce, meats, cheeses and bakery items. Flexible packaging made with Marlex® polyethylene also provides more efficient transportation of packaging to filling sites. As an example, the use of flexible packaging for pasta sauces reduces the number of truckloads of unfilled packages from 26 for unfilled glass jars to 1 for an equal number of unfilled plastic pouches.

Low viscosity grades of **Synfluid®** polyalphaolefins allow our customers to produce bio-based aerobically biodegradable lubricants with excellent product properties when blended with vegetable oils. PAOs also allow formulators to produce energy efficient synthetic engine oils with long drain intervals, both of which provide environmental benefits by reducing fuel consumption and reducing the amount of waste oil.



Performance Pipe's **HDPE pipe systems** require significantly less energy to fabricate, transport and install than metal or concrete alternatives, in part because HDPE is flexible and can be fused, which allows for trenchless installation. Corrosion resistance and long service life, along with the energy savings, provide an exceptional balance of economic value and performance. In addition, HDPE pipes are resistant to rapid crack propagation and can be joined by a heat fusion process that results in joints that are essentially leak free. These advantages make HDPE pipe the preferred choice for municipal gas distribution systems, help prevent sewage toxins from contaminating soil and groundwater, and preserve natural resources in other applications such as water distribution.

### HDPE Resins Extend Life of Product

ADS® MEGA GREEN® pipe is designed for a variety of storm water management applications and has the added benefit of containing a minimum of 40 percent recycled content. Leveraging the ADS® Material Science technology that has been developed over the last 25 years, MEGA GREEN® pipe contains Chevron Phillips Chemical's HDPE resins, which when combined with select high quality HDPE recycled materials, brings outstanding mechanical properties and long-term service life to the project owners.



### Lighter Weight HDPE Milk Jugs

Over the last several decades, milk jugs made from plastic like our Marlex® HDPE have evolved to the point that they are now more environmentally friendly than bottles made with a renewable alternative polymer. It determined that HDPE produces 34 percent less waste, emits 40 percent less greenhouse gases (GHG) and uses 25 percent less energy than PLA; compared to gable top cartons, HDPE produces 39 percent less waste and emits 24 percent less GHG; and HDPE produces 80 percent less waste and emits 38 percent less GHG compared to refillable glass bottles.



**Scentinel®** gas odorants are used as stanching agents which are added to inherently odorless natural gases, such as propane, to enable quick detection of leaks for safety and to help minimize environmental releases.

Chevron Phillips Chemical's **Sulfole® 120 mercaptan** is being used by adhesive manufacturers as a polymer modifier to create adhesive properties in a pre-planting soil designed to plant multiple trees more efficiently and improve their chances of growth.



**EcoSolv®** Dry Cleaning Fluid is a 100 percent biodegradable, hydrocarbon-based substitute for the perchloroethylene (PERC) traditionally used for dry cleaning, which is not readily biodegradable. Virtually odor-free, EcoSolv® DCF is easily recycled, filtered and distilled within the cleaning process to remove impurities and is ideal for cleaning delicate fabrics and accessories, such as special trim and buttons.



## Products that Improve Safety



In addition to their environmental benefits, **Scentinel®** gas odorants provide suppliers an effective warning system for leaks to help ensure the safety of their products.

**Performance Pipe products** and **Marlex® HDPE** are used in highway crash barriers across the U.S.



**Orfom® D8 Depressant** is used to separate molybdenum from copper, an important process for many electrical applications. Its aqueous solution maximizes safety, minimizes handling issues associated with alternative reagent

preparation and is less odorous and toxic than most traditional depressants. Chevron Phillips Chemical's **Orfom®** CO-210 is used in mining applications to increase the recovery of desired metals such as copper or molybdenum while significantly decreasing the objectionable odor such reagents have produced in the past.



**Marlex®** polyethylene doubles the life of outdoor structures as compared to an industry standard UV-8\* rated rotomolding grade resin. Rotomolded products made with Marlex® polyethylene provide environmental stress cracking resistance so they do not need to be replaced as often, which means less material usage, lower cost of upkeep and less cost over the lifetime of the structure.

*\*A UV-8 rating is determined by testing materials via ASTM 2565, Cycle 1 conditions. Our certified ASTM 2565, Cycle 1 > UV-16 rated roto products offer twice the outdoor lifetime over normal UV-8 products when exposed to similar outdoor conditions.*

## Products that Improve Health

**N-propyl mercaptan** is used in agricultural applications to deter nematodes from infesting potato and sweet potato crops.

**Methyl mercaptan (MeSH)**, produced by our Borger facility, is used to create an amino acid that promotes growth and reproductive health in poultry, fish and livestock.



**Ethylthioethanol (ETE), N-Heptane, and N-propyl mercaptan** are used in the health and pharmaceutical industries.



 *To learn more about our innovative products, check out our company overview video—A World of Possibilities—on YouTube.*

# Social Enrichment

At Chevron Phillips Chemical, we realize that while it's important to invest in our facilities around the world, what truly sets us apart is our investment in the people and the communities that will help shape the future of this company.

To this end, Chevron Phillips Chemical has made significant efforts in workforce development, educating women, veterans, students and our communities about careers available in the petrochemical industry. Additionally, we continue to invest in opportunities for current and incoming employees through our diversity and inclusion programs, as well as training, learning and development opportunities.

In 2016, we continued to dedicate time and resources to the communities where we live and work. Our employees around the globe contributed nearly 20,000 volunteer hours to community outreach efforts, including building homes, conducting fundraisers and providing educational opportunities to students.



## Workforce Demographics

At Chevron Phillips Chemical, we believe our employees are key to shaping our future. As a result, we continually evaluate employee programs and ensure that they are flexible across generational and service groups to provide employees the resources they need to be successful.

