American Fuel & Petrochemical Manufacturers

AFPM

Commitment to a Sustainable Future

2025 Sustainability Report

A Message from the President and CEO of AFPM

AFPM members are committed to providing the fuels and petrochemicals that society needs to thrive in an ever safer, more sustainable way. They are focused on protecting the environment, promoting the health, safety and well-being of their workforce and communities, meeting society's changing needs, and tackling big challenges. This report highlights the significant strides we have made in delivering on these commitments.

AFPM members are making real investments, taking real action and making real progress in reducing emissions, efficiently managing their energy and water use, managing waste, and restoring the land around them. This report showcases the myriad ways our members are making this progress individually and through collaborations with industry, community, academic, and government partners.

The health and safety of our employees and communities will always remain our top priority. Our commitment goes beyond regulatory compliance. It is embedded in every aspect of our work and is at the core of how industry works together to improve operations. Our safety record is a testament to this commitment, setting a high benchmark among manufacturing sectors.

Our workforce is our greatest asset and the backbone of our success. Their well-being and career growth are integral to our mission.

Our members are integral to the prosperity of their communities as well. They are not only major employers and taxpayers, but they also contribute to meeting the evolving needs of their communities today and building a strong foundation for future generations. They are there for their communities when and how they need them most, especially in times of crisis, while contributing to their long-term success and resiliency by investing in local education, environmental protection, and community safety.

As our members meet society's needs today, they drive innovation for future generations and solve our most pressing challenges. They are deploying technologies like carbon capture, renewable power, and hydrogen to reduce emissions in their operations and are producing more lower carbon fuels like renewable diesel, sustainable aviation fuel and renewable natural gas to reduce emissions in transportation. Our petrochemical manufacturers continue their commitment to reducing plastic waste in the environment, scaling advanced recycling technologies, while tackling waste collection and sorting problems that will create a more circular economy for plastics.

All of this action is rooted in accountability and advocacy. We track our progress against our commitments and pursue policies that enable our industries to provide the products the world needs to thrive and to do so in an ever safer and more sustainable way.

As we look to the future, we remain steadfast in our mission to drive growth and innovation. We are proud of these industries and look forward to continuing to support them as they work to create a cleaner, healthier, safer and more prosperous future.

Chet M. Thompson
President and CEO

American
Fuel & Petrochemical
Manufacturers

Our Commitment to Sustainability

Our Sustainability Pillars

Environmental Stewardship

We are committed and responsible stewards of the environment. We are doing more with less — reducing emissions, conserving energy, using water efficiently, preserving land and reducing waste to protect the climate, air, water and land around us today and for generations to come.

Health and Safety

We foster a strong culture of safety throughout our industries and our communities, building on the progress that has led our industries to be amongst the safest of hundreds of industries within the manufacturing sector.

Thriving People and Communities

We help people and communities thrive by providing well-paying jobs for people of all backgrounds, building more inclusive and diversified workforces and communities, preparing the future workforce for jobs in our industries, and giving back to our communities through philanthropy and volunteerism.

Driving Progress

We are addressing society's biggest challenges — including building a lower-carbon future and advancing a more circular economy for plastics — and pushing past the status quo by driving innovation that will make life better, safer and more productive.

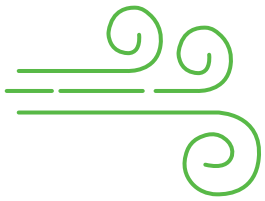

The U.S. refining and petrochemical industries are committed to providing the critical fuel and petrochemical products that growing global populations need to thrive, and to do so sustainably.

AFPM members are dedicated to safeguarding the environment and the well-being of the communities in which they operate. Through rigorous adherence to environmental regulations, innovative technologies and sustainable practices, these companies strive to minimize their ecological footprint.

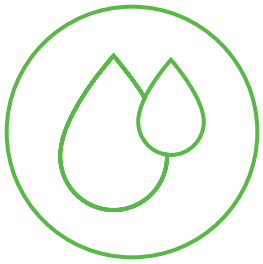
Environmental Stewardship

Operating More Sustainably

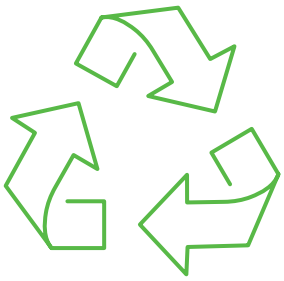
Dedicated to doing more with less, AFPM members are implementing practices to reduce their energy-use intensity, lower their critical emissions profiles and adopt renewable energy where possible.



The U.S. fuel and petrochemical industries are consistently reducing localized air emissions.



AFPM members are committed to doing more with less — and that includes freshwater use. The fuel and petrochemical industries are developing cutting-edge water treatment and recycling technologies to reduce their reliance on freshwater.



AFPM members look for ways to reuse, recycle and repurpose waste throughout their operations.

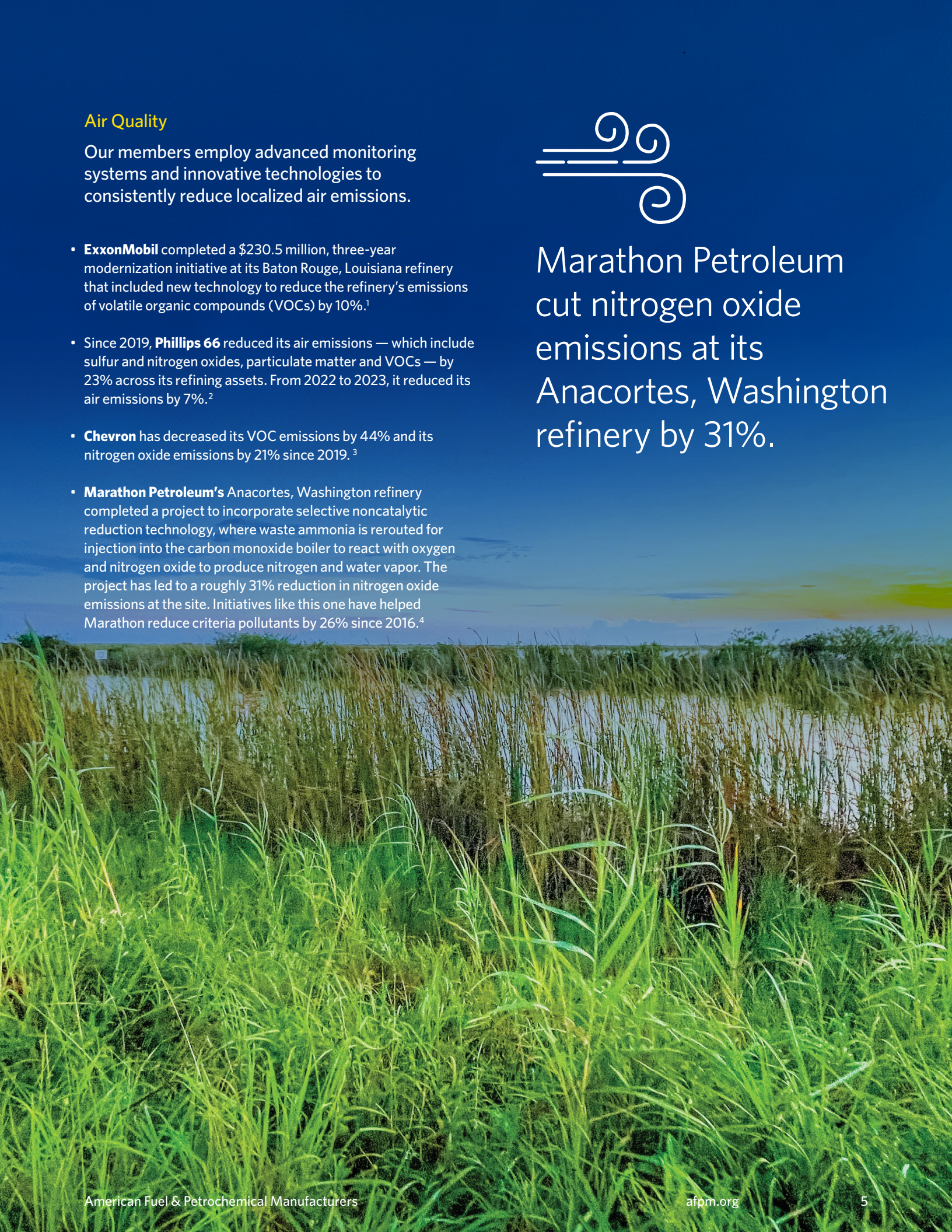
AFPM members prioritize the conservation and reclamation of the land and ecosystems around them.

Air Quality

Our members employ advanced monitoring systems and innovative technologies to consistently reduce localized air emissions.

- **ExxonMobil** completed a $230.5 million, three-year modernization initiative at its Baton Rouge, Louisiana refinery that included new technology to reduce the refinery's emissions of volatile organic compounds (VOCs) by 10%.[1]
- Since 2019, **Phillips 66** reduced its air emissions — which include sulfur and nitrogen oxides, particulate matter and VOCs — by 23% across its refining assets. From 2022 to 2023, it reduced its air emissions by 7%.[2]
- **Chevron** has decreased its VOC emissions by 44% and its nitrogen oxide emissions by 21% since 2019. [3]
- **Marathon Petroleum's** Anacortes, Washington refinery completed a project to incorporate selective noncatalytic reduction technology, where waste ammonia is rerouted for injection into the carbon monoxide boiler to react with oxygen and nitrogen oxide to produce nitrogen and water vapor. The project has led to a roughly 31% reduction in nitrogen oxide emissions at the site. Initiatives like this one have helped Marathon reduce criteria pollutants by 26% since 2016.[4]

Marathon Petroleum cut nitrogen oxide emissions at its Anacortes, Washington refinery by 31%.



Water

Our members are expanding their water treatment and reuse capabilities to save billions of gallons of water in their operations.

- In Washington state, **Par Pacific** reduces the amount of freshwater it uses by treating water used during one cooling process and then turning it into steam to use in a second process.[5]
- **Chevron** has completed multiple projects to reduce freshwater withdrawals, including an initiative to detect and repair steam and condensate leaks at its Richmond Refinery in California and a project to replace irrigated turfgrass with drought-tolerant landscaping at its Salt Lake Refinery in Utah.[6]
- **Dow** piloted a new process that cleans hopper cars with high-pressure air rather than water, saving approximately 936,000 gallons of water during an eight-month period.[7]
- Working with its customers, **Ecolab** helped conserve 226 billion gallons of water, which is the equivalent to the drinking water needs of 782 million people.[8]
- **Marathon Petroleum's** Los Angeles refinery saved about 328 million gallons of fresh water by increasing the cooling water iron specification and saved an additional 99 million gallons by improving the level controls on the cooling tower basins.[9]
- **Phillips 66** optimized the operation of its cooling towers and boilers by defining and standardizing key metrics across all sites and developing online dashboards to visualize and monitor performance indicators. This enables its engineers and operators to detect inefficiencies and issues more quickly, thus reducing water, energy and chemical demands while increasing reliability.[10]
- Since 2014, **Flint Hills Resources** has reduced annual wastewater nitrate releases by more than 1,700,000 pounds as a result of improved process configuration and process control at its Pine Bend, Minnesota and Corpus Christi, Texas refineries.[11]

Waste

Our members continuously enhance their processes and forge partnerships to minimize waste and uncover reuse opportunities.

333 metric tons of waste diverted

- In 2023, **Phillips 66**'s tank cleanout methods conserved over 229,000 gallons of water and generated over 1.5 million gallons of waste-derived fuel for manufacturing processes.[12]
- **ExxonMobil**'s global network of lubricants blending and packaging plants divert more than 90% of its waste from the landfill using strategies ranging from the repair and reuse of container pallets to an advanced distillation process to recover laboratory solvent. Collectively, these efforts have led ExxonMobil to redeploy to new, productive uses more than 50,000 tons of waste produced each year.[13]
- **Ergon** partnered with RoadRunner Recycling to improve its waste management, which has already resulted in over 333 metric tons of waste diverted and 1,153 metric tons of CO_2e saved.[14]
- **Placid Refining** continually evaluates by-products and residual materials to identify secondary markets with the goal of fostering recycling and reuse while maximizing resource utilization. This strategy has allowed Placid to greatly reduce waste generation from the Port Allen refinery.[15]
- Nearly 19,000 metric tons of spent caustic from **Marathon Petroleum** refineries were reused by the paper goods industry, obviating the need for manufacturing new chemical inputs and thereby reducing the associated emissions to the paper manufacturing process.[16]
- **W.R. Grace** actively works to minimize the generation of hazardous waste, including by partnering with recycling facilities and vendors to reclaim spent solvents and metals, reclaim and recycle mercury, and minimize the disposal of waste drums. Grace also recovers, reuses and resells byproducts such as high-concentration sodium aluminate and silica residues.[17]
- 96% of all **Valero** refinery hazardous and exempted waste was recycled in 2023.[18]

Land

Our members continue to work with nonprofits and community organizations to foster biodiversity within our fencelines and in neighboring communities.

- **Marathon Petroleum** donated $190,000 for environmental conservation initiatives with the Zia Pueblo of New Mexico and the Osage Nation of Oklahoma. Funds for the Zia Pueblo addressed and prevented environmental issues after the annual monsoon season resulted in significant soil erosion. Funds for the Osage Nation, meanwhile, supported the environmental remediation of a former rail yard and the creation of an outdoor health complex.[19]

- **Ecolab** is working with The Nature Conservancy to conserve and restore 10,000 acres of the Lower Mississippi Alluvial Valley, which is home to numerous wildlife and plant species as well as serving as a critical habitat for over 200 species of migrating birds.[20]

- Over the last decade, the **CITGO** *Caring For Our Coast* program has resulted in over $8 million[21] in donations, more than 200,000 hours of volunteer time, nearly 1 million trees and grasses planted, more than 520,000 pounds of trash collected and 12,000 acres restored.[22]

- **Eastman** provided grant funding and employee volunteers to bring to life a network of pollinator gardens, with over 5,000 square feet of gardens at four elementary schools in Kingsport, Tennessee. The project was recently recognized by Keep America Beautiful with an Innovation Award.[23]

- **Chevron's** Pascagoula Refinery partnered with Mississippi Gulf Fishing Banks to donate four carbon steel structures from a refinery project to use in creating artificial reefs offshore. Chevron also donated $30,000 to the group to support the building of the reefs.[24]

- **ExxonMobil** is a charter member of the Wildlife Habitat Council, and has undertaken 32 habitat, species and education projects at 14 company sites.[25]

- **Phillips 66, Flint Hills Resources, Plains All American Pipeline** and **Energy Transfer** all support Ducks Unlimited's mission to preserve wildlife habitat. In 2023, Phillips 66 provided Ducks Unlimited with a gift of $300,000 to help build ZooMontana's new Foster Waterfowl Refuge, the latest of more than 30 projects they have partnered on during the past decade that resulted in about $4 million donated to conservation efforts for more than 35,000 acres of wetlands.[26] For over 30 years, Flint Hills Resources has worked with Ducks Unlimited to preserve wetlands and conserve habitat in the upper Midwest and Texas.[27] Plains All American Pipeline, meanwhile, entered into a three-year agreement with Ducks Unlimited Canada to advance the conservation of the McIntyre Ranch in Alberta, helping to preserve one of the largest wetlands and prairie grasslands remaining in Canada and protecting the many animal species that thrive there.[28] And Energy Transfer has committed $5 million to Ducks Unlimited, helping to conserve over 8,500 acres of coastal wetlands and grasslands in Louisiana and Ohio.[29]

Restoring the Land

The U.S. pipeline system spans more than 2.6 million miles[30] , but chances are, you probably don't even notice it. Why is that? Most of that pipeline is hidden safely underground, with meticulous care to limit disturbance. And many pipeline companies, including AFPM members, go the next step to restore the land after construction.

