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A Message from BP America
Chairman and President Susan Dio

I’m pleased to share with you BP’s sixth annual U.S. Economic Impact Report, which covers the full scope of our businesses, operations and community investments in the United States.

BP’s history in America — through our heritage companies — dates back to just after the Civil War. Between 2005 and 2017, we invested more than $100 billion here. Today, BP has a larger economic footprint in the U.S. than we do in any other country. We support more than 125,000 American jobs overall, including around 14,000 BP employees. In 2017 alone, our operations contributed $85 billion to the U.S. economy.

Our U.S. teams represent each of BP’s major global business lines: from oil and gas exploration and production, to pipelines, refining, retail and petrochemicals, to marketing, trading and shipping, to renewable energy and technology.

In July 2018, we made our largest global acquisition in nearly 20 years, signing