Based on employee demographic data, we project that 34 percent of our current U.S.-based workforce will be retirement eligible in the next few years.

Ten years ago, 20 percent of the company had fewer than five years of service with Chevron Phillips Chemical. Today, that number is 37 percent. Generation Y/ Millennials (1979-1994) now comprise 32 percent of employees, compared to 4 percent just ten years ago. Generation X and Baby Boomers are almost equally represented.

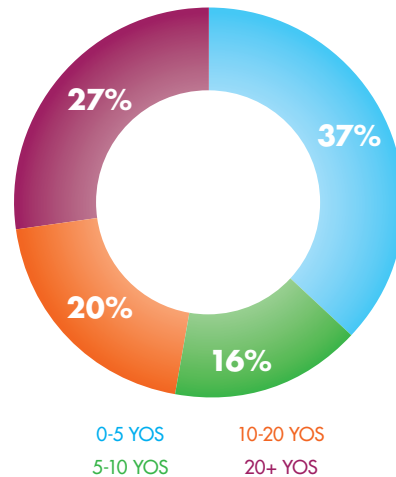
To prepare for these generational changes in the workplace, we built and expanded programs to train, hire and retain top talent, and to improve the overall employee experience. We continue to implement our Diversity & Inclusion (D&I) programs, led by our ICARE principles of Inclusion, Cooperation, Accountability and Respect, so that employees of varied backgrounds work together most effectively.

### Chevron Phillips Chemical Ranked a Top Company for HR

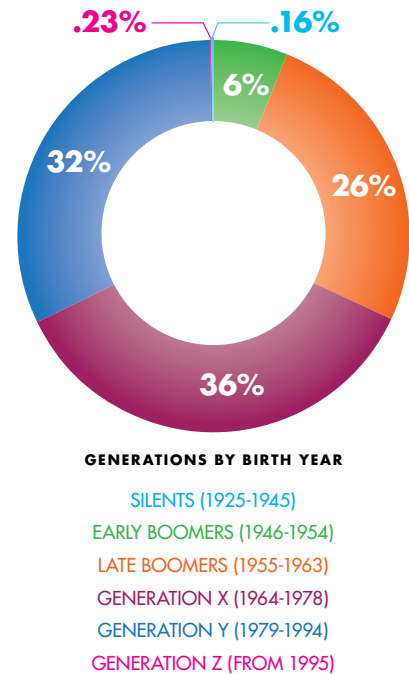
Chevron Phillips Chemical was ranked 54th in the 2016 Workforce Magazine list of the World's Top 100 Companies for Human Resources. In its third annual ranking, editors at Workforce Magazine collaborated with researchers from Human Capital Media Advisory Group, the magazine's research arm, to compile the list. With this honor, we join the ranks of other leading companies such as Facebook, Google and Nike.

Companies named in the final results demonstrated high performance in the following core categories: workplace culture, employee benefits, diversity and inclusion, employee development and talent management, HR innovation, leadership development and talent acquisition. Researchers utilized publicly available data from established ranking and benchmarking programs in determining the results.

## Headcount by Years of Service



## Headcount Split by Generation



### Chevron Phillips Chemical Named 2016 Top Workplace

For the third year in a row, Chevron Phillips Chemical was awarded a 2016 Top Workplaces honor by the Houston Chronicle.

Of the 281 small, midsize and large companies surveyed, Chevron Phillips Chemical placed 18th in the large employer category, four spots higher than the company's ranking in 2015.

The Top Workplaces lists are based solely on the results of an employee feedback survey administered by WorkplaceDynamics, LLC, a leading research firm that specializes in organizational health and workplace improvement. Several aspects of workplace culture were measured, including alignment, execution and connection.



# Building a Strong Talent Pipeline for the Future

## Spreading Awareness about Supply and Demand of Technically Trained Workers

The United States is in the midst of a manufacturing renaissance, sparked by a wave of new investment along the Texas Gulf Coast and creating a surge in demand for skilled craft and technical workers.

To help spread awareness, Kate Holzhauser, Vice President of Environment, Health, Safety and Security (EHS&S), spoke to more than 200 industry professionals at the Petrochemical Workforce Development Conference in April 2016.

Holzhauser spoke not only about the challenges the petrochemical industry faces when it comes to hiring enough skilled workers, but also the opportunities for those looking for an engaging and lucrative career path.

## Inspiring Career Awareness



JA Inspire, a career awareness event facilitated by Junior Achievement of Southeast Texas and the local business community, is aimed at helping young people select their endorsement track options by giving them access to real companies and potential jobs.

Endorsements are part of a State of Texas requirement for students to select a track that provides focused curriculum in high school for specific career pathways.

Sponsored by Chevron Phillips Chemical and 72 other local employers, JA Inspire gave students the opportunity to interact with Houston-area businesses through industry presentations, career stations and a soft-skills course.

Throughout the 2015-2016 school year, more than 30,000 seventh and eighth graders in 14 Houston-area school districts participated across ten events.



## Social Media Challenge Encourages Teens to Think about Future Careers

Chevron Phillips Chemical took to social media in a new way in 2016 to encourage teens to think about their future careers. Called the Super Cool Career Shades Challenge, students ages 13-18 in southeast Texas were invited to post a photo, video or original artwork to Instagram with a brief response to the question "What do you see for your future career?" using the hashtags #supercoolcareershades and #sweepstakes. Winners were randomly selected from qualified entries.

Karl Branch, an eighth-grade student at St. Anthony Catholic School in Beaumont, Texas, was selected as the Grand Prize winner and was awarded an iPad mini, plus \$2,000 for his school's science program.