Matt Isom, Vice President of Engineering for North America at Plains All American, is walking the talk as a pipeline company employee who also owns land with three active pipelines running through it. Matt's land, just outside of Midland in West Texas, would have once been shortgrass prairie. Like much of West Texas though, soil erosion and invasive plant species like mesquite and other shrubs have over time changed the landscape.

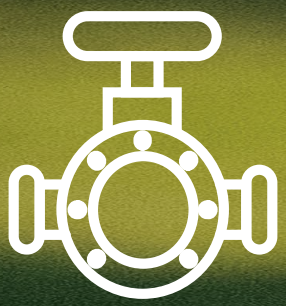
"When I look at the pipelines and what they do, they're helping part of my conservation effort. Working with the pipeline companies that have installed them gives me an opportunity to return the land back to where it was before — grasslands."

Like Plains, ONEOK prioritizes habitat restoration, which includes determining the right seed mixes for the area as well as carefully removing and storing the top layer of soil during installation to restore the land to its original condition following construction. During 2023, ONEOK restored nearly 400 acres of habitat related to pipeline projects completed during that year.[31]

U.S. pipeline companies also work with nonprofits and other outside groups to restore habitats, implement reforestation projects, and evolve practices for pipeline operations and land management.

In some of the busiest oil and natural gas fields in the U.S., Marathon Petroleum's midstream segment, MPLX, is collaborating with nonprofit Texan by Nature, founded by former first lady Laura Bush, to elevate habitat restoration and water conservation. Texan by Nature is supporting a 2024 pilot program with MPLX's Gathering and Processing (G&P) component that aims to increase conservation through use of dark-sky lighting, recycling water, restoring native vegetation and restoring playas.[32]

"Pipelines are among the safest and most efficient means to move our in-demand energy products around the country," said Rob Benedict, AFPM's Vice President of Petrochemicals and Midstream. "And, AFPM members like Plains All American, ONEOK and Marathon Petroleum ensure that pipeline installations cause minimal disruption to the environment, actively engage in land conservation and restoration, and strive to be responsible neighbors."



"At Plains, when we put a pipe in, we maintain it and we care about it. It's all driven to protect the environment and the community."

Matt Isom, Vice President of Engineering for North America at Plains All American

The health and safety of our employees, communities, and the environment remain our top priority. Our commitment to safety transcends regulatory compliance and industry standards, embedding a culture of vigilance and care into every aspect of our work. From the moment employees join our ranks, they are immersed in a safety-oriented culture that shapes our operations and drives our continuous improvement in health and safety practices.

Health & Safety

Safety Record

The fuel and petrochemical industries are unwavering in our pursuit of safety excellence, aiming for zero injuries and incidents across all operations. Our commitment to continuous improvement and rigorous safety protocols has led to consistently low illness and injury rates, setting a high benchmark among manufacturing sectors. With advanced safety technologies, comprehensive employee training, and collaborative industry practices, our safety record remains among the best in the sector, as evidenced by our top rankings in recent federal safety assessments.

Refining and Petrochemical Industries Are the Safest Among U.S. Manufacturers

Data from Occupational Safety and Health Administration (OSHA) and the U.S. Bureau of Labor Statistics (BLS) consistently rank refining and petrochemical manufacturing among the top three of nearly 500 U.S. manufacturing sectors they track. In 2022, petrochemicals ranked first and refining second. In 2023, refining ranked third, though petrochemicals were not tracked.

The OSHA and BLS data track injury and illness rates across U.S. professional and manufacturing sectors. Injury and illness rates in the refining and petrochemical manufacturing industries are lower than in mining, food manufacturing, ship building and paper manufacturing, just to name a few. When sectors beyond manufacturing are included, the refining industry rate is below those in business services, agriculture and air transportation, among many others.

In addition to leading in this safety category, the refining and petrochemical industries have seen tremendous improvements in process safety as well. The data shows that rates of Tier 1 process safety events[33] have been cut in half over the last decade.

Process safety is defined by OSHA as the proactive identification, evaluation, and mitigation or prevention of chemical releases that could occur due to failures in processes, procedures, or equipment.

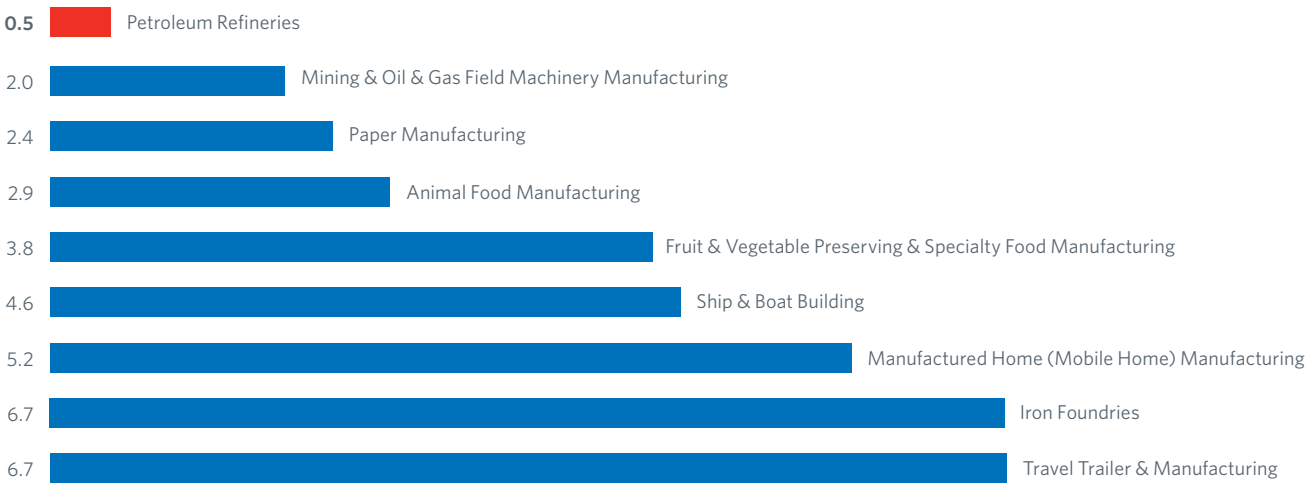
A Tier 1 Process Safety Event (PSE) is defined as the most severe event, involving significant consequences such as injuries, fatalities, major property damage, or community impact.

Incidence Rates of Non-Fatal Injuries or Illnesses Among Manufacturing Sectors

In 2023, petroleum refineries ranked 3rd of 500 manufacturing industries with a TRIR of 0.5

"This record underscores AFPM members commitment to safety, collaboration, and zero incidents. There is nothing more important to our industries than the safety of our people, communities, and the environment around us."

Lara Swett, AFPM Vice President of Technical and Safety Programs at AFPM



Outstanding Safety Performance

AFPM members routinely outstrip their peers — and other industries — in achieving stellar safety records. These successes reflect the effectiveness of their safety programs, stringent protocols, and the dedication of their workforce, truly demonstrating the priority they put on safe operations.

- **Chevron Phillips Chemical** performed in the top decile in the industry with a Total Recordable Incidence Rate of 0.08.[34]
- **Placid Refining** became an Occupational Safety and Health Administration Voluntary Protection Program (VPP) Star Site in 2006 and has maintained that status ever since. The VPP program focuses on hazard prevention, worker involvement, training and management commitment. To achieve Star status, sites must demonstrate stellar commitment to health and safety, have incorporated comprehensive health and safety management systems, and must maintain illness and injury rates below the national average for their industry.[35]
- In June 2023, **Ketjen**'s Amsterdam site marked 1,000 days without a recordable injury. Ketjen's sites at Bayport and Pasadena received Responsible Care© Facility Safety Awards from the American Chemistry Council (ACC) for significant achievements in employee health and safety performance.[36]
- **Phillips 66**'s Sweeny Refinery and Rodeo Refinery won the 2023 AFPM Distinguished Safety Award, the industry's highest safety honor. For the Sweeny Refinery, it was the third year in a row that it won the Distinguished Safety Award — a record achievement.[37]
- In 2024, five **Marathon Petroleum** drivers received the Million Mile Award for driving one to two million miles without a preventable accident.[38]
- **LyondellBasell**'s Channelview, Texas site reached 6.2 million safe working hours in 2023; this achievement was the result of an increase in procedure audits and behavior-based observations as well as a focus on human and organizational performance principles.[39]
- In 2023, **Cheniere** exceeded its corporate safety target, reaching the top decile of industry safety with a 0.10 Total Recordable Incident Rate.[40]
- In 2023, **Par Pacific**'s Billings, Montana refinery was presented with a safety award for its performance by AFPM. The refinery was selected for an Elite Silver Award, recognizing sites that have attained top 10% industry safety performance in 2023 and have demonstrated excellent program innovation and leadership over time.[41]

Industry Programs

U.S. refiners and petrochemical manufacturers work collaboratively to learn from each other and share good practices to advance safety across industries. AFPM facilitates this collaboration through a series of safety programs focusing on process safety, occupational safety and training and development.

ADVANCING PROCESS SAFETY

AFPM API

Advancing Process Safety Programs
Advancing Process Safety (APS) is AFPM's flagship safety program. AFPM developed this groundbreaking program to promote collaboration across industries and to continuously improve process safety through data collection and opportunities to share experiences and knowledge. Created in 2012 to improve process safety at facilities, this voluntary program has grown to include a suite of resources — including virtual reality, webinars and other tools and resources — that encourage the sharing of learnings and information.

AFPM's Advancing Process Safety Program consists of several programs:

- ***Walk the Line***: Employee human performance program directed at operators that provides a toolbox of training materials and learnings to prevent common incidents caused by errors associated with operational discipline.
- ***The Process Safety Regional Networks***: Six regional information sharing networks that allow process safety professionals to improve overall safety performance through collaboration at the site and association level.
- ***The Process Safety Site Assessment Program***: Independent third-party assessments that help facilities prevent process safety events through rigorous evaluation of written programs and operations.
- ***Hazard Identification/Practice Sharing Subgroup***: Develops Hazard Identification and Practice Share documents for broad industry distribution that address common industry hazards and good industry practices.
- ***The Mechanical Integrity Subgroup***: Develops resources to help members improve mechanical integrity programs, a key process safety program element.
- ***The Human & Organizational Performance Subgroup***: Develops information and tools to improve human performance in operations that aid in reducing the likelihood and consequences of human errors.
- ***Industry Learning & Outreach Subgroup***: Industry data analysis that identifies opportunities for improvement for APS and conducts monthly industry webinars.

Occupational Safety Programs
AFPM Occupational Safety programs and trainings are geared toward preventing injuries in our facilities. Through incident data collection, we can identify opportunities for industrywide improvement and build tools to address these issues, which are then shared throughout the industries. Our Occupational Safety Regional Networks facilitate information sharing, including lessons learned to improve the overall safety of the industries. Sharing good energy isolation practices has been a significant focus of this program.

Immersive Learning Program
The AFPM Immersive Learning Committee provides a forum to share knowledge around the quickly evolving area of immersive learning. This includes highly interactive technologies like virtual and augmented reality to improve performance and safety, while also reducing training time. This group developed the first AFPM virtual reality simulation, a complex training tool replicating the process for lighting a fired heater from a cold start — a key facility operation for which hands-on training with intricate procedures is crucial. This simulation aims to improve and support the retention and comprehension of training by providing the opportunity to "fail safely" by experiencing low frequency, high consequence incidents in a safe, simulated environment.

Sharing Safety Practices Across the Manufacturing Sector
Other industries and government partners are taking note of the success of AFPM's safety programs and are seeking to apply good practices more broadly across the manufacturing sector. During the last year, AFPM has worked with organizations and government partners such as the American Petroleum Institute, the Chemical Safety Board and the Occupational Safety and Health Administration (OSHA) to share learnings derived from these programs.

Operations and Technology

Innovation drives safety in the U.S. fuel and petrochemical industries, where we are continually adopting state-of-the-art technologies to bolster safety practices on process safety, occupational safety and training and development.

- **Chevron** is constantly evaluating new technologies to optimize employee safety, using mobiWAN — an ears-free bone-conduction audio device — to improve two-way communication in high-noise environments and developing the Chevron Environmental Site Assessment Robot (CESAR), a semi-autonomous robot with sensors designed to assess environmental conditions from afar in order to avoid human contact with potential hazards.[42]

- **CHS** uses tablet-sized acoustic equipment to detect and address potential leaks, utilizing ultrasound to detect otherwise imperceptible leaks in the facility's infrastructure.[43]

- Employees at **Chevron Phillips Chemical**'s Borger, Texas facility piloted the Safe Work Interactive Field Technology (SWIFT) e-permitting application during critical job tasks. The electronic system allowed the site to more quickly complete permitting assignments and more fully focus on the job at hand.[44]

- **Phillips 66** completed a technology update for all its refining facilities to now use a fully networked personal and portable gas monitoring system. This investment has enabled more sensitive and robust data gathering and provides faster response times.[45]

- **Energy Transfer** invested $1 million to purchase Optimal Gas Imaging (or FLIR) cameras for use in its gas gathering and processing facilities. The cameras allow employees to identify the exact location of fugitive emissions originating from within processing and compression facilities and are used in addition to regular inspections, thereby providing an additional layer of safety and emissions prevention.[46]

Employee and Contractor Safety

Safeguarding the well-being of employees and contractors is essential to our operational success. AFPM members are committed to creating a secure work environment through rigorous safety protocols, comprehensive training programs, and stringent oversight.

- **Phillips 66**'s Good Catch program rewards contractors and employees who flag potential safety concerns, and its annual Safety Commitment Cards spark discussions among supervisors and employees about its Principles of Safe Operations and what employees' commitment to safety means to them.[47]

- **Ergon** created the Corporate Operational Excellence Department, in part to streamline both process and occupational safety efforts companywide. This team is working with other departments to develop messaging for Target Zero, Ergon's initiative to encourage employees to be intentional about safety, with an emphasis on ensuring employees feel comfortable exercising their Stop Work Authority when they notice safety issues or hazardous conditions.[48]

- **Marathon Petroleum** implemented three new safety programs across its refining operations. The *Start Safe, Stay Safe* program highlights Marathon's commitment to the safety of its employees, contractors and communities with near- and long-term safety goals that strive for a best-in-class safety culture. The *My Name Is On It* mentorship program emphasizes a responsibility approach for front-line leaders to hold themselves accountable and keep them committed to the safety of their teams. Safety Leadership with our Business Partners, meanwhile, is a training program to engage employees, contractors and business partners as they learn about leadership, safety skills and safety programs critical to Marathon operations.[49]

- **LyondellBasell** holds an annual Contractor CEO Safety Conference in Houston, Texas, which shares best practices and presents Bright Star awards to contractor companies with zero recordable injuries.[50]

- **ExxonMobil**'s safety efforts include its Life Saving Rules & Actions, which employees and contractors collaborate to execute when dealing with routine work that has higher-risk elements. This program is bolstered by ExxonMobil's recently deployed Start Work Checks, which are designed to aid crew leaders and supervisors in leading detailed, interactive safeguard verification discussions before work with higher-risk elements begins.[51]

- **Chevron Phillips Chemical** holds an annual Contractor Safety Forum to underscore the pivotal role that contractors play in the reliability and safety of its operations. The forum provides a collaborative space to share experiences, reaffirm commitments to safety and exchange best practices.[52]

- **Ketjen**'s Bayport facility has begun using a Contractor Management Portal, which houses contractor safety training materials and gives employees increased transparency on contractor performance. Each contractor's safety performance, their International Suppliers Networld® Rating and contractor evaluations are all reviewed by site contractor management.[53]

- Over half of **Valero**'s 12 ethanol plants have gone without an employee recordable injury and no Tier 1 Process Safety Events (PSE) over the last two years.[54]

- In 2023, **Cenovus**'s Minnedosa Ethanol Plant in Manitoba achieved a remarkable safety milestone: the company's staff and contractors collectively worked one million hours without a recordable injury. This accomplishment reflects the commitment of the entire team to prioritizing safety.[55]

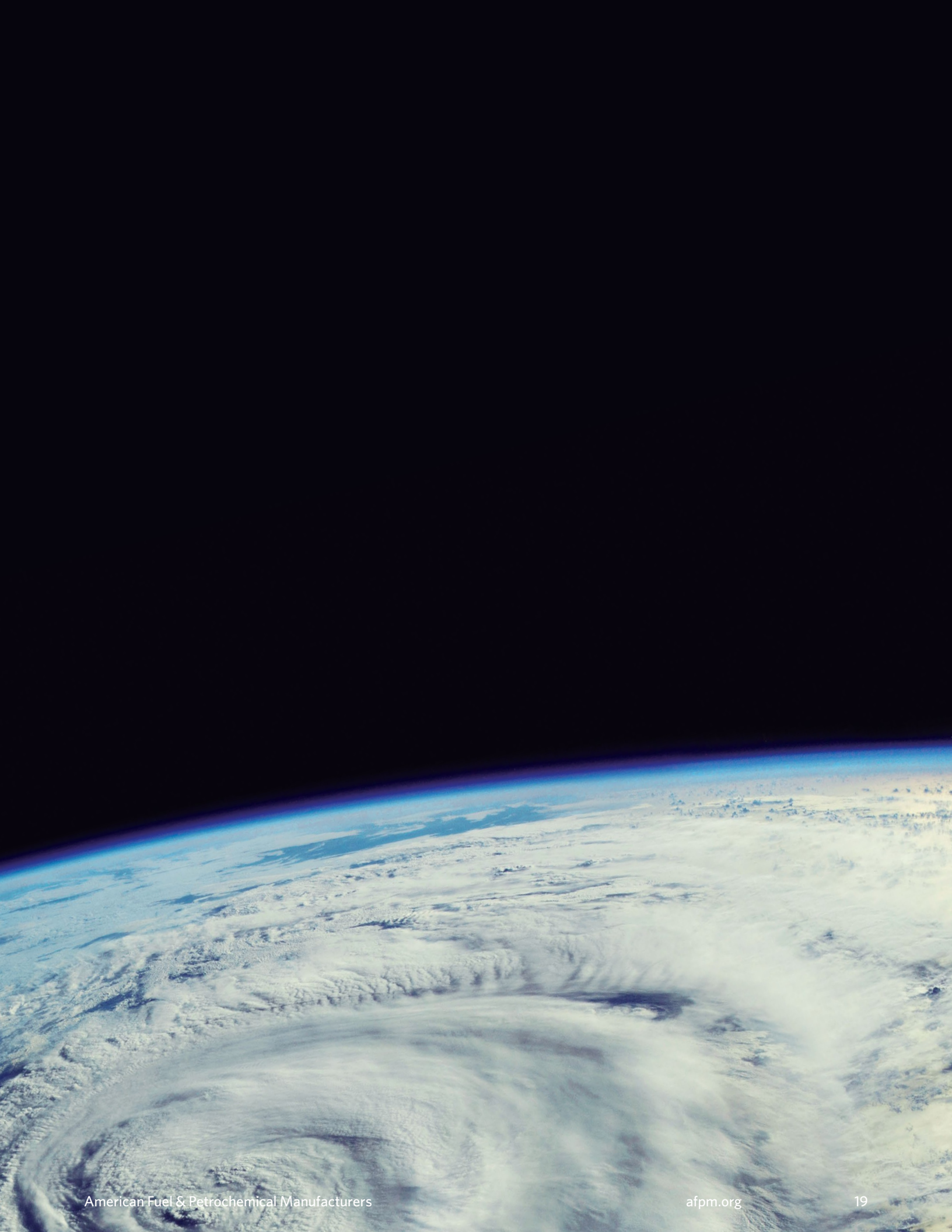
- In 2023 **INEOS** sites recorded 0.19 injuries per 200,000 hours worked for its employees and contractors combined.[56]

AFPM members are committed to creating a secure work environment.

Emergency Preparedness and Response

We prioritize extensive emergency training and regular drills to ensure that employees and contractors are well-prepared to handle various scenarios, including natural disasters such as hurricanes. Our preparedness programs involve detailed planning, real-time simulation exercises, and coordination with local, state and federal emergency response organizations. By continuously enhancing our readiness, we aim to protect our workforce and minimize the impact of emergencies on our operations and surrounding communities.

- **Marathon Petroleum's** Corporate Emergency Response Team recently hosted members of the executive leadership team, employees from the Salt Lake City refinery and local agency partners for a simulated emergency response exercise. Marathon teams worked with representatives from eight local, state and federal agencies as well as consultants and contractors to align on objectives and expectations as a way to strengthen Marathon's response tactics in the event of an actual emergency.[57]
- **Ergon Terminaling Inc**. in Magnolia, Ohio conducts annual spill drills, where local fire departments and HAZMAT teams come to learn or brush up on their knowledge of the spill containment process and even simulate the procedure based on a scenario developed by Ergon.[58]
- **Phillips 66** hosts quarterly trainings for its more than 800 refinery fire brigade members, preparing them to respond to emergencies in conjunction with relevant local, state and/or federal agencies.[59]
- **LyondellBasell's** teams at manufacturing sites in the U.S. Gulf Coast train routinely about what to expect and how to prepare for hurricane season. Sites have extensive storm preparedness procedures, which include testing power generators and communication systems, removing or anchoring potential projectiles, placing sandbags in critical low-lying areas such as control rooms, and maintaining contact with local emergency response agencies.[60]
- **Plains All American Pipeline** held roughly 230 emergency response training exercises involving employees, first responders, response organizations regulators and contractors. These exercises included four large-scale and 21 special training events, providing training to about 1,450 first responders.[61]
- **Valero** invested in 13 quick-attack vehicles for its domestic sites to bolster its emergency response capabilities. These vehicles are strategically equipped to deliver a rapid and efficient response to potential emergencies, further enhancing Valero's operations safety protocols and readiness. This investment reflects Valero's proactive approach to emergency preparedness and its commitment to adopting solutions for environmental protection and safety.[62]
- To strengthen the ability to respond to emergencies, **Cenovus** offers local municipal fire departments the opportunity to participate in industrial firefighting training. These sessions provide a hands-on experience using real fires, and better prepare the fire departments in the communities where we operate to assist our onsite emergency response teams. In 2023, we worked with Texas A&M University to provide fire training for our Emergency Management Teams from Superior, Lima, Toledo, Lloydminster and Minnedosa.[63]



Community Safety

AFPM's commitment to safety extends to their neighboring communities. They work closely with local organizations to enhance community safety through initiatives like providing grants, safety equipment and community education.

- **CITGO**'s Lemont Refinery awarded over $80,000 in first responder grants to Illinois-based agencies in Lemont, Romeoville, Lockport and Will County. The grants will be used for educational and disaster relief purposes, resulting in better-prepared communities.[64]
- **Marathon Petroleum** provided two first responder grants to the Stockton Police Department and Stockton Fire Department in California, allowing three firefighters to complete tactical medical training and to purchase tactical medical bags, enabling them to assist the police department SWAT team in their duties.[65]
- **Phillips 66**'s Hartford, Illinois refinery donated $39,000 to the Hartford Fire Department, which they used to purchase new bunker gear — including pants, coats, boots, helmets, Nomex hoods and gloves — for the department's volunteer firefighters.[66]
- **CountryMark** conducts more than 40 public awareness meetings each year to educate first responders, Local Emergency Planning Committees, public officials, excavators and students on pipeline safety.[67]
- **Flint Hills Resources** has donated more than $1.8 million to emergency first responders for training and the purchase of life-saving equipment.[68]
- **LyondellBasell** donated $100,000 to the Texas A&M Engineering Extension Service to help support a new 40,000-square-foot classroom and office building at the Brayton Training Field and Disaster City, where over 45,000 emergency responders train each year.[69]
- **ExxonMobil** donated $200,000 in San Patricio County, Texas to secure a fire safety trailer, which local emergency responders use to increase fire safety awareness during community events.[70]
- **Monroe Energy** has over 70 Volunteer Emergency Response Team members and participates in mutual aid agreements with organizations throughout the Delaware River Corridor while also working with local, county and state emergency response organizations.[71]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The U.S. fuel and petrochemical industries are dedicated contributors to the communities in which we operate. We are committed to creating high-quality jobs, supporting local businesses and advancing workforce development through targeted training and educational initiatives. Our commitment extends beyond economic contributions to include fostering diversity, equity and inclusion both within our organizations and in the wider community. By supporting local causes, STEM education and skills training programs, we strive to build vibrant, resilient communities and empower individuals of all ages.

Thriving People & Communities

Our Workforce Today

Our companies are dedicated to recruiting talent from diverse backgrounds and creating an environment where every employee is actively supported and respected.

Internal

AFPM members have launched initiatives to prioritize diversity and inclusion within their companies.

- **LyondellBasell** introduced an Equity Champion role into the formal year-end performance management assessment to listen for equitable discussions on performance, as well as to implement steps and tools for reviewing equity throughout the year-end performance management process.[72]
- **Phillips 66** holds an annual Inclusion and Diversity Week to create an opportunity for its global employees to promote a culture of learning and understanding. The events include programming like webinars focused on inclusion, community, allyship and courage.[73]
- **ONEOK** has a D&I Council, which is a group of approximately 20 employees that is supported by the CEO and co-chaired by two members of the leadership team. The Council provides insight on how D&I can improve ONEOK's organizational performance, help the company be an employer of choice for people of all backgrounds and drive overall business results. The council is comprised of leaders from different work locations, business units and seniority levels and includes members with different identities, personal experiences and points of view.[74]
- Over 70% of **LyondellBasell** employees finished more than 35,000 diversity, equity and inclusion-related training sessions.[75]

Employee Resource Groups

Employee Resource Groups (ERGs) offer employees a platform to connect over common interests and experiences. Within AFPM member companies, ERGs serve as vital vehicles for promoting diversity and inclusion as well as providing members with opportunities for personal and professional growth.

- Over 5,000 employees belong to **Marathon Petroleum**'s 76 employee network group chapters, representing seven groups — Asian, Black, Disability, Hispanic, LGBTQ+, Veterans and Women. The groups are led by employees with involvement and support from executive sponsors.[76]

- **Cenovus** is proud to have six inclusion and diversity networks (enABLE, Fusion, Indigenous Community Sharing Circle, Pride, Stronger Together with Women@CVE and Mental Health Matters) that enhance the overall employee experience whether they identify with a specific demographic or participate as an ally. Cenovus' Women@CVE is its largest and longest-running inclusion and diversity network, designed to promote self-development and strategic connections among employees. The mission of Women@CVE is to raise awareness for gender equality and promote representation. Founded in 2010, the network has grown to over 1,000 members of all genders from across the company. Each year the network holds an event to celebrate International Women's Day as well as speaker sessions and fireside chats with Cenovus leaders.[77]

- **Chevron**'s ENhancing ABilities and LEveraging Disabilities (ENABLED) employee network hosted its inaugural summit, which united employees from more than 30 countries to illuminate the experiences, knowledge and contributions of people affected or otherwise touched by disabilities.[78]

- **Ketjen** continues to leverage its parent company's employee resource groups, called CONNECT groups, organize learning and awareness-raising events and create networking and mentoring opportunities. Ketjen employees have setup local chapters including Black Employees CONNECT in Houston and Women CONNECT in Houston and Amsterdam. Ketjen employees also participate in Albemarle CONNECT groups such as Pride CONNECT and LatinX.[79]

- **Dow** has 10 employee resource groups and increased its best-in-class ERG participation to nearly 61% of employees in 2023.[80]

- **Plains All American Pipeline**'s employee-led Cultivating Connections network aims to encourage inclusion at Plains and industry-wide through mentoring, networking, sharing experiences and furthering leadership development. To expand its reach, Plains launched a young professionals' group to provide development opportunities to early-career employees.[81]

- **W.R. Grace** encourages the wealth of employee experiences and perspectives through its ERGs, which include the Asian American & Pacific Islanders (AAPI) Group; Black Employee Resource Group (BERG); Grace Pride Society; Military Veterans Employee Resource Group (G-VETS) and Women Employees & Allies Championing Together (WE ACT).[82]

- **SABIC** supports both the SABIC Women's Network and the SABIC Young Leadership Council to promote development among women and younger employees and enable them to reach their full potential. The SABIC Young Leadership Council provides future leaders with the ability to engage directly with SABIC's executives and influence future business decisions.[83]

Women@CVE has grown to over 1,000 members of all genders from all across Cenovus

Awards

Our industries are routinely recognized by leading outside organizations for their work in promoting diverse, equitable, inclusive and responsible workplaces.