Also recognized for their entries were Faith Ramey (8th grade) of Pearland Junior High East in Pearland ISD, Skyler Bell (12th grade) of Columbia High School in Columbia-Brazoria ISD, and Esber Ramos, Jr. (8th grade) of Hopper Middle School in Cy-Fair ISD, who were each awarded first prize, all receiving a \$50 Visa gift card and \$250 for their school's science program.

The Super Cool Career Shades Challenge ran in conjunction with Chevron Phillips Chemical's participation in JA Inspire.



## Chevron Phillips Chemical Participates in Launch of Petrochemworks.com

Opportunities abound for those interested in a career in the petrochemical industry. With more than \$164 billion in projects announced in the Houston region and more than 50 percent of the region's current employee base retiring in the next few years, building a pipeline of talented and skilled workers is crucial.

To help inform students, veterans and other job seekers about this thriving industry, members of the Chevron Phillips Chemical Workforce Development Committee lent their expertise to the East Harris County Manufacturers Association (EHCMA) to launch Petrochemworks.com.

The site helps applicants identify how their current skills, interests and educational endeavors can translate into well-paying jobs. Additionally, viewers can use the website to pinpoint what education may be needed to prepare for a fulfilling long-term career in petrochemicals or learn about career paths for advancement.



## 30 Students Receive Chevron Phillips Chemical's 2016 Dependents' Scholarship

In 2016, Chevron Phillips Chemical awarded 30 scholarships to dependents of the company's employees. During the scholarship selection process, the academic records of eligible high school seniors and college students were carefully reviewed, as well as students' leadership and participation in school and community activities, special honors, work experience, stated goals and aspirations, and unique personal or family circumstances. Scholarship applicants were also asked to provide recommendations from their advisers, teachers or employers.

## Chevron Phillips Chemical Hosts Annual Science Discovery Camp

For the sixth consecutive year, Chevron Phillips Chemical hosted Camp Chemisphere at its headquarters in The Woodlands, Texas. The annual event allows children of employees to visit the facility and learn about science by conducting a series of experiments relating to the fields of chemistry, biology, meteorology and engineering.

Nearly 70 employees volunteered at Camp Chemisphere, sharing their scientific and technological knowledge while helping more than 150 children conduct experiments across two days.

This year's focus was Seeds of STEM, which presented participants with an opportunity to learn about science in nature, focusing on aspects of Science, Technology, Engineering and Mathematics.

Several other Chevron Phillips Chemical locations in Texas also hosted Camp Chemisphere events for employees' children including facilities in Sweeny, Port Arthur, Orange and Kingwood, as well as Performance Pipe's headquarters in Plano.



## Veterans

### Veterans Thrive Here

At Chevron Phillips Chemical, we have the utmost respect and appreciation for veterans. Military men and women play a vital role in safeguarding our nation, and they have the opportunity to serve in vital roles at our company as they transition into civilian life.

Skills learned in the military help our veteran employees thrive in the workplace, making them a valuable part of our team. Chevron Phillips Chemical provides veterans with opportunities for a successful career, and veterans improve our company with their distinctive skills and knowledge.



Visit [www.cpchem.com/veterans](http://www.cpchem.com/veterans) to learn more about the role veterans play at Chevron Phillips Chemical.



### Actively Recruiting the Best

Chevron Phillips Chemical participated in four All Veterans Job Fairs in 2016 to actively recruit former military personnel. The events were a great chance for interested candidates to visit with current employees, ask questions about the company and learn more about possible career opportunities.

### Chevron Phillips Chemical Makes \$10k Veteran Workforce Donation

As a tribute to our veterans, Chevron Phillips Chemical made a \$10,000 donation to NextOp during the Marine Corps' 241st birthday celebration in November. NextOp serves American veterans by providing career placement assistance, mentorship and support in their transition into civilian careers in energy, construction and healthcare.





# Diversity and Inclusion

Competition to find the right talent is fierce in today's global economy. At Chevron Phillips Chemical we know that a diverse and inclusive workforce is crucial if we want to attract and retain top talent who will in turn shape the future of our company.

While the ICARE principles of Inclusion, Cooperation, Accountability and Respect Everyday have long been staples of our operating culture, we continued to enhance our diversity and inclusion efforts into 2016 through:

- Hosting a company-wide celebration to promote the ICARE principles
- Awarding employees for demonstrating the ICARE principles
- Developing and promoting the Inclusion: A Recipe for Success campaign across the company
- Expanding D&I education across the company, including supervisor D&I refresher training and the next level of D&I training for leaders: Unconscious Bias
- Pursuing efforts to highlight opportunities for women in the petrochemical industry

Not only do our efforts make good business sense, but these initiatives also make the workplace a more dynamic and personally enriching environment for everyone.



## Leading with ICARE

Each year, Chevron Phillips Chemical hosts a company-wide Diversity and Inclusion (D&I) Day to focus on promoting the ICARE principles. This year's D&I Day focused on Leading with ICARE, reminding us not only to put the ICARE principles into action, but also to lead by example, championing the D&I culture in our everyday work.

In conjunction with the 2016 D&I Day celebration, Chevron Phillips Chemical announced winners of its Leading with ICARE Award. This award recognized individuals who regularly exhibit exemplary

leadership with regard to demonstrating and promoting ICARE principles. Employees nominated nearly 400 fellow coworkers from around the globe for the award.

Local leadership teams and D&I councils selected more than 70 employees worldwide to receive the award for their commitment to ICARE behaviors like thanking team members for their insight, inviting others to collaborate in solving tough challenges and reaching out to help others who may need assistance.



## A Recipe for Success

In 2016, Chevron Phillips Chemical launched the Inclusion: A Recipe for Success campaign across the company. The objective was to promote the importance of being an inclusive workplace in all that we do, every day.