Chevron, **Chevron Phillips Chemical**, **Dow**, and **Ecolab** were named in *Forbes*' 2023 "America's Best Employers for Diversity" list.[84]

Dow, BASF, Linde and **Ecolab** were included on *Fair360*'s 2024 "Top 50 Companies," based upon six key areas of workplace fairness.[85]

Chevron, Marathon Petroleum, Phillips 66, Dow, Albemarle, Baker Hughes, Ecolab and **Honeywell** all were included in the *Disability Equality Index*'s 2024 list of "Best Places to Work for Disability Inclusion."[86]

Chevron, Eastman and **Honeywell** were named to the 2024 Readers' Choice "Top 50 Employers" by *Woman Engineer* magazine.[87]

Phillips 66, **Eastman** and **BASF** were listed in the 2024 Readers' Choice "Top 50 Employers" by *Minority Engineer* magazine.[88]

Albemarle, Marathon Petroleum, Chevron, Dow and **Ecolab** were all recognized in *JUST Capital*'s 2024 "JUST 100" rankings.[89]

LyondellBasell, MPLX, ONEOK, Albemarle, Honeywell, Ecolab, Air Products and Chemicals and **Baker Hughes** were recognized in *Newsweek*'s 2024 list of "America's Most Responsible Companies."[91]

Phillips 66 is regularly recognized for its support of veteran hires, including being named a Best for Vets Employer by the *Military Times*, with a No. 1 ranking for all refiners and a top 10 ranking for all employers in Texas. According to a third-party administered survey, nine percent of employees self-identified as veterans.[90]

Supply Chain

AFPM members are actively engaging with suppliers to extend sustainability initiatives beyond their operations and throughout the supply chain.

- **Chevron, Cheniere** and **Marathon** are all active in the Women's Business Enterprise National Council and the National Minority Supplier Development Council, with Chevron and Marathon also supporting the National LGBT Chamber of Commerce.
- **Marathon Petroleum** spent over $795 million with small and diverse suppliers as a part of its Supplier Diversity program.[92]
- **Phillips 66's** supplier diversity program has created collaborative relationships, digital dashboards and tools, and internal metrics for benchmarking diverse supplier utilization. Phillips 66 spent $134 million in Tier 1 diverse supplier spending (made up of direct suppliers to Phillips 66), a 16% increase over the previous year, and $84.6 million in Tier 2 diverse supplier spending (made up of those companies working with Phillips 66 contractors), a 6% increase over the previous year.[93]
- **Cheniere's** Supplier Diversity Initiative is led by its Supply Chain Management team, supported by a cross-functional working group with leaders and representatives from DEI; Policy, Government and Public Affairs; and Operations.[94]
- **Chevron** recently deployed a new registration portal for prospective small and diverse companies and consulted with existing suppliers to better understand suppliers' utilization of small and diverse companies in their work with Chevron.[95]
- **Dow** spent about $335 million with global certified diverse and small businesses.[96]
- Through its Supplier Diversity Program, **Chevron Phillips Chemical** spent $284.61 million on Tier 1 diverse suppliers and $111.18 million on Tier 2 diverse suppliers, more than doubling its diverse supplier spending from the previous year.[97]
- **ONEOK** spent over $260 million with third-party verified diverse and small-business suppliers, including more than 150 women-owned businesses, about 105 minority-owned businesses and more than 50 veteran-owned businesses.[98]

Talent Development

AFPM members' commitment to nurturing talent is reflected in their comprehensive array of programs designed to enhance skills and foster leadership. From educational assistance programs to cutting-edge e-learning platforms and specialized training, they provide their employees with the tools and opportunities needed to excel.

Career Development

AFPM members foster a culture of continuous improvement and professional development, empowering their workforce to reach its full potential.

- **Phillips 66** provides several skill- and business-unit-specific training initiatives to help early-career employees gain industry knowledge, technical expertise and networking skills. For example, KATALYST is a three-month energy commodity supply and trading development program for new hires, focusing on the energy value chain followed by targeted career rotations. PREP is a multi-year engineering program, which is complemented by PROPEL, a self-paced program with virtual courses for engineers in their first five years at the company. EDP, meanwhile, is a four-year development program for early-career engineers in the Midstream segment that builds foundational knowledge and technical skills.[99]

- **Par Pacific** provides educational assistance to support its employees as they enhance their skills and knowledge and network with other professionals. Par Pacific also delivers frequent opportunities for employees to deliver expertise as a part of their workplace offerings.[100]

- **Cenovus**' corporate culture supports development, provides purpose-driven work, pays competitively and delivers recognition based on performance and results. The company aims to create a culture that encourages employees to grow their careers with them. In 2023, Cenovus initiated a partnership with WinSETT — a non-profit organization that aspires to recruit, retain and advance women in STEM. Cenovus also partners with universities and colleges, and provides scholarships to a diverse group of students working towards education that can support the energy industry.[101]

- **Chevron**'s Digital Scholars Programs supports employees pursuing a one-year Master of Science degree with Massachusetts Institute of Technology's System Design and Management, while also seeking to incorporate a scholar's industry experience and domain knowledge with emerging digital skill sets. While participating in the program, scholars reside at the academic institution but continue to receive full employee pay and benefits.[102]

- **W.R. Grace** has a three-year Manufacturing Leadership Program, which offers recent bachelor's and master's graduates a chance to explore different operations experiences under the guidance of a senior-level mentor. Participants rotate through three year-long assignments in disciplines such as Process Engineering, Supply Chain, Project Engineering and Environmental, Health & Safety while receiving professional training and development to optimize leadership skills.[103]

- **LyondellBasell**'s e-learning platform allows employees to drive the development of new skills through on-demand learning. More than 35% of LyondellBasell's employees have enrolled in the platform, with participants completing more than 200,000 training hours.[104]

- **Marathon Petroleum** offers LinkedIn Learning to salaried employees, interns and co-ops to provide a variety of expert-led courses and tutorials on topics ranging from technical skills to leadership development. The platform is coupled with other career development resources to create a comprehensive pathway for professional growth. Marathon employees recorded over 1.2 million training hours overall, with an average of 69.5 training hours per employee.[105]

- 100% of **Chevron Phillips Chemical**'s employees participated in the Sustainability + Me training, a four-part series covering sustainability topics and how each employee can contribute to a more sustainable future both as individuals and as a global workforce.[106]

- **Emerson Automation Solutions** developed six 30-minute e-modules covering issues such as carbon emissions, renewable electricity and energy systems. Over 8,600 Emerson employees have taken at least one of the lessons.[107]

- Within the **INEOS** young graduate program, graduates are assigned a senior manager as a mentor and attend corporate events in the first and third years of the program. These provide valuable networking opportunities and allow graduates to meet senior leaders from across INEOS.[108]

Driving Engagement

Effective communication and responsiveness are critical to maintaining a positive and productive workplace. To this end, AFPM members actively seek feedback from their employees through targeted surveys designed to capture experiences and perspectives.

- **Phillips 66** increased the frequency of employee engagement surveys to create a continuous listening program focusing on engagement, performance enablement, manager effectiveness and culture. In 2024, Phillips 66 emphasized efforts to help its employees better connect with and understand its vision and strategy, increase their sense of belonging and provide more visibility into opportunities for development and growth.[109]

- **Chevron Phillips Chemical** retained a third-party human resource consulting firm to conduct an enterprise-wide employee engagement survey asking employees about employee culture, job satisfaction, workload and more. CPChem recorded a Sustainable Engagement score of 85%, measuring how connected employees feel to the company, overall well-being and support for productivity.[110]

- **Emerson Automation Solutions** launched the Your Voice Counts listening strategy, which aims to both enhance the voices of its employees and provide Emerson's leaders with more insights into employee sentiment. After the initial employee engagement survey, Emerson leadership responded to the feedback with the launch of leadership development toolkits for its people managers focusing on innovation, inclusion, collaboration and change leadership — all key areas identified through its employee engagement survey. Emerson also delivered more career development resources and increased access to internal opportunities that can help employees develop their skills and grow professionally, with enhancements such as a new career opportunity-focused internal site with on-demand training videos and resources.[111]

- **Marathon Petroleum** holds focus groups and conducts targeted "pulse" surveys throughout the year to help the company better and more frequently understand how well it's doing at creating positive employee experiences. In 2024 Marathon conducted a pulse survey asking questions about employee engagement, experience and well-being to help it support employees with prioritization of work, more meaningful career conversations and communicating its strategy to employees.[112]

- **Ecolab** conducts an annual enterprise-wide employee engagement survey, the latest of which showed an engagement rate of 81% and an inclusion index score of 85%, with 89% of respondents feeling included as part of a team among their co-workers.[113]

- **Baker Hughes** launched its #LetsTalkCulture series, which features Baker Hughes executives and attracts employees from around the globe that want to learn more about how its leaders are incorporating culture into their teams. The first two sessions focused on what a culture of inclusion really means and how leadership is a crucial contributor to a company's culture.[114]

Well-Being

Prioritizing workforce well-being is essential for fostering a thriving and productive work environment in our industries. Our members' approach includes programs designed to support the physical, mental and emotional health of employees.

- **SABIC** not only maintains dedicated regional portals and microsites to provide well-being-related information to employees but also promotes awareness through webinars, discussions and campaigns to address topics such as preventative care, physical activity, stress reduction and mental health.[115]

- **ExxonMobil** provides a comprehensive Culture of Health program to create an environment and resources that consistently promote safe and healthy behaviors through such means as periodic health surveys, encouraging biometric screening, access to well-being champions and resources to aid employee resiliency.[116]

- Healthy You, **Chevron's** global wellness program, empowers employees to seize control of their health and well-being by learning about how choices regarding exercise, diet, work-life balance and tobacco use influence health. Employees and adult dependents in the U.S. also have access to a coaching resource that supports proactive mental health, belonging and inclusion.[117]

- **Marathon Petroleum's** Well ALL Ways program emphasizes preventative health and provides a financial incentive to employees who complete an online health assessment and a preventative physical examination. Employees can earn a $400 payroll stipend, with an additional $200 if their qualified spouse or partner completes the exam as well.[118]

- **CountryMark** provides their employees with an onsite wellness center, telehealth and preventative health programs, employee assistance programs, paid parental leave and tuition reimbursement, among other offerings, to help ensure a positive work-life balance.[119]

- **Chevron Phillips Chemical** employees have access to "Your Journey to Wellness," which is a program designed to improve physical well-being while earning cash incentives and reimbursements for participating in preventative health care activities. CPChem recently augmented and expanded this program, creating more opportunities to earn rewards by completing a health screening or participating in a regional step challenge.[120]

- The new Caring by **Arkema** program connects all Arkema employees and their families with easy access to a therapist 24 hours a day, 7 days a week in 60 languages to receive personalized support safely, anonymously and confidentially. The platform also offers a variety of articles, videos and information modules on topics related to stress and well-being.[121]

- **Ergon** West Virginia has retained the services of counselors to help employees navigate anxiety, stress and other mental health difficulties. The services are private and confidential, but some employees have expressed how beneficial the counseling has been in helping them work through familial and personal situations that once held them back, boost self-confidence by managing insecurities, and find motivations and skills that have helped them manage stressful situations.[122]

- **INEOS** Energy Station was developed as an online health and wellbeing platform for all INEOS employees to utilize for free. The portal hosts challenges, fitness tips, wellbeing tips, a bookable class timetable, discounts with well-known fitness, and wellbeing brands, an insight into the INEOS Sports teams, and information on the IN NAM Graduate Program.[123]

- **LyondellBasell** employees and spouses enrolled in a company plan in the U.S. have access to fertility benefits. Employees can also participate in the Caregiver Support program to benefit from backup child and elder care, and LyondellBasell's global parental leave policy was expanded to provide seven weeks of paid parental leave per calendar year to all eligible employees who become parents.[124]

- **Dow's** Disability Employee Network organized Mental Health First Aiders training for employee volunteers, helping them to provide support to co-workers and better recognize early mental health symptoms while recommending available resources to those in need.[125]

Our Future Workforce

STEM Education

Promoting STEM education is a key strategy for ensuring a steady influx of talented individuals into the fuel and petrochemical sectors. AFPM members are dedicated to increasing student engagement in STEM fields by making substantial financial investments and developing targeted educational programs.

- **Flint Hills Resources** has invested over $5 million into STEM programs, including programs at the Texas State Aquarium, Minnesota Zoo and the Science Museum of Minnesota.[126]
- In 2024, **Motiva** awarded 43 high school graduates from Southeast Texas with $260,000 in scholarships as a part of its Motiva Excellence in Education Scholarship. Recipients receive scholarship funds to aid in their pursuit of a STEM or business-related undergraduate, associate or vocational degree. Since its inception, Motiva has awarded more than $3.2 million to local students.[127]
- **Philips 66** awarded $1 million to Project Lead the Way to support STEM programming in middle schools. Phillips 66 funded 72 schools in its communities, with an average population of 67% underrepresented minorities and 67% participation in the free and reduced lunch program.[128]
- **Valero** donated $1 million to Texas Biomed to create the Valero Young Scientist Program, a four-week summer program to introduce high school students to researchers, teachers and graduate students at Texas Biomed as a way to inspire local students to become the scientists of tomorrow.[129]
- **LyondellBasell** joined the Discovery Education STEM Careers Coalition to help K-12 educators connect students to STEM. LyondellBasell also helped found the Sustainability Education Coalition, which empowers K-12 students to serve as sustainability ambassadors by providing the necessary resources for students to take responsible actions supporting sustainability.[130]
- For 15 years, **Marathon Petroleum** employees from the St. Paul Park refinery in Minnesota have partnered with Oltman Middle School for its annual Math & Science night. The event brings together volunteers — including those from Marathon Petroleum — with middle school students for a full day of STEM activities. In addition to helping to organize the event and providing volunteers, Marathon also provides the school with a $5,000 grant each year.[131]
- **ExxonMobil**'s Beaumont facility has donated more than $230,000 to the Beaumont Independent School District to fund STEM programs, robotics and curriculum development, with nearly 5,500 students engaging in STEM programs since 2018. The Beaumont site has also donated over $130,000 to the Southeast Texas Family Resource Center for after-school STEM programming, equipment and activities.[132]
- **Cenovus** provides a STEM scholarship to allow high achievers to pursue an education in STEM disciplines, providing $5,000 as well as development opportunities and engagement activities. In 2023, Cenovus awarded 40 STEM scholarships, but it plans to more than double that amount to 100 in 2024.[133]

STEM Summer Camps

Memories from summer camp can last a lifetime, like finally working up the courage to jump off the rope swing or the excitement you felt performing with your friends in the talent show. When it's a STEM (Science, Technology, Engineering, and Mathematics) summer camp — those experiences can also ignite a lifelong passion.

Many AFPM members are volunteering their time, experience and knowledge to host STEM summer camps to inspire and educate young students in these fields. These camps include a variety of hands-on activities, workshops and presentations led by industry professionals.

Nearly 150 volunteers across seven facilities welcomed over 400 children to Chevron Phillips Chemical's Camp Chemisphere. The camp featured hands-on STEM experiments and engaging chemistry demonstrations, offering the children a glimpse into the science behind CPChem.

"Camp Chemisphere is our version of 'take your child to work day.' This annual event allows children of our employees to see the scientific foundations on which our company was built. We use hands-on experiments to explain the magic of chemistry and inspire the next generation of scientists and engineers." said Erica Miller, Corporate Communications Manager at Chevron Phillips Chemical.[134]

In the summer of 2024, Motiva engineers volunteered at Lamar University's Introduction to Engineering summer camp for 6th, 7th and 8th graders. Two week-long camps were hosted for these students to explore STEM topics, with volunteers helping with hands-on activities and lessons.[135] Valero's Texas City Refinery teamed up with Linde HyCO Plant to bring STEM education to the children of The Salvation Army Boys & Girls Club of Texas City. The STEM camp was held three times every two weeks during the summer months and focused on providing STEM education to children ages 6-12.[136]

These STEM summer camps aim to spark interest in STEM subjects and give students a deeper understanding of how these industries operate, potentially inspiring the next generation of refiners and petrochemical engineers. Hosting STEM summer camps also helps companies strengthen their relationships with their local communities and provides access to valuable learning opportunities for children.

Skills Training

AFPM members are dedicated to offering a range of training opportunities, from internships and apprenticeships to supporting external educational programs.

- The **Cenovus** Lima Refinery is the first foundational partner of the Ohio State University at Lima's new Engineering Education and Manufacturing Center. The 40,000-square-foot facility is designed to produce the next generation of engineers, equipping students with exposure to the latest equipment and providing manufacturers with local talent trained in manufacturing.[137]
- **Dow**'s Last Mile Fund for Manufacturing & Skilled Trades aims to increase program completion amongst students pursuing careers in manufacturing and skilled trades by providing grants to overcome unexpected financial obstacles and support students' educational journey.[138]
- **Marathon Petroleum** donated $1.5 million to support the completion of the Heart River Career and Technical Education Center in Mandan, North Dakota. The center, which is intended to be a resource for 10 high schools in the west-central region of the state, will offer hands-on experience in construction, manufacturing, welding and other high-demand occupational fields.[139]
- **ExxonMobil** has donated more than $1.5 million to support the ExxonMobil Process Technology Program at Lee College in Baytown, Texas. The program helps students prepare to become process operators, research technicians and laboratory technicians.[140]
- **Cheniere** has invested in sponsorship opportunities and potential pathways to employment for students at industrial technology programs at SOWELA Technical Community College, Del Mar College and Lamar State College. Students are invited to serve as apprentices the year before they graduate and after graduation enter a one-year on-the-job initiative, with includes paid training, mentorship and onsite learning experiences.[141]
- **Eastman** has been an industry partner with the Federation for Advanced Manufacturing Education (FAME) program at Gadsden State Community College in Alabama since 2019. The program offers hands-on learning to students as businesses select one or more FAME students to work with them each year even as they continue their education.[142]

Advancing Opportunity

Our members are providing opportunities for students from diverse backgrounds to attend college and explore potential career pathways through a myriad of programs.

- As a component of its $1 million in contributions to DE&I-centered initiatives, **Cheniere** supports Historically Black Colleges and Universities and Hispanic-Serving Institutions like Texas A&M University-Corpus Christi, Texas Southern University, Prairie View A&M University, Howard University and Southern University through a variety of scholarships, programs, professional certifications and career readiness programs.[143]
- The Richmond Promise Scholarship Fund, launched as a result of a $35 million investment from **Chevron**, has served over 3,300 students since 2016. The funds can be used to pay for tuition, housing, books, food and other education-related expenses.[144]
- **LyondellBasell** has donated $350,000 to San Jacinto College's Promise@SanJacScholarships program, which provides a debt-free college education by covering tuition, books and supplies for up to three years for any student graduating from high school within the college's tax district.[145]
- As a part of its sponsorship of Mississippi State University's Summer Bridge Program for incoming engineering students from underrepresented populations, **Ergon** has provided funding for a book club initiative to further prepare Summer Bridge students with valuable soft skills. The books aim to encourage adaptability, critical thinking, problem-solving and effective communication.[146]
- **Phillips 66** participates in the Hiring Our Heroes Corporate Fellowship Program, which provides transitioning service members with training and hands-on experience in the civilian workforce.[147]

Our Community

For fuel and petrochemical manufacturers, our dedication to supporting the communities where we operate is a fundamental aspect of our identity. We embrace this role with a deep sense of responsibility and pride, actively contributing to the betterment of society through initiatives ranging from advancing D&I efforts in our communities to providing financial backing and volunteers to nonprofits. By investing in these areas, we reinforce our commitment to creating a positive and lasting impact on our local communities.

Giving Back

The significant support and involvement of AFPM member companies in community initiatives and nonprofits underscores their role as integral partners in local neighborhoods.

- In 2023, **Valero** and the Valero Energy Foundation generated more than $77.6 million for charities through employee and company donations, corporate philanthropy, fundraising and volunteerism.[148]
- **Phillips 66**, as a part of its Good Energy program, provided $8 million in grants and matching gifts, as well as an additional $30 million to community initiatives that focused on education equity, social advancement, safety and well-being, and the environment.[149]
- **HF Sinclair** raised over $635,000 through its Fueling Folds of Honor campaign, where a portion of fuel purchased at participating Sinclair-branded retail locations and three dollars for every new DINOPAY® user was set aside for the initiative. The funds go to support the spouses and children of fallen or disabled veterans and first responders by providing educational scholarships, with an estimated 127 educational scholarships of $5,000 each going to families in areas served by Sinclair stations.[150]
- **Hunt Refining** gives back to its community through support for United Way, Junior Achievement, Adopt-A-School, Big Brothers/Big Sisters and other local nonprofits.[151]
- **Placid Refining** supports fundraising efforts for the local Rotary Club, the West Baton Rouge Foundation for Excellence and the West Baton Rouge Chamber.[152]
- **Par Pacific** partners with Special Olympics Hawaii by raising more than $100,000 in donations annually as well as having Par employees and their families volunteer at Special Olympics sporting and fundraising events. These events include the annual Fueling Dreams in-store collection campaign, the opening ceremonies of the State Summer Games and rappelling off a 30-story building to raise funds in the annual Over the Edge of Waikiki fundraiser.[153]
- As a part of a three-year sponsorship, **Arkema** is providing Habitat for Humanity in Philadelphia $330,000 in donations, building products and employee volunteers to help renovate and build homes for people from disadvantaged backgrounds.[154]
- **Plains All American Pipeline**, along with its joint ventures and subsidiaries, donated roughly $3.8 million to initiatives and projects that helped meet local needs in communities across the U.S. and Canada. Through its Create a Real Effect (CARE) program and other fundraising campaigns, Plains employees donated almost $1 million to charities.[155]
- **The Baker Hughes Foundation** provided $2,427,500 in employee-matched community contributions, in addition to $855,067 in company & Foundation financial pledges and contributions.[156]
- In less than one month, **Cenovus**' Season of Giving campaign raised $4.6 million for charities and nonprofits. During the campaign, employee donations of up to $25,000 were eligible for a 2:1 Cenovus match, tripling the impact of every dollar given. Employee volunteer hours also received double the normal amount of donation grants, contributing to the total amount donated.[157]
- **Cenex**, the energy brand of CHS, organized Hometown Throwdown, a contest asking people and organizations to share what makes their hometown festivals unique. The festivals got a chance to win up to $100,000 to take their event to the next level, a reflection of Cenex's strong local roots and desire to give back.[158]
- **CountryMark** has partnered with Indiana Wish to raise more than $61,000 to fulfill the dreams of Indiana children struggling with life-threatening illnesses.[159]
- The **CITGO** Lemont Refinery raised over $200,000 for the United Way of Will County, as a result of a direct donation from CITGO coupled with its employee-giving campaign. The funds will be used to support over 75 programs in Will County, Illinois.[160]
- Since 2020, **Marathon Petroleum** has partnered with Operation Warm and tribal communities to provide over 11,500 Native American children with necessities such as shoes and coats. Marathon recently donated $100,000 to Operation Warm events with the Navajo Nation, Muscogee Nation, MHA Nation, Shoshone-Bannock Tribes and United Tribes Technical College.[161]
- **Phillips 66** donated $100,000 to the Wounded Warrior Project, a nonprofit that offers no-cost programs, services and events to veterans and active-duty service members.[162]

Volunteerism

AFPM members generously dedicate hundreds of thousands of hours to supporting local nonprofits and community organizations.

- At **Phillips 66**, more than 2,600 employees and retirees volunteered for 118,000 hours as a part of its Good Energy program. During Good Energy Month alone, Phillips 66 employees logged 13,300 volunteer hours, completing about 60 service projects and raising over $300,000 in volunteer grant dollars.[163]
- **Ketjen** employees at its Pasadena and Bayport, Texas sites volunteer as a part of a mentoring program at Jackson Intermediate School in Pasadena that connects mentors with at-risk students. Ketjen employees are paired with individual students, and mentoring sessions take place once a month over a pizza lunch sponsored by Ketjen where employees and community members give presentations on different career paths and employees share advice on how to reach students' goals.[164]
- A full 75% of 36,000 **Dow** employees reported volunteering in 2023.[165]
- **Ergon** – West Virginia employees have been volunteering at the Mountaineer Food Bank, a nonprofit hunger relief program, since 2022. Every month employees volunteer their time to unload trucks, pack food boxes and hand out food to those in need.[166]
- Each year **ExxonMobil** employees from its Beaumont facility volunteer hundreds of hours to the Southeast Texas Food Bank to help with food sorting, distribution and other agency activities.[167]
- **Plains All American Pipeline** employees volunteered over 7,900 hours on projects such as revitalizing the Black River Recreation Area in New Mexico in partnership with the Bureau of Land Management, packing pet food to help local seniors through the Meals on Wheels 'AniMeals' program in Houston and filling mobile pantry boxes for the Food Bank of Wyoming before the holidays.[168]
- **Hunt Refining** employees volunteered during the United Way Day of Action in May 2024, with one employee using a pressure washer to clean off playground equipment at Arts 'n Autism in Tuscaloosa, Alabama.[169]
- The **Baker Hughes** Veterans employee resource group met at the Western Hemisphere Education Centre in Tomball, Texas and assembled over 200 boxes of donations to send to deployed soldiers of the 1st TSC/13th ACSC/ HHC stationed in Kuwait. The packages contained snacks, personal care items, entertainment and personal notes for the deployed soldiers.[170]
- More than 300 **Valero** volunteers participated in the 2023 United Way Day of Caring, helping to renovate the 80-acre campus at Boysville Children's Home and Shelter, in San Antonio, which provides a safe environment for over 300 children affected by abuse, neglect and family crisis. Valero volunteers assembled and installed new beds and cribs, painted outdoor and indoor cottages, landscaped, and cleaned kitchens and bathrooms throughout campus. Through the years, Valero has invested nearly $2 million in Boysville.[171]

Emergency Response

When emergencies strike, the fuel and petrochemical industries rise to the occasion. Following major events like Hurricane Beryl and tornadoes, our companies mobilized quickly to offer critical aid, including significant financial donations to relief efforts and employees volunteering their time and expertise to help affected communities.

- **Phillips 66** provides financial support to Operation BBQ Relief, an organization that served thousands of barbeque meals to first responders, at-risk community members and line workers repairing the electric grid after Hurricane Beryl knocked out power for Gulf Coast residents on July 8, 2024. Phillips 66 employees also volunteered at Lake Jackson and helped deliver meals to other Houston-area communities.[172]
- After the May 2024 derecho hit Houston, **CITGO** donated $100,000 to the Houston Food Bank, Baker Ripley, Rebuilding Together Houston and Catholic Charities of the Archdiocese of Galveston-Houston to help with recovery efforts.[173]
- **Valero's** Houston Refinery hosted the Salvation Army's supply distribution event after Hurricane Beryl, with Valero employees volunteering alongside Salvation Army staff to distribute 950 meals, 930 snacks, 1,130 drinks, 386 cleanup kits and 80 food boxes to nearby community residents.[174]
- After an EF4 tornado struck the town of Rolling Fork, Mississippi, **Ergon** employees donated food, money, time and other resources to help with food preparation and serving meals to first responders, law enforcement, linemen and residents. Ergon fed over 8,000 people over the course of three days, and with Ergon matching employee donations they were able to raise $60,000.[175]

In the quest for a more sustainable future, the fuel and petrochemical industries are leading the charge with innovative approaches and strategic investments. Our focus includes advancing lower-carbon fuels and feedstocks to minimize carbon intensity and enabling the circular economy for plastics to enhance recycling and reduce waste. By pushing the boundaries of technology and exploring new solutions, we are committed to overcoming today's challenges and driving progress that will support a cleaner, more sustainable world for generations to come.

Driving Progress

Climate Change

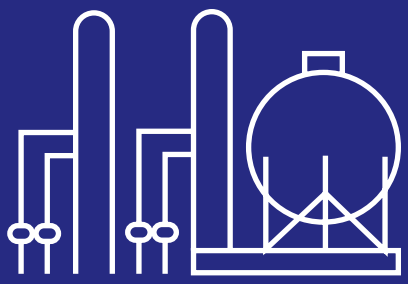
The U.S. fuel and petrochemical sectors are committed to reducing global emissions through a multi-faceted strategy that combines investment in technological advancements with strengthening of operational practices.

Investments

Lowering emissions is a high-investment activity, and AFPM members have stepped up with multibillion-dollar commitments to lower their emissions profiles.

- **ExxonMobil** is planning to spend $20 billion in lower-emissions investments from 2022 through 2027, with approximately 50% of these investments aimed at reducing emissions from operated assets.[176]
- **Chevron** had a planned spend of over $600 million from 2021 through 2028, with $8 billion toward building lower-carbon businesses and $2 billion toward reducing GHG intensity at its own operations.[177] In 2024, Chevron plans to spend over $600 million on GHG abatement projects as a part of the roughly $2 billion earmarked for such projects from 2021 through 2028. These projects are expected to result in approximately four million metric tons of emissions reductions annually when completed.[178]
- **Marathon Petroleum**'s 2024 capital outlook projects that approximately 40% of its growth capital will be directed toward carbon reduction projects and renewables.[179]
- **Arkema** has embarked on an ambitious climate plan designed to reduce its Scope 1 and 2 GHG emissions by 48.5% by 2030 from 2019.[180]
- **LyondellBasell** estimates that capital spending to support its sustainability goals, which include its climate and circularity ambitions, will represent roughly 20% of its total capital expenditures in the next two years, with about $400 million expected to be spent in 2024.[181]

Operations



GHG Emissions Reductions

AFPM members have significantly reduced GHG emissions from their operations through a combination of advanced technologies and improved processes.