As part of the campaign, a video focusing on cooking as an element of diversity was produced and distributed company-wide.

Baking a cake involves deliberately including many different ingredients such as flour, sugar, eggs and butter. If you leave even one ingredient out, it could lead to disastrous results. At Chevron Phillips Chemical, we value diversity in all its dimensions. For us to be successful and create a great place to work, we want to be inclusive of all the ingredients that make us great.

 Visit [Chevron Phillips Chemical on YouTube](#) to view the video and learn more about Inclusion: A Recipe for Success.

## Women

### Women Thrive Here

We strive to create a great place to work and provide an inclusive environment in all that we do. Like all of our employees, women are crucial to Chevron Phillips Chemical's success.

In 2016, Chevron Phillips Chemical profiled eight women across the company to highlight their roles and contributions to the company and provide others a glimpse into the opportunities available to them, from the control room to the boardroom, in the petrochemical industry.

 Visit Chevron Phillips Chemical on YouTube and see the Women Thrive playlist to learn more about how women are making an impact in our company.



### Celebrating WISE

We are proud to sponsor the Women in Science with Excellence (WISE) movement, which celebrates and recognizes the achievements of women who have made extraordinary contributions to the growth and success of science-based industries, including energy, engineering, mathematics and technology. By connecting women of all ages, WISE inspires others to turn their interest in science-related disciplines into a lifelong passion.

### Women in Industry Conference

The petrochemical industry is booming with challenging and high-paying careers for women. To help spread awareness of available opportunities, Chevron Phillips Chemical sponsored and participated in the 2016 Women in Industry Conference in Galveston, Texas.

The event, which drew more than 250 women, included a range of participants from high school students and adults

seeking challenging and better paying jobs, to women already working in the field but looking to advance their career.

During the event, attendees heard first-hand accounts from women already succeeding in the field. They also had the opportunity to jumpstart their own career path by speaking with college representatives about enrollment, financial aid and other training they may require to get started.

## Learning & Development

Chevron Phillips Chemical regularly conducts a Global Employee Survey. The survey is meant to solicit honest feedback from employees in order to more effectively provide them the tools and resources they need for their job.

A common theme from the feedback is the request for more learning and development options. Since conducting the first survey in 2012, Chevron Phillips Chemical has increased its focus on providing high-quality learning and developmental opportunities at all levels of the company.

Some of the programs already implemented include the Advanced Leadership Development Program, First Level Leader Development Program and Leadership Elements. Others, such as Leadership Elements for Non-exempt Employees, were rolled out in 2016.

In 2017, we will be conducting another global employee survey to gather additional feedback from employees to ensure we continue to provide the highest level of learning and development support.

While we strive to provide the tools and resources necessary, we also empower employees to be equal partners in the learning process. We believe learning is an ongoing process and can occur at any time through on-the-job training, coaching and mentoring, eLearning and instructor-led, classroom-based training.



## Community Outreach

Strengthening connections with the communities where we live and work globally goes hand in hand with shaping the future of our company. That's why Chevron Phillips Chemical donates time, funds and resources to worthy causes each year and supports employees doing the same.

Since 2000, we have contributed more than \$25.7 million and countless volunteer hours to the community. In addition, we provide annual grants to 18 colleges and universities totaling \$355,000 per year.

Some of the charities we support include:

- American Heart Association
- Education for Tomorrow Alliance
- Habitat for Humanity
- Junior Achievement
- Juvenile Diabetes Research Foundation (JDRF)
- Red Crescent Society
- United Way

The following are a few examples of how our company and employees are shaping the future of our communities.

### Chevron Phillips Chemical Achieves Record United Way Donation



Since the company's inception in 2000, Chevron Phillips Chemical has been committed to raising funds for the United Way. In 2016, the combined employee and company matching gift total was a record \$1.2 million, which was distributed to United Way chapters in Texas, Oklahoma and other company locations across the country.

In addition to raising funds, Chevron Phillips Chemical employees donated more than 670 hours to support United Way Days of Caring, partnering with various United Way agencies to assist with facility restorations, food drives and repair work.



### Cedar Bayou Volunteers Set Record Number at VFW Hall

The Cedar Bayou plant in Baytown, TX set a new record for the largest volunteer turnout the plant has had for a single community event when 77 volunteers participated in a United Way Day of Caring event in September.

Employees, contractors, family members and friends all helped rehabilitate the Veterans of Foreign Wars (VFW) Post 912 in Baytown. The record-breaking attendance was due in large part to 22 employees who brought friends and family with them to volunteer, plus 34 employees from construction partner Zachry, who pitched in their electrical expertise and time.

Volunteers were tasked with updating the VFW's main meeting hall, which is open to the public and often hosts community events for military veterans. With help from volunteers and the maintenance department, the Cedar Bayou plant replaced 570 ceiling tiles in the main hall, painted all the walls and doors, replaced the carpeting and trim on the stage, cleaned and painted A/C vents, replaced all the A/C filters and broken light bulbs, installed new emergency exit signs, removed "smoke eater" fans and repaired the ceiling, hung 16 military flags for décor, and cleaned the plastic ceiling grid of smoke residue.

### Inspiring Curiosity

In March, Chevron Phillips Chemical sponsored the Mind Trekkers Science Festival at San Jacinto College, where company volunteers conducted entertaining experiments to show students just how fun an education in science can be. The event brought together sixth grade students and families throughout the Houston region to learn more about Science, Engineering, Mathematics and Technology (STEM).





### Sixth Graders Learn through Hands-on Science Activities

Chevron Phillips Chemical provided “on campus” field trips for more than 1,700 sixth graders at Goose Creek CISD in Baytown, Texas, by sponsoring a mobile education unit, called the Trailblazer, run by the Texas Alliance for Minorities in Engineering (TAME).

The lessons inside the Trailblazer focus on subjects such as space, energy, weather, biotechnology and aerodynamics. Each lesson is facilitated by high school students from Goose Creek Memorial,

Ross S. Sterling and Robert E. Lee High Schools in the Ready, Set, Teach! program for future teachers, as well as the Peer Assistance and Leadership program.

This is the third consecutive year the Trailblazer trailer has spent multiple days at each of the district’s five junior high schools to help sixth grade science teachers enhance their curriculum. In 2016, the program also expanded to reach neighboring schools near our facility in Port Arthur, Texas.

### Chevron Phillips Chemical Receives President’s Volunteer Award

Chevron Phillips Chemical was honored to be awarded a bronze U.S. President’s Volunteer Service Award for contributing more than 5,000 volunteer hours to Junior Achievement (JA) during the 2015 – 2016 school year. The national award was presented during the 2017 JA Volunteer Summit in New York City in March. This is the second year in a row that the company has received the honor.



Each year, Chevron Phillips Chemical supplies more than 100 volunteers to teach JA programs in schools, from traditional programs for primary grades to JA Finance Park for middle and high school students.

In addition to volunteer service, Chevron Phillips Chemical has donated more than \$10.6 million to JA and other education-based programs in the U.S. since the company’s inception in 2000.

### Spreading Kindness in Qatar

For the third consecutive year, a team from Chevron Phillips Chemical Qatar supported the Qatar Red Crescent’s (QRC) “Together for Benevolence” campaign.

This year, employees and their families worked alongside QRC volunteers, providing other expatriate workers in Qatar with 3,500 food packages and 1,000 winter clothing bags and other supplies to help them through the winter.



### Sweeny Aids in Flood Recovery Efforts

In May, severe flooding forced the evacuation of many residents from Brazoria County, Texas, home of our Sweeny Complex. With neighbors in need, the company donated \$5,000 to the Sweeny Rotary Club to assist with local recovery efforts.

Funds donated were used by the Rotary Club to purchase pallets of water and cleaning supplies, which were then donated to the hardest hit neighborhoods near the facility.

Long-term flood recovery efforts are expected to last a couple of years. To aid in this recovery, Chevron Phillips Chemical also donated \$5,000 to United Way of Brazoria County.



## Building a House to Make a Home

In 2016, Chevron Phillips Chemical employees completed the company's fourth Habitat for Humanity sponsored home in Conroe, Texas for Crystal Summers and her three daughters.

More than 100 employees and their families worked over the course of six months to build the house, putting in nearly 300 hours on the project. In the fall of 2016, we kicked off our fifth Habitat for Humanity home in the same neighborhood, which was completed in May 2017.



**100+**

EMPLOYEES & THEIR FAMILIES  
OVER **12** SATURDAYS



IN MONTGOMERY COUNTY



**300**

HOURS BY PROJECT  
LEADS ALONE



**150**

POUNDS OF NAILS



**50**

BOTTLES OF CAULK

CHEVRON PHILLIPS CHEMICAL HAS BUILT **5 HOMES** IN GREATER HOUSTON AREA

# Economic Performance

The company's driver for corporate sustainability is to provide value to our stakeholders. Overall, our 2016 earnings were lower than the prior year. This reduction was primarily driven by the impact of lower crude oil prices on the prices of our products and, therefore, on our margins.

At the same time, we continued to invest in our future throughout 2016, led by the U.S. Gulf Coast (USGC) Petrochemical Project. In fact, our asset base grew by nearly \$2 billion. In addition, we raised \$700 million through the issuance of 10-year Senior Notes, using the proceeds to fund general operations and our capital program.



## Strong Global Demand for Petrochemicals Fuels Optimism

We have an enthusiastic long-term view for petrochemicals, thanks to a one-two combination of strong global demand and competitive feedstocks from the U.S. shale resource boom.

As the chemical industry develops, it provides better, more sustainable products, which lead to social and economic benefits, which in turn lead to improved quality of life. This improved standard of living—and the discretionary income to purchase additional goods and services—leads to demand for even more consumer products, starting the cycle all over again.

For example, today's lightweight plastics—aided by refrigeration—have allowed food and beverages to be stored and transported over great distances with less waste. This provides safer, lower-cost, higher-quality, and more resource-efficient sources of nutrition to those needing it most.

According to the United Nations, the global middle class is predicted to grow from less than 2 billion in 2009 to nearly 5 billion by 2030, with two-thirds of that population based in Asia. The economic growth that accompanies this rise of the middle class should generate demand for the products we produce.

With all this future demand growth for our industry's products, Chevron Phillips Chemical must be ready to deliver. We believe we will be because we're investing in two of the most competitively advantaged regions—the U.S. (thanks to shale resource development) and the Middle East (with our mega petrochemical complexes in both Qatar and Saudi Arabia).

Despite the uncertain conditions faced by the broader energy industry, we have a strong, optimistic long-term outlook for petrochemicals and will maintain our focus on what we can control:

1. Cost discipline
2. Ensuring efficient and competitive operations
3. Building a solid pipeline of skilled talent to ensure the future success of our company
4. Supporting investments in transportation infrastructure to ensure our supply chains remain competitive
5. Investing in research and technology to provide enhanced sustainable processes, products and new applications for our customers and end users.

## Flexibility Key to Supply Chain Solutions

Spurred by abundant feedstocks, Chevron Phillips Chemical expects our North America ethylene and polyethylene capacity to increase 40 percent when our \$6 billion USGC Petrochemicals Project achieves full-rate production.