- **Marathon Petroleum** received the Environmental Protection Agency ENERGY STAR program's highest honor, the Partner of the Year – Sustained Excellence Award, for the fifth consecutive year. The award reflects Marathon's continuous improvement in organization-wide energy savings and environmental performance, including a decrease in GHG intensity for the ninth year in a row.[182]
- **Chevron Phillips Chemical's** Old Ocean facility reduced the energy consumption per pound of polyethylene product by 9.4% from the previous year — which represents a reduction of 677,000 MMBTU and 35,000 metric tons of CO_2e — by optimizing steam and fuel consumption in operations and equipment.[183]
- **Ecolab** completed energy improvement projects such as implementing smart lighting and electric equipment controls, optimizing boiler systems and improving insulation that resulted in reducing energy consumption by almost 5.7 million BTUs and reducing emissions by almost 700 metric tons of CO_2e.[184]
- **Energy Transfer** optimizes its operations to increase energy efficiency and reduce emissions through such measures as operating pipelines at consistent flow rates, adding a drag reducing agent to crude oil to reduce pipeline fluid friction and enforcing power limits on some stations to circumvent unnecessary spikes in the flow rate.[185]
- **Chevron Phillips Chemical's** Marginal Abatement Cost Curve (MACC) process incorporates ideation and research to develop site-specific strategies to reduce emissions and maximize energy efficiencies. CPChem teams have put forth over 800 MACC concepts and ideas; those projects flagged for further development hold the potential to abate up to 270,000 metric tons of CO_2 equivalent emissions (CO_2e).[186]
- **Dow** completed construction of a new methylene diphenyl diisocyanate distillation and pre-polymers facility at its Freeport, Texas manufacturing site that will reduce greenhouse gas emissions (GHG) emissions by over 45% compared to previous technologies while supporting a 30% increase in supply.[187]
- **LyondellBasell's** Value Enhancement Program seeks to reduce emissions and costs by saving energy and improving logistics, procurement and customer service. In 2023, LyondellBasell's VEP projects resulted in annual savings of almost 240,000 tons of CO_2e and nearly four million gigajoules.[188]
- One year ago, **Arkema** announced a significant reduction in the carbon footprint of its bio-based Rilsan® polyamide 11 reaching less than 2 kg CO_2e/kg(1). The Group now announces a further reduction to 1.3 kg CO_2e/kg(1) by using more renewable electricity sources and by making several additional energy efficiency improvements in its production sites. The new value applies to global production of Rilsan® polyamide 11 beginning in January 2025.[189]

Renewable Power

U.S. fuel and petrochemical manufacturers are leveraging renewable energy to reduce their GHG emissions.

- **Phillips 66** has a solar project located at its Rodeo Renewable Energy Complex planned for completion in 2025. The project will supply 30 megawatts (MW), the equivalent of a 90% reduction in grid-supplied power. Phillips 66 also has solar projects underway at its Wood River Refinery and Hartford Terminal in Illinois.[190]
- **Flint Hills Resources** announced it will build its second company-owned solar installation at its Corpus Christi West refinery. The 27-MW solar installation will include approximately 56,700 panels in what is believed to be the first solar project in Texas to provide onsite, self-generated electricity directly to a refinery. The company also began full operation of its 45 MW solar system at its Pine Bend, MN refinery in early 2024, currently the largest of kind providing direct input to an operating refinery.[191]
- As of the end of 2023, **Dow** sourced more than half of its purchased electricity from renewables — more than 1,000 MWs — exceeding its 2025 target of 750 MWs.[192]
- **LyondellBasell** increased its renewable electricity volumes largely through power purchase agreements, which represent almost 90% of its 2030 target to obtain at least half of its global electricity from renewable sources.[193]
- In June 2024, **INEOS Olefins & Polymers USA** and NextEra Energy Resources LLC broke ground on the INEOS Hickerson Solar site, a 310-MW solar project in Bosque County, Texas that is expected to produce 730,000 MWh of clean energy annually to supply all 14 of INEOS O&P USA's facilities. The project is expected to be completed in 2025.[194]
- Roughly 30% of **ONEOK's** current electrical supply is sourced from renewables. ONEOK has also installed solar-powered equipment at several of its facilities.[195]
- **Eastman** is planning to build an onsite solar farm at its molecular recycling facility in Longview, Texas. The site will use a new technology, thermal batteries, to transform the renewable energy into heat in excess of 1,000 degrees Celsius, which will enable Eastman to recycle hard-to-recycle polyester waste with 90% fewer GHG emissions than traditional production methods.[196]
- **Energy Transfer** uses SoLoNOx solar turbines and Dry LowNOx turbines, which are proprietary emissions-reduction technologies for the gas turbines used to increase pipeline gas pressure and generate electricity for critical functions. About 75% of Energy Transfer's gas turbines have been equipped with SoLoNOx, which reduces carbon monoxide, nitrogen oxide and unburned hydrocarbon emissions by 32%.[197]

CCUS

Carbon capture, utilization and storage (CCUS) holds tremendous potential for reducing emissions and our members are playing a critical role in scaling this technology. Scaling efforts range from producing critical components to incorporating CCUS into their operations.

- **Chevron** is the operator of and has a 50% ownership interest in the Bayou Bend CCS joint venture. Bayou Bend is a carbon capture and storage (CCS) project covering nearly 140,000 acres of geological formation both onshore and offshore along the Texas Gulf Coast.[198]
- As a leader in the carbon capture space, **ExxonMobil** is investing in research to develop more efficient carbon capture, developing new designs for offshore and pipeline-based CO_2 transfer, and working with leading universities to improve modeling for geologic storage and long-term monitoring of CO_2.[199]
- **BASF** is the first company to produce metal-organic frameworks, which have a high capacity for storing CO_2 and are used in carbon capture and storage projects, on a production scale of several hundred tons per year.[200]
- **Delek's** refinery in Big Spring, Texas has been chosen by the U.S. Department of Energy for a carbon capture pilot project. The carbon capture technology will be incorporated into the refinery's fluid catalytic cracking unit and is expected to capture approximately 145,000 metric tons of CO_2 annually, while also reducing pollutants such as sulfur dioxide and particulate matter.[201]
- **Marathon Petroleum** is collaborating with Blue Planet Systems Corporation to advance its Blue Planet's patented Geomimetic® technology, which uses mineralization to store CO_2 in synthetic limestone aggregate used in concrete and other building products.[202]
- **ONEOK** partnered with the Energy and Environmental Research Center to conduct a feasibility study for large-scale CO_2 sequestration in North Dakota. ONEOK is also working with the Kansas Geological Survey to undertake a feasibility study for CO_2 sequestration around its midstream assets in Kansas. The project was partially funded by the DOE and benefitted from contributions from several of the DOE's National Laboratories.[203]

Hydrogen

AFPM members are leveraging the power of hydrogen to address climate change, both through its production and as a fuel alternative.

- **Chevron** has a majority interest in ACES Delta, LLC, a joint venture developing the Advanced Clean Energy Storage Project (ACES I) in Delta, Utah. Currently under construction, ACES I is designed to produce hydrogen, converted from renewable energy, and store it in two salt caverns. The hydrogen will be dispatched to the anchor customer for use in specialized turbines to generate power when needed. ACES I is expected to start up in 2025.[204]

- **Marathon Petroleum** invested in Sapphire Technologies, which develops and manufactures energy recovery systems for hydrogen and natural gas applications. These systems are designed to convert wasted energy from pressure reduction processes into electric power without interrupting operations, thereby helping to improve productivity and reduce carbon emissions.[205]

- **LyondellBasell** is working to replace fossil fuels with hydrogen at its olefin plants as a way to reduce GHG emissions, seeking to direct the hydrogen that is a natural byproduct of the thermal cracking process to be reused for energy in its own operations.[206]

- **Phillips 66** is working on a project to produce and supply green hydrogen to its Ferndale, Washington refinery to reduce the carbon intensity of its fuels and is also collaborating with Uniper to supply green hydrogen to its Humber refinery, where it would be used to replace refinery fuel gas to further reduce GHG emissions.[207]

- **Chevron Phillips Chemical's** Golden Triangle Polymers joint venture in Orange, Texas will recycle the high hydrogen fuel byproduct to the ethylene furnaces to reduce emissions and the use of natural gas.[208]

- **LyondellBasell** is partnering with Chevron and Air Liquide to consider and potentially build a hydrogen and ammonia production facility along the Gulf Coast that would produce hydrogen from a combination of methane and low-carbon electricity sources. The project is a part of the HyVelocity hub, which has been selected by the U.S. Department of Energy (DOE) to begin award negotiations for the eventual development of the HyVelocity Gulf Coast Hydrogen Hub.[209]

- **PBF** is working with Enbridge, Air Liquide and a number of other organizations to advance the Mid-Atlantic Clean Hydrogen Hub. The hub has been chosen by the DOE to undertake a process that could result in a $750 million award to help jumpstart the production of green and pink hydrogen in the area.[210]

- **ExxonMobil** has tapped Air Liquide to construct and operate four modular air separation units as a part of ExxonMobil's Baytown, Texas hydrogen production project. The facility, the world's largest lower-carbon hydrogen production site, is expected to come online in 2028.[211]

Pipeline Companies Reduce Methane Emissions

Pipeline companies are investing in high-tech monitoring solutions, new equipment and updated processes to reduce their methane emissions profiles.

- **Phillips 66** uses light detection and ranging (LiDAR), which utilizes eye-safe laser beams of specific wavelengths sent from a small aircraft, reflected from atmospheric molecules and collected by an airborne sensor to measure methane emissions. The plume imagery is then mapped onto satellite imagery and aerial photographs to guide ground crews directly to where repairs are needed.[212]
- **Marathon Petroleum's** MPLX is pilot testing continuous fenceline monitoring for methane; conducts routine monitoring of its compressor using optical gas imaging; and participated in a West Virginia University study of storage tank emissions — all as part of extensive efforts to reach its goal of reducing methane emissions to 75% below 2016 levels by 2030.[213]
- **Cheniere** employes zero-emission compressed air pneumatic controllers on valves and other equipment to eliminate methane emissions in its pipeline operations. Cheniere also uses cutting-edge compressor engines that limit nitrogen oxide emissions to drive pipeline compressions.[214]
- **Energy Transfer** uses a direct injection system to implement pipeline blowdown procedures for maintenance and testing; direct injections reduce pipeline pressure, preventing the release of methane into the atmosphere.[215]
- **Boardwalk Pipeline** has reduced its methane emissions by 72% since 2019 through leak detection efforts, investments in lower-emissions technologies and improved processes.[216]
- **ONEOK** reduced absolute methane emissions from their Scope 1 operations by 36% since 2019 while continuing to grow its operational by leveraging methane detection technology, eliminating methane emission sources in their operations and implementing methane best management practices. For instance, ONEOK utilizes LiDAR technology, usually attached to helicopters or drones to perform aerial methane leak-detection surveys; Optical Gas Imaging infrared camera to monitor for potential fugitive emissions from equipment; and Satellite monitoring and hyperspectral imaging for methane detection, storm damage assessments, critical, infrastructure monitoring and vegetation management.[217]

Products

AFPM members are committed to producing products with lower emissions, thereby reducing their carbon footprint. They achieve this by incorporating renewable and low-carbon energy sources into their operations, optimizing energy efficiency and continuously improving their environmental practices.

Renewable Fuels

Renewable fuels are fuels that are produced from renewable resources and can be naturally replenished.

- **Marathon Petroleum** delivered roughly 2.6 billion gallons of renewable fuels in 2023, which avoided nearly 13 million metric tons of CO_2 transportation emissions.[218]
- **Ketjen's** ReNewFine catalysts have facilitated the production of 25 billion liters of renewable diesel since 2007. The renewable fuels produced are a drop-in solution to replace fossil fuels and can reduce CO_2 emissions up to 90%. Since 2023, Ketjen's ReNewFine™ catalyst offering is commercially available for renewable diesel and sustainable aviation fuel (SAF) production via hydrogenated vegetable oil (HVO) co-processing and 100% processing units.[219]
- **Chevron** and Bunge made the final investment decision to build an oilseed processing plant next to their existing processing facility located in Destrehan, Louisiana. The plant will have the ability to process soybeans as well as softseeds such as winter canola and CoverCress.[220]

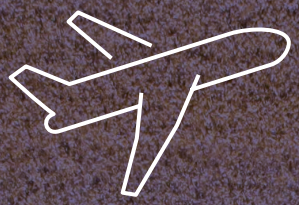
Renewable Diesel

Renewable diesel is a biofuel made from renewable resources such as vegetable oils, animals fats and other biomass and is created through a hydrogenation process.

- In 2024, **Phillips 66** completed the transition of its refinery in Rodeo, California into one of the world's largest renewable fuels facilities. The Rodeo Renewable Energy Complex began producing roughly 30,000 barrels per day of renewable fuels in March 2024 and is expected to increase capacity to 50,000 barrels per day. The fuels produced will have up to 80% fewer lifecycle carbon emissions than conventional diesel.[221]
- **Chevron's** Geismar, Louisiana renewable diesel project is expected to come online in 2024, increasing Chevron's renewable fuels nameplate capacity by roughly 30%.[222] The fuel produced will reduce CO_2 emissions by up to 2.8 million metric tons annually, the equivalent of the GHG emissions from an average passenger vehicle travelling 7.1 billion miles.[223]
- **Valero's** joint venture with Darling Ingredients, Diamond Green Diesel, is the world's second largest renewable fuels facility, producing 1.2 billion gallons per year of renewable diesel from recycled animal fats, used cooking oil and inedible corn oil.[224]

Production capacity of sustainable aviation fuel (SAF) in the United States could increase from around 2,000 barrels per day (b/d) to nearly 30,000 b/d in 2024 if all announced capacity additions come on line.[233]

Developers expect **Phillips 66's** Rodeo Renewed project to produce up to about 10,000 b/d of SAF, and they expect **Diamond Green Diesel's** Port Arthur SAF project to produce about 15,000 b/d of neat SAF by the end of the year.



Sustainable Aviation Fuel

Sustainable aviation fuel (SAF) is a biofuel created to power aircraft with lower carbon footprint compared to conventional jet fuel.

- In October 2024, **Valero** reported that its large-scale SAF project at its renewable diesel plant in Texas, was mechanically complete ahead of schedule and under budget, and it was in the process of starting up. The SAF project provides optionality to upgrade approximately 50% of the plant's annual 470 million-gallon renewable diesel production capacity to SPK or neat SAF.[225]
- **ExxonMobil** is conducting co-processing trials using a proprietary technology to produce lower-emissions fuels such as SAF, with a goal of co-processing 100,000 barrels a day of lower-emissions fuels. Co-processing both biofeed and conventional feedstocks together enables faster, lower-cost fuels compared to the construction of new facilities.[226]
- **Honeywell** is combining its ethanol to jet fuel technology with GranBio's cellulosic ethanol AVAP technology to create carbon neutral SAF from biomass residues at GranBio's U.S. demonstration site.[227]
- **Par Pacific** is developing the state of Hawaii's largest renewable fuels production facility at its Kapolei refinery. The project is expected to start up during the second half of 2025 and will process renewable feedstocks to produce approximately 61 million gallons of renewable fuels annually. The unit will be able to produce sustainable aviation fuel — a key step towards decarbonizing Hawaii's significant air travel market.[228]

Renewable Natural Gas

Renewable natural gas (RNG), is a type of biogas that matches the quality of fossil natural gas. It is produced from organic waste materials such as wastewater, food waste and agricultural waste.