While a significant portion of the new polyethylene plastic pellets will head overseas to be transformed into food packaging and other consumer products for the growing middle class in China and India, we anticipate strong demand growth in domestic and other international markets.

Chevron Phillips Chemical needs to be ready to serve that demand by anticipating and preempting potential logistical challenges such as infrastructure and port congestion, or equipment and resource shortages. To prepare for such obstacles, we developed several new supply chain options to efficiently and effectively serve our customers, no matter where they are.

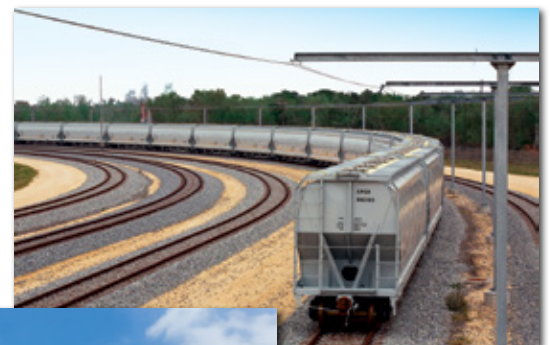
We have worked with key business partners who have added export packaging facilities in Fort Worth, TX, and Charleston, SC, to diversify how we serve customers from our U.S. manufacturing assets. These facilities will help us better serve customers outside of the U.S., while continuing to provide exceptional service to our domestic customers by rail and truck.

Over the past three years, we have made \$500 million in rail-related investments, adding 2,750 railcars to our fleet (bringing our polyethylene fleet to 9,200 hopper cars) to ensure no bottlenecks in moving product out of Old Ocean, TX. Additionally, we recently completed a new Storage-in-Transit (SIT) yard in Old Ocean, which boasts 1,500 rail storage spots and 41 miles of track.

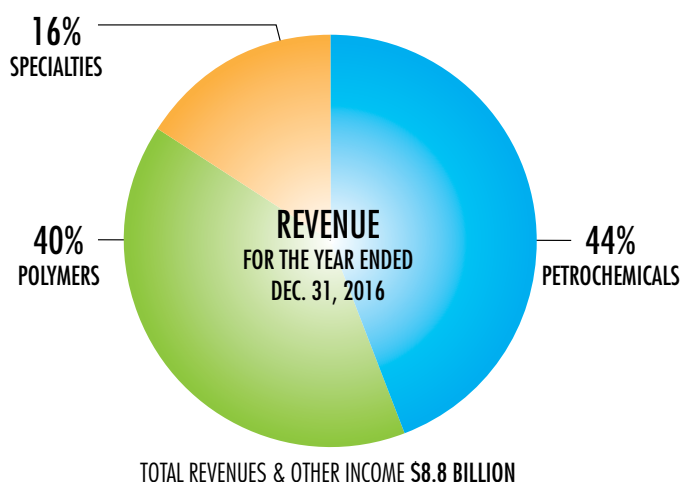
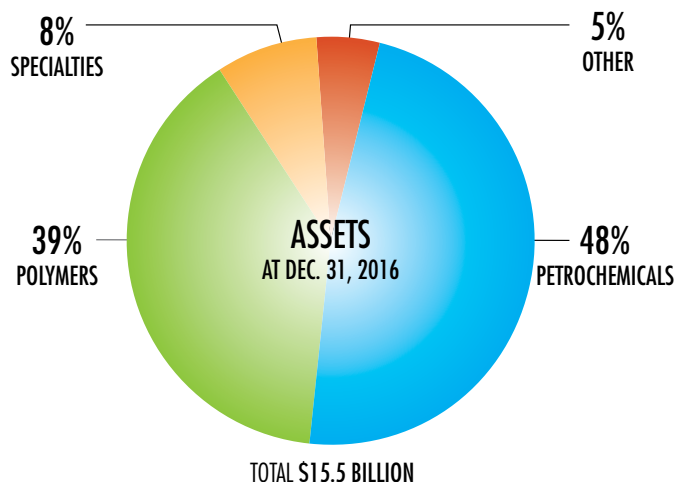
The Houston Ship Channel remains extremely important to our business today and for the long term. Upgrades to the Barbours Cut and Bayport channels, as well as expanded gate hours, and the development of a heavy-haul port corridor are welcome, and we look forward to partnering with the Ship Channel on long-term infrastructure upgrades that make it an even more attractive point of departure.

Building off of years of expertise, Chevron Phillips Chemical will continue to find innovative and creative ways to provide supply chain solutions that allow smooth and seamless delivery of product to our customers.

 Visit [Chevron Phillips Chemical on YouTube](#) and check out our video "From Old Ocean to the world: A look at our new hopper cars" to learn more about our logistical investments to support the U.S. Gulf Coast Petrochemicals Project.



## Assets and Revenue for the Year Ended Dec. 31, 2016



Selected financial data for Chevron Phillips Chemical, in millions of dollars, is as follows:

Select Financial Data	2016	2015	2014
Annual Sales and Other Operating Revenues	8,455	9,248	13,416
Total Revenues & Other Income	8,769	9,859	14,148
Net Income	1,687	2,651	3,288
Current Assets	2,695	2,291	3,437
Total Assets	15,465	13,597	12,311
Current Liabilities, Excluding Debt	1,418	1,319	1,555
Total Liabilities	3,987	3,332	2,051
Equity	11,478	10,265	10,260
Debt-to-Capital Ratio	15%	12%	0%

Chevron Phillips Chemical has received debt ratings from Standard & Poor's Ratings Services (Standard & Poor's) and Moody's Investors Service, Inc. (Moody's) as follows:

COMPANY	COMMERCIAL PAPER	LONG-TERM DEBT
Standard & Poor's	A-2	A-
Moody's	P-1	A2

General information concerning Chevron Phillips Chemical is available through Dun & Bradstreet under DUNS number 03-891-2866. Further questions can be addressed to the Treasurer at 832.813.4100 or by email at: [FinancialStatements@cpchem.com](mailto:FinancialStatements@cpchem.com).



# About this Report

Chevron Phillips Chemical's Sustainability Report contains information on the company's performance in the following areas: environment, social, safety, product stewardship and financial results. Our goal is to communicate our business strategy of sustainable growth and demonstrate that since our formation in July 2000, we have focused on continuous improvement in all areas of our operations.

This report reflects the company's efforts during the 2016 calendar year. The previous reports reflected Chevron Phillips Chemical's performance during the 2011, 2012, 2013, 2014 and 2015 calendar years. Any information, including references to prior years, is provided for context only. This report includes information on wholly-owned operations as well as joint venture operations where pursuant to contract, Chevron Phillips Chemical employees participate in the operations and/or management of the facilities.

Report boundaries and measurement methods are similar in all reports. The 2016 safety and environmental data includes K-Resin® SBC (styrene butadiene copolymer) data, even though the sales transaction of the business to INEOS Styrolution was completed in February 2017. However, product and branding information related to the brand has not been included.

Previously reported emissions inventory data for 2013–2015 has been revised. A combination of ownership equity corrections, alignment of emissions scope as identified in data reference #9, and inclusion of emissions from a purchased energy transaction were the sources of correction. Improved controls and documentation have been developed to reduce the likelihood of a recurrence. Despite these changes, data trends remain the same.

The company's stakeholders include employees, customers, suppliers, owners, contractors, business partners, governmental and non-governmental organizations, unions, industry colleagues and the communities where we operate. Each stakeholder shapes our business environment and contributes to our success. We strive to be transparent and engage with our stakeholders on their issues of concern in a manner that is positive and constructive.

We also respond throughout the year to direct requests from environmental, social and governance research agencies, shareholders, non-governmental organizations, academic institutions and individual students regarding the company's environment, health and safety, and social responsibility policies, programs and performance.

This report and additional information can be found at [www.cpchem.com/sustainability](http://www.cpchem.com/sustainability). Questions or comments are welcomed.



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A detailed contact list can be found at <http://www.cpchem.com/en-us/Pages/contactus.aspx>.

## Stakeholder Outreach



### Employees

Town Halls, Surveys, Intranet, Best Practice Committees, Videos, Newsletters, Employee Reviews, Social Media



### Communities

Community Advisory Panels, Town Halls, Direct Mail, News Media, Website, Social Media, Local Emergency Planning Committees, Rotary Clubs, Chambers of Commerce, Various Boards and Committees



### NGOs

Partnerships, Voluntary Initiatives, Funding, Various Boards and Committees of Industry Organizations



### Governments

Consultation, Negotiation, Regulatory Advocacy, Legislative, Voluntary Initiatives, Grassroots Efforts, Site Visits



### Industry Trade Sector

Trade and Professional Associations, Benchmarking, Working Groups, Conferences, Various Boards and Committees of Industry Organizations




### Suppliers/Customers

Business-to-Business Relationships, Face-to-Face Communication, Customer Satisfaction Surveys, Benchmarking, Social Media

# Index to Reporting Guideline Indicators

This table provides the location of information reported that completely or partially relates to the indicators from sustainability reporting guidelines published by the Global Reporting Initiative (GRI), version 3.1.

REPORT SECTION	GRI CONTEXT	REPORT PAGE
A Message from our CEO	1.1, 1.2, 4.8	5
Perspectives from our Global Sustainability Manager	1.1, 1.2, 3.5, 4.8, 4.16, HR2, HR6, HR7	6
Sustainability Focal Points	3.5, 4.15, 4.16, 4.17	7
U.S. Gulf Coast Petrochemicals Project Spotlight	EC1, EC8, EC9	8
Chevron Phillips Chemical by the Numbers	1.1, 2.8, EC8, EC9, LA1, LA7	9
About Chevron Phillips Chemical	2.1 – 2.8, 4.1 – 4.4	10 – 16
Executing Our Business Strategy to Shape Growth	1.1, 1.2, 2.8, 4.8, EC8, LA11	17
Improving Health & Safety	2.10, 3.6 – 3.8, 4.8, 4.11 – 4.13, 4.17, LA7	18 – 23
Resource Efficiency	2.10, 3.6 – 3.8, 4.17, EN3 – EN8, EN25, EN26, EN27	24 – 27
Emissions	3.6 – 3.8, 4.17, EN14, EN16, EN18, EN20	28 – 29
Integrity & Compliance	3.6 – 3.8, 4.1, 4.4, 4.8, 4.17, HR3, SO3, SO10	30 – 31
Product Responsibility	3.6 – 3.8, 4.8, 4.17, EN26, PR1, PR3	32 – 36
Social Enrichment	2.10, 3.6 – 3.8, 4.8, 4.12, 4.13, 4.17, EC1, LA1, LA2, LA11 – LA13, SO1	37 – 45
Economic Performance	1.2, 2.8, 3.4, 3.6 – 3.8, 4.17, EC1, EC8, EC9	46 – 48
About this Report	2.3, 2.9, 3.1 – 3.8, 3.10, 3.11, 4.11, 4.14, 4.16	49
Index to Reporting Guideline Indicators	3.4, 3.5, 3.12	50
Health, Safety, Energy and Environment Data References	3.9, EN6 – EN8, EN16, EN18, EN20, LA7	51