- **Chevron** and Brightmark LLC have formed a joint venture, Brightmark RNG Holdings LLC, to fund the construction of infrastructure and commercial operation of dairy biomethane projects in several states. Chevron purchases renewable natural gas (RNG) from these projects and markets the RNG volumes for use in vehicles operating on compressed natural gas (CNG). Chevron has acquired ownership of 56 CNG stations nationwide through its purchase of Beyond6, LLC to provide an outlet for this RNG.[229]
- **CountryMark** has invested in RNG via a landfill gas offtake project, capturing methane that would otherwise be released into the atmosphere.[230]
- **Enbridge** purchased seven operating landfill gas-to-RNG facilities in Texas and Arkansas. The operations, worth $1.2 billion, makes Enbridge a North American midstream leader by volume in the RNG market.[231]
- **Valero** co-processes RNG from municipal solid waste at a hydrogen plant at one of its refineries, resulting in nearly 2 trillion BTUs of RNG in 2023 — double the amount processed the year before.[232]

Plastic Waste

To address the pressing issue of plastic waste, advancing a circular economy for plastics is crucial. AFPM members are at the forefront of these efforts, working to close the loop on plastic waste through a range of strategies including the scaling up of advanced recycling technologies, refining waste collection and sorting systems, and partnering with other industries to enhance the use of recycled content in plastic products.

Advanced Recycling

AFPM members are driving the increase in advanced recycling capacity through substantial investments in infrastructure of these next-generation recycling technologies. Advanced recycling, which promises to significantly increase our recycling capabilities, works by breaking down plastic waste into its original monomer, or "building blocks," after which it can be used to make new materials.

- **ExxonMobil** is planning a second advanced recycling unit at its Baytown facility. The unit is expected to come online in 2025 and will play an important role in ExxonMobil reaching its goal of 1 billion pounds of global plastic waste processing capacity by 2027.[234]
- **Eastman**'s second advanced recycling project in the U.S. has been chosen by the DOE to receive up to $375 million to accelerate the production of low carbon-intensity recycled PET. Eastman will use the award to help construct the new facility in Longview, Texas, which will have the ability to recycle approximately 110,000 metric tons of hard-to-recycle plastic waste.[235]
- **LyondellBasell** is creating integrated hubs in Houston and Cologne to bring together advanced plastic sorting, mechanical recycling and advanced recycling assets to create scale, reduce cost and better capture value from plastic waste.[236]
- **BASF** is using its pyrolysis-based advanced recycling, which it calls ChemCycling, to process pyrolysis oil derived from mixed polyolefin plastic waste. By 2030, BASF pledged to double its sales of circular products, known as Loop Solutions, from $5.25 billion in 2023 to $10.5 billion, while increasing the volumes of renewable and recycled feedstocks.[237]
- **Dow** is collaborating with Proctor & Gamble on a joint development agreement to create a new advanced recycling technology using dissolution to recycle a variety of plastics, with an emphasis on polyethylene and targeting post-household plastic waste. Proctor & Gamble expects to use the resulting polymer in its packaging, helping to pave a path to circularity.[238]

Waste Infrastructure

To fully realize the benefits of recycling, significant improvements in plastic waste collection, sorting and tracking are required. Our members are leading efforts to optimize these critical processes.

- **ExxonMobil** and **LyondellBasell**, through their Cyclyx joint venture with Agilyx, have developed plastic collection programs at sites and schools throughout Houston, resulting in more than 440,000 pounds of plastic waste being collected. These two companies are investing $135 million into the Cyclyx Circularity Center, a cutting-edge facility that will use proprietary technologies to analyze and sort plastics. The facility, which will have the ability to provide 300 million pounds of plastic feedstocks each year, is expected to come online in mid-2025.[239]

- **Eastman** supports plastic take-back programs and collection efforts, including The Recycling Partnership's PET Recycling Coalition, which provides grants to fund research, knowledge-sharing and infrastructure to help capture for PET waste for recycling.[240]

- As a part of its role in the Houston Recycling Collaboration, **LyondellBasell** gave a $100,000 grant to Houston Independent School District to establish a new recycling program. The pilot program took place at 20 Houston schools, where they collected cardboard, paper, and a variety of plastics — including hard-to-recycle plastics — for recycling.[241]

- **BASF**'s subsidiary trinamiX has created a handheld device that uses near-infrared spectroscopy to identify kinds of plastics. The small size, lower price point and intuitive usage enable groups such as community recycling centers, nonprofits and small businesses to better sort plastic waste.[242]

- In 2024, **Reworld** recycled and reused 1 million tons of material and diverted over 20 million tons of material from landfills, avoiding 41 million tons of GHGs. Through their ReDirect360 and ReKiln services, they recovered 10 million MWh equivalents of energy from waste in the form of electricity, steam export and Alternative Engineered Fuel products. The energy they recover, inclusive of 8 billion pounds of steam export, is enough to power 1 million homes. Reworld recycled half a million tons of ferrous and non-ferrous metals, enough to build 6 Golden Gate bridges and 2.4 billion cans, and recycled or reused 280M gallons of customer wastewaters, enough to fill 425 olympic-sized pools. Their Refinery Services Group repurposed 53,707 tons of hazardous tank residual waste from cleaning operations into 8.9 million gallons of Waste Derived Fuel for use as a heat source in US cement kilns. This effort alone displaced 30,076 tons of coal, provided a net carbon offset of 128,897 tons and prevented 26,854 tons of residual waste ash from being landfilled. Their 2911/ OBSM facility exempted 27,315 tons from hazardous waste designation & recycled 70,127 bbls of oil which was sold back into the circular economy to bring fresh power and value to the industry.[243]

Recycling Infrastructure Projects Around the Globe

Plastic makers and the plastics value chain are making significant investments around the globe to create a more circular future.

Number of Projects

129

Planned, operational, or under construction.

Financial Investments (USD)

$18 billion

Investments that are operational, under construction, or planned to scale up recycling infrastructure globally.

These projects include recycling facilities (mechanical and chemical), plastics sortation/processing facilities, and projects that leverage technologies to enable communities to participate in and enhance recycling at the local level.[244]

Source: Global Partners For Plastics Circularity

Research and Development

Through ongoing research and development, the refining and petrochemical industries continue to pioneer innovative solutions to tackle plastic pollution and climate change. AFPM members are achieving this through collaboration and product design.

Collaborations

Collaboration is at the heart of innovation in the fuel and petrochemical industries, helping us tackle some of the world's most pressing challenges. AFPM members are leveraging collaboration to drive sustainability through pioneering, engineering and technological advancements.

- **Cheniere** co-founded and sponsors the Energy Emissions Modeling and Data Lab, a multidisciplinary research and education initiative led by the University of Texas at Austin, Colorado State University and the Colorado School of Mines that is developing data-based strategies and actions for emissions reductions.[245]

- **Chevron Technology Ventures**' future energy funds, the most recent of which launched in 2024, have committed nearly $1 billion in funds available to invest in companies advancing low-carbon technologies.[246]

- In 2024, **BASF** celebrated a decade of successful collaboration with the University of California, Berkeley's California Research Alliance. The Alliance, which expanded to 11 California universities, led to 117 research projects that resulted in 94 peer-reviewed papers and 47 patent applications. More than 80 faculty members and 170 postdocs or graduate students have worked with BASF through this Alliance.[247]

- **ExxonMobil** works with more than 80 universities worldwide, four energy centers, and several U.S. national laboratories. These collaborations have resulted in increased knowledge in key areas critical to the energy transition, including optimization techniques to understand CO_2 storage; electrification of processes; lower-emission fuels; fugitive methane emissions detection and modeling; and energy systems models.[248]

- More than 89% of **Dow**'s R&D innovation initiatives are aligned with its sustainability focus areas of the circular economy, climate protection and safer materials.[249]

- **Emerson Automation Solutions** has become a Terrawatt Partner at Greentown Labs, which is the largest climate-tech incubator in North America. Greentown Labs brings together companies, startups, investors, policymakers and others with a focus on scaling climate solutions. As part of this alliance, Emerson's automation portfolio is made available to Greentown members to help them scale and commercialize their innovations.[250]

- **Honeywell** is collaborating with the DOE's National Renewable Energy Laboratory on a year-long project to support the commercialization of cartridge-based hydrogen fuel storage solutions for uncrewed aerial vehicles.[251]

- **ExxonMobil** is a part of a DOE-funded national working group charged with developing a network of hydrogen fueling stations for long-haul trucking. ExxonMobil is collaborating with partners including the Oak Ridge National Laboratory and the University of Tennessee to create the design for stations along U.S. Interstate 10 from Houston to Los Angeles, as well as the "Texas Triangle" between San Antonio, Dallas and Houston.[252]

- **Chevron Phillips Chemical** has made five significant outside investments to help reduce plastic waste and support innovative projects worldwide: The Alliance to End Plastic Waste, Closed Loop Partners' Circular Plastics Fund, Circulate Capital's Ocean Fund I, Infinity Recycling, and Circulate Capital's Ocean Fund Latin America and Caribbean.[253]

- **Valero** continues to support Southwest Research Institute (SwRI) in the development of a solid CO_2 separation membrane to remove CO_2 from the exhaust gas of internal combustion engine vehicles, with the objective of providing an affordable solution to lowering GHG emissions. To date, SwRI has improved upon the initial concept and demonstrated performance enhancements through design and optimization efforts. Plans are in place for prototype scaling and testing, and we have filed patent applications for several novel technologies. If successful on a commercial scale, cars built with this technology could compete with EVs as a low-cost solution for reducing tailpipe emissions. In addition, even greater benefits to life cycle GHG emissions reductions are possible if low-carbon fuels are used in combination with the onboard capture system.[254]

Renewable Plastic Feedstocks

AFPM members are producing renewable plastic feedstocks to mitigate the environmental impact of plastic waste and move towards a more sustainable future.

- **Dow** reached a supply agreement with New Energy Blue to produce bio-based ethylene from corn stalks and leaves, Dow's first agreement in North America to produce plastics from agricultural residues. As a part of the deal, Dow will support a new facility in Iowa that will process the agricultural residue to create second-generation ethanol and clean lignan, with nearly half of the ethanol being used to create a bio-based, lower-carbon ethylene feedstock that will be used in packaging, footwear and transportation.[255]

- **Eastman** and Sealed Air created a compostable tray made from Eastman Aventa Renew, which is produced from sustainably sourced wood pulp and acetyl sourced from recycled materials. The tray is designed as a drop-in replacement for polystyrene foam trays in protein packaging and is already performing in several market applications.[256]

- **Chevron Phillips Chemical** is collaborating with biotechnology company Danimer Scientific to evaluate and develop high-volume biodegradable plastics using Danimer's Rinnovo® P3HP biopolymers.[257]

- **LyondellBasell** partnered with Neste, Pactiv Evergreen, Berry Global and Dart Container to create cold beverage cups that contribute to the circular economy by using LyondellBasell's CirculenRenew polymers, which are sourced from renewable-based raw materials such as used cooking oil. The new cups, which are designed for use by fast food companies, are made of a combination of bio-based and circular materials supplied by LyondellBasell and others.[258]

- **Ergon's** Crafco acquired a soy-based durability enhancer for concrete called PoreShield, which was created through a collaboration between the Indiana Department of Transportation, Purdue University and the Indiana Soybean Alliance. PoreShield protects new and existing concrete infrastructure including highways, bridges, buildings, walkways and pipes.[259]

- **BASF** is expanding its portfolio of certified compostable biopolymers to include a biomass-balanced (BMB) ecoflex®, a polybutylene adipate terephthalate (PBAT) that is frequently used in the compounding of biopolymers. For the new ecoflex F Blend C1200 BMB, the fossil raw materials that are usually used in the production process are replaced with renewable feedstock at the beginning of the value chain. The renewable feedstock comes from waste and residual biomass and is attributed to the ecoflex grade via a mass balance approach which is certified according to REDcert and ISCC PLUS. The biomass-balanced ecoflex not only contributes to reducing the use of fossil resources, but it also offers a 60% lower Product Carbon Footprint (PCF) than the standard ecoflex F Blend C1200.[260]

Enabling the EV Market

Narratives that pit the refining and petrochemical industries against electric vehicles (EVs) ignore the symbiotic relationship of these industries. If you review the history of EVs — you will see that refining and petrochemical companies have been foundational to the EV market all along and will continue to be far into the future.

Let's start at the beginning with the lithium-ion battery. In the 1970s, Dr. M. Stanley Whittingham rose to the forefront of battery innovation through the research he did while working for ExxonMobil. Dr. Whittingham's research provided the basis for modern lithium-ion batteries and paved the way for the first commercial lithium-ion battery. This battery was the foundation of the batteries that now power laptops, cellphones and most EVs.[261]

ExxonMobil has developed new technology to produce feedstock for next-generation graphite for EV battery anode material. This technology modifies the molecular structure of carbon-rich, low-value feeds from the company's refining processes to create next-generation graphite that can deliver superior battery performance.[262]

ExxonMobil's role in the EV battery supply chain continues to evolve. The company announced plans to extract lithium-rich brine from deep underground and then convert it into battery grade materials. ExxonMobil aims to become a leading supplier of lithium for EV batteries.[263]

AFPM member companies are also investing in improving battery technology. Arkema is developing specialty additives that improve electroconductivity, reducing the charging time of the battery.[264] SABIC produces lighter-weight materials for battery packs that helps extend the range of electric vehicles.[265]

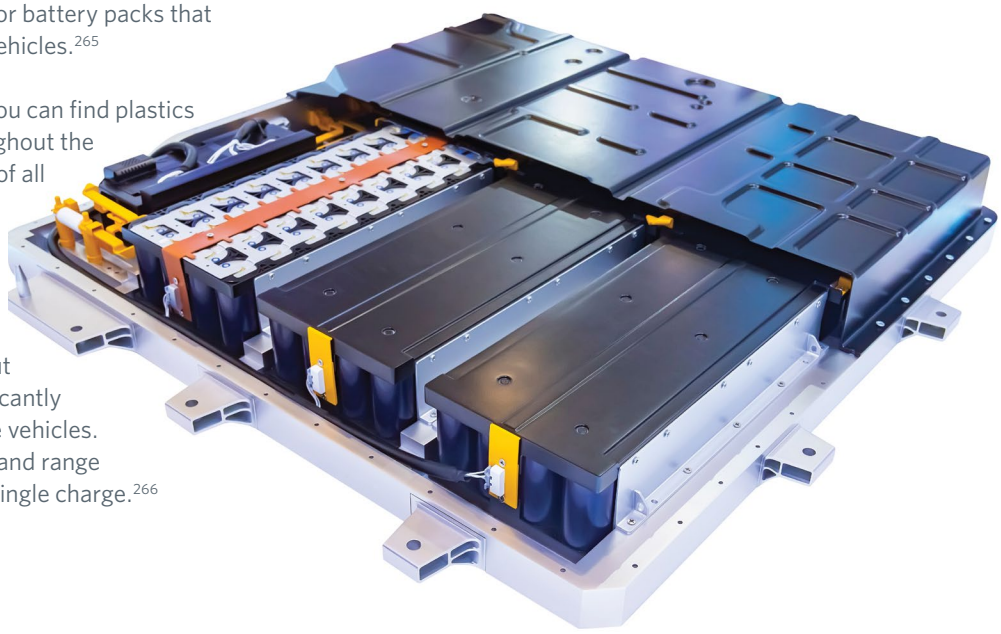
In addition to battery technology, you can find plastics derived from petrochemicals throughout the body and component parts of cars of all types. But for EVs that have 1-ton batteries, light weight plastics are especially critical to keeping these heavy cars on the road safely and efficiently. In fact, plastics make up 50 percent of an EV's volume but only 10 percent of its weight, significantly reducing the overall weight of these vehicles. This reduction improves efficiency and range allowing EVs to travel further on a single charge.[266]