OTHER PUBLIC DISCLOSURE AND ENGAGEMENT	GRI CONTEXT	LOCATION
California Transparency in Supply Chains Act of 2010	HR1, HR2	<a href="http://www.cpcchem.com">www.cpcchem.com</a>
Community Involvement & Sponsorships	SO1	<a href="http://www.cpcchem.com">www.cpcchem.com</a>
Chevron Phillips Chemical Careers	LA12	<a href="http://www.cpcchem.com">www.cpcchem.com</a>
Diversity & Inclusion	LA11, LA13	<a href="http://www.cpcchem.com">www.cpcchem.com</a>
Employee Benefits	LA3, LA8	<a href="http://www.mycpcchembenefits.com">www.mycpcchembenefits.com</a>
Environment, Health & Safety	PR1, PR6	<a href="http://www.cpcchem.com">www.cpcchem.com</a>
Operational Excellence	EN6, EN7, EN18, EN26, LA7, PR1, PR5, PR6	<a href="http://www.cpcchem.com">www.cpcchem.com</a>
Public Outreach	4.16	
U.S. Gulf Coast Petrochemicals Project	EC8, EC9, EN26	<a href="http://www.cpcchem.com">www.cpcchem.com</a>

# Health, Safety, Energy and Environment Data References

## <sup>1</sup>Total Recordable Incidence Rate (TRIR)

Chevron Phillips Chemical follows the OSHA Standard (29 CFR 1904) on Recording and Reporting Occupational Injuries and Illnesses for classifying and reporting all injuries/illnesses occurring at facilities globally. Recordable Incidence Rate is defined as the number of recordable injuries/illnesses per 200,000 hours worked (or approximately 100 full-time workers) annually.

## <sup>2</sup>Employee Performance vs. ACC Member Companies

The safety performances of the Chevron Phillips Chemical global employee workforce and American Chemistry Council (ACC) Peer Member Companies are compared in the graph. The ACC Peer Member Companies represent companies that have worked a minimum of 2 million employee hours in a given year in the U.S.

## <sup>3</sup>Tier 1 and Tier 2 Process Safety Event Rate

Chevron Phillips Chemical currently captures Process Safety Event Rate (PSER) data consistent with the industry-recognized API 754 Recommended Practice at 16 sites worldwide. This data represents the number of Tier 1 and Tier 2 Process Safety Events (PSEs) divided by work hours of employees and contractors. A Tier 1 PSE represents the highest level of PSEs captured and is defined as "a loss of primary containment with the greatest consequence" by an industry-recognized standard. A Tier 2 PSE is the next level of PSEs captured and is defined as "a loss of primary containment with lesser consequence."

## <sup>4</sup>Energy Savings

Emission comparisons displayed in the Energy Savings infographic describe energy efficiency improvements in values relative to carbon dioxide (CO<sub>2</sub>) equivalents. These emission saving equivalents were calculated using EPA's Greenhouse Gas Equivalencies Calculator (<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>) revision dated May 31, 2016.

## <sup>5</sup>Energy Intensity Index

Chevron Phillips Chemical tracks energy consumed from fuels as a by-product and the energy purchased and consumed (purchased fuel, electricity and steam). The compilation of our energy consumption data is consistent with the methods used by American Chemistry Council for the ACC Energy Efficiency and Greenhouse Gas Annual Survey. Because Chevron Phillips Chemical is a diversified chemical company operating a variety of process plants, the company monitors energy reduction progress using an Energy Intensity Index that establishes a baseline expected energy consumption per pound of product for each unit. The baseline was established in 2008 and is used as the comparison point for each subsequent year. The Energy Intensity Index is a ratio of the actual energy consumed over an expected baseline energy number.

## <sup>6</sup>Fresh Water Intake

The water consumption data presented here is the sum of measured and estimated fresh water intake at all our facilities worldwide. This data does not include water that is returned to the source, or seawater that is used for cooling at our facilities in Singapore, Qatar and Saudi Arabia to help preserve fresh water resources. Much of the older data was primarily based on estimated use, whereas more recent information is based on improved technology for site-specific measurement and accounting of fresh water use, to the extent practicable.

## <sup>7</sup>Reportable Emission Events

The Reportable Emission Events graph provides data on the number of total reportable emission events by year. All reportable emission events are reported based on specific country, state or local regulations. A reportable emission event includes air, water or land releases above the Reportable Quantity (RQ), exceedance of a water discharge limit (permit and regulatory), and emissions events as defined in local regulations or permit conditions that require immediate agency reporting. All reportable emission events, including those resulting from activities such as startup from new construction and events beyond facility control (e.g. weather, power and feed interruptions), are represented.

## <sup>8</sup>Greenhouse Gas Emissions and Intensity

The CO<sub>2</sub> Equivalent (CO<sub>2</sub>e) Emissions graph includes the net total emissions of greenhouse gases (GHG) expressed in tons of CO<sub>2</sub>e, and summed separately for the domestic and international plants. The Global GHG Intensity is a ratio of the greenhouse gases emitted (pounds of CO<sub>2</sub>e) over the products produced (pounds of product). For plants where Chevron Phillips Chemical has only partial equity ownership, the reported emissions and product data represent the equity stake.

## <sup>9</sup>Global Emissions Inventory

The Aggregated Emissions graph includes the total aggregated criteria pollutants (NO<sub>x</sub>, CO, VOC, PM<sub>10</sub>, SO<sub>2</sub>) emitted from each of the plants grouped by location. The data only includes permitted emissions from each source collected from the Emissions Inventory. The Global Emissions Inventory Intensity is a ratio of the aggregated pollutants emitted (tons of emission) over the products produced (million pounds of product). For plants where Chevron Phillips Chemical has partial equity ownership, the reported emissions and production data represent the equity stake.

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