Investments extend beyond the cars themselves. For example, Chevron, through its venture capital arm Chevron Technology Ventures, has invested in Electric Era Technologies, which aims to make charging stations more accessible. The 2023 investment supports Electric Era's effort to bring affordable and fast-charging stations to their convenience store and refill station partners.[267]

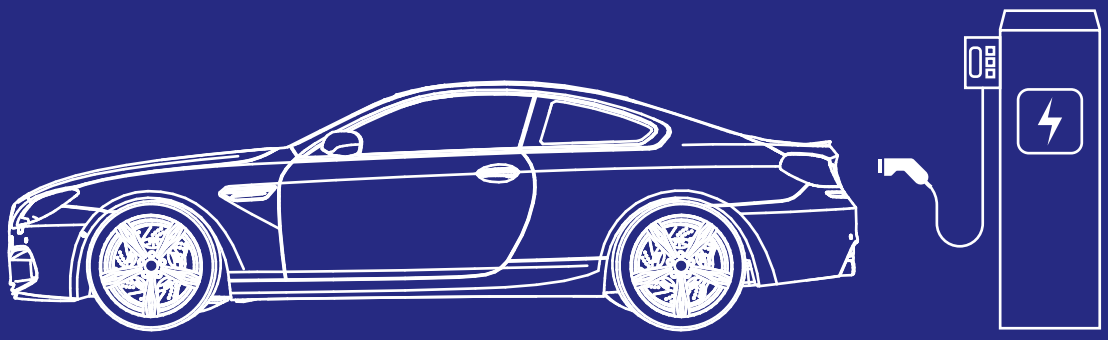
These are highlights that demonstrate how refining and petrochemical companies are enabling the EV market, but the list of contributions is much longer.

"Some may say that refiners and petrochemical companies oppose EVs, but the reality is that they are essential to the development and supply chain of these vehicles. You can't have EVs without the products our members make; we're proud of their role in advancing this market."

Chet Thompson, President and CEO, AFPM

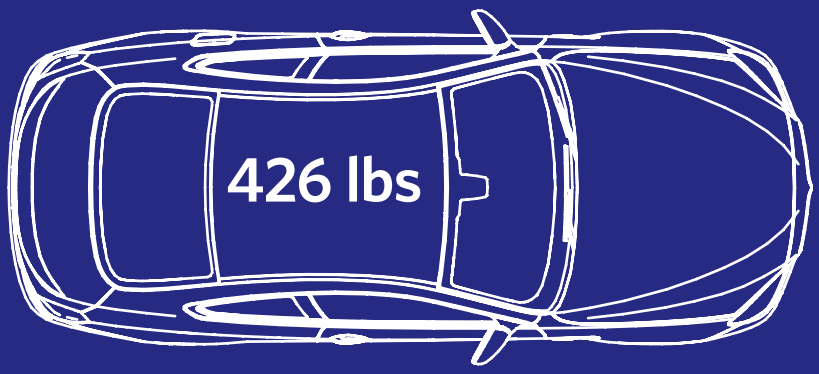


Petrochemicals in EVs



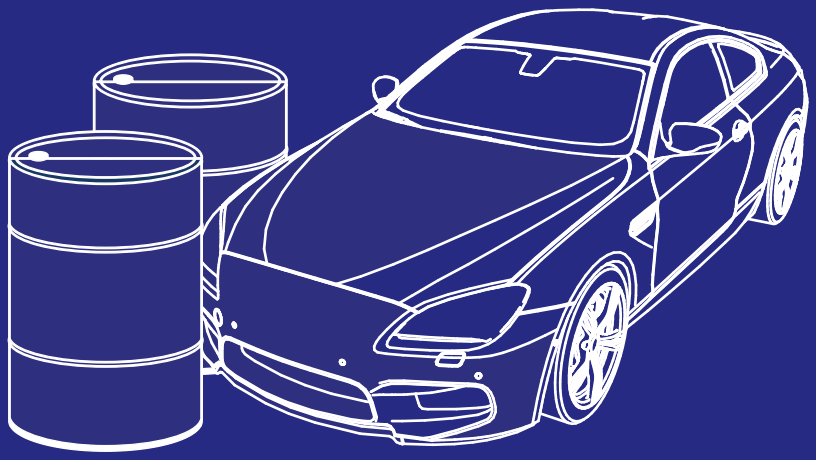
Most EV battery packs weigh over 1,000 lbs, but plastics and other petrochemical-based materials help make EVs lighter, achieving more efficiency and longer battery range.

In fact, according to America's Plastic Makers, in 2023 the average EV uses 426 lbs of plastic and polymer components. And according to the EPA, the average horsepower of model 2023 vehicles has reached a record high of 272, compared to 203 just ten years ago.



Plastics and polymers are used in hundreds of individual parts in an EV.

Today's EV fleet is made possible with petrochemicals derived from oil and natural gas.



Source: America's Plastic Makers

To uphold their commitments to achieve meaningful progress in sustainability, fuel and petrochemical manufacturers are not only setting clear, metrics-based targets but also embedding sustainability deeply into their internal governance structures and enhancing data collection practices.

Holding Ourselves Accountable

Delivering on Commitments

- **Phillips 66** has achieved a 17% reduction in Scope 1 (which come from the direct operation of owned assets) and Scope 2 (resulting from the generation of purchased energy) emissions intensity as compared to 2019 levels.[268]
- In 2020, **Marathon Petroleum** set a target to reduce companywide freshwater withdrawal intensity by 20% by 2030, as compared to 2016 levels. Through its many Focus on Water initiatives, Marathon has already achieved an 18% reduction in freshwater withdrawal intensity from 2016 levels.[269]
- **Dow** set a 2025 goal of working with industry leaders, nonprofits and governments to deliver six major projects to accelerate the world's transition to a circular economy. In 2023, Dow reached this goal early, following a number of major projects such as its REVOLOOP Recycled Plastic Resins and SILASTIC SelfSealing Silicone for tires.[270]
- **Ecolab**'s focus on improving water efficiency resulted in an overall water impact reduction of 18% per unit production, compared to a 2018 baseline. Ecolab also restored 34% of its absolute water withdrawal at high-risk sites, well on its way to meeting its 2030 goal of greater than 50% restoration of absolute water withdrawal volume at high-risk sites.[271]
- **ONEOK** has achieved a reduction of Scope 1 and 2 GHG emissions of 1.1 million metric tons (MMT), roughly 50% of its target of 2.2 MMT reduction of combined Scope 1 and Scope 2 GHG emissions by 2030.[272]
- **Emerson Automation Solutions** set a goal to reduce Scope 1 and 2 GHG emissions intensity by 20% by 2028. Emerson exceeded this target in 2022, leading the company to set a more ambitious target of a 90% reduction in absolute Scope 1 and 2 emissions by 2030 from a 2021 baseline.[273]
- **Valero** achieved their 2025 GHG emissions target to reduce and displace the equivalent to 63% of the tonnage from their global refinery GHG emissions (Scopes 1 and 2) in 2022. In 2023, Valero continued to exceed this target.[274]
- As a wholly owned subsidiary of Albemarle, **Ketjen** continues to align with corporate targets that includes a 35% reduction in Scope 1 and 2 carbon intensity by 2030, compared to a 2019 baseline.[275]

Good Governance

- **Chevron**'s Board oversees its performance and management of sustainability-related issues such as climate change, reporting, lobbying and human capital management. The Board's four standing Committees are responsible for oversight and guidance over different sustainability aspects. For instance, the Public Policy and Sustainability Committee evaluates and advises on risks that might arise in connection with political, social, environmental and public policy aspects of the business and the committee helps management assess trends and potential implications.[276]

- **ExxonMobil**'s Board of Directors provides guidance on planning and strategy, which includes risks and opportunities related to the energy transition and climate change. Directors engage with internal and external experts and apply their individual perspective and experience in evaluating the company's capital-allocation priorities. The Board and its Environment, Safety and Public Policy Committee routinely interacts with senior management on climate matters as well as ExxonMobil's environmental approach and performance and is briefed by subject-matter experts on issues such as scientific and technical research, GHG emission-reduction reporting, public policy positions and new technology developments.[277]

- **Phillips 66** has incorporated safety and environmental performance — including lower-carbon and GHG initiatives — as a part of its Variable Cash Incentive Program for executives and employees, with 40% of the annual bonus linked to environmental and safety operating performance.[278]

- **LyondellBasell**'s CEO oversees the company's ESG efforts through frequent reporting and discussion on critical topics and initiatives by members of the Executive Committee, which is made up of senior executives that lead businesses and functions. The Executive Committee includes the Executive Vice President, Sustainability and Corporate Affairs, who has responsibility for sustainability strategy and reporting on ESG issues; the Executive Vice President, CLCS, who is in charge of building and leading a scalable, circular and low-carbon solutions business; and the Executive Vice President, Operational Excellence and HSE, who is in charge of the execution of LyondellBasell's plans to reach its interim and long term Scopes 1 and 2 targets.[279] In 2023, LyondellBasell created a Sustainability Council to advise the Executive Committee on sustainability matters, including climate-related matters.[280]

- **Ecolab** added a Growth & Impact modifier to the annual cash bonus for its most senior leaders, which is based on reducing water intensity across operations and making progress towards a more diverse, equitable and inclusive workplace.[281]

- **Cheniere**'s senior leadership is engaged on DEI initiatives, with leadership from its Chief Compliance and Ethics Officer and regular updates to its Board of Directors. Cheniere also has an executive-level DEI Sponsorship Council, which meets frequently to assess plans, offer guidance, analyze data and ensure accountability.[282]

Data Quality

- **Chevron** is working to help develop global standards and guidance to advance carbon accounting, as well as working on crucial digital products to create data that better inform policies, customers and capital markets.[283]

- **LyondellBasell** is conducting lifecycle assessment studies for its Circulen and +LC product portfolio, as well as evaluating its MoReTec technology and expanding its activities toward its polymer, olefins and compounded products. These lifecycle assessments are conducted according to ISO 14040/44 and are evaluated by an independent expert reviewer or panel of experts, using recognized tools and databases. LyondellBasell is aiming to generate full lifecycle assessments and inherent product carbon footprint calculations for its entire product portfolio by 2026.[284]

- **Eastman** commissioned a lifecycle analysis that was performed by Quantis and underwent third-party review, which showed that Eastman can potentially lower the GHG emissions of the polyester feedstock dimethyl terephthalate by a third over conventional manufacturing.[285]

- **Ergon**'s Energy & Specialty Solutions segment recently conducted a lifecycle assessment for the naphthenic base oil offerings produced at Ergon Refining Inc. in Vicksburg. Seven products were included in the study conducted by Sphera, a data and consulting service. The results, which will be made available to stakeholders, will be used to help identify product improvement opportunities and to meet Ergon's sustainability goals.[286]

Advancing Policies for a More Sustainable Future

AFPM's Carbon Policy Working Group and Plastic Policy Working Group actively evaluate and pursue policies based on member-driven principles to address the challenges of climate change and the mismanagement of plastic waste. Working with these groups, AFPM has advocated for the EPA to recognize the potential of renewable diesel and not limit its use under the RFS, supported the deployment of incentives for emerging technologies like carbon capture, utilization and sequestration and hydrogen production, championed federal legislation to spur innovation and collaboration to keep plastic waste out of the environment, among others. And, as an accredited stakeholder with the United Nations (UN) Environmental Program, we are continuing to advocate for policies that enable industry innovation and global investment in plastics circularity through the development of the UN agreement on global plastic pollution.

AFPM Plastic Waste Policy Principles

AFPM approaches the challenges of global plastic waste by addressing the many aspects of this complex issue. Ultimately, our solutions always acknowledge the tremendous long-term value of plastic products, while considering data-driven innovations that promote advanced recycling solutions and remove regulatory barriers to widescale adoption of such technologies. Specifically, we advocate for:

- Developing a national framework to eliminate plastic waste in the environment and grow the circular economy for plastics.
- Working collaboratively across the plastics value chain and with governments to encourage the responsible disposal of plastic products and the recycling, reuse and recovery of plastic waste on a global scale. This includes increased funding of state and local waste collection programs to better source and collect plastic waste.
- Supporting the innovation and development of plastic waste repurposing technologies that have the potential to recover plastic waste and transform it into usable materials. This includes removing regulatory barriers for new facilities that will allow for the continued expansion of advanced recycling capabilities.
- Ensuring the regulatory classification for plastic waste is as a manufacturing feedstock, which simplifies the process and reduces regulatory hurdles for companies processing plastic; and proper accounting and tracking of recycled content, allowing companies to set clear goals and to consistently track their recycling efforts.

AFPM Climate Policy Principles

AFPM is committed to the development of sound policies that enable our members to supply the fuel and petrochemicals that growing global populations and economies need to thrive, and to do so in an environmentally sustainable way.

Policies addressing climate change must be:

- Balanced and measured to improve quality of life, ensuring the long-term economic, energy and environmental needs of humanity are met;
- Protective of U.S. competitiveness and prevent the shifting of production, jobs and emissions from the United States to other countries;
- Harmonized, preemptive and economy-wide;
- Simple and transparent;
- Achievable and flexible to adjust as necessary.

AFPM and our members are further committed to:

- Delivering affordable, reliable fuel and petrochemical products that lift the standards of living for people all over the world;
- Improving the efficiency and sustainability of our operations;
- Offering fuels and petrochemicals that make engines and other products more efficient; and
- Continuing research, innovation and application of new technologies and products.

References

1 ExxonMobil
2 Phillips 66
3 Chevron
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Information Resources

Communications

Through a combination of traditional and social media outlets, AFPM reaches the press, policymakers and the public to educate them on the facts about our industries' work and value, and to inform member company employees about important issues impacting the industries.

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AFPMmedia

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AFPM publications inform our members about industry statistics, technical innovations, environment and safety developments, security, and many other relevant issues.

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- International Base Oils & Waxes Conferences Papers
- National Occupational & Process Safety Conference Exhibition Papers
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Transcripts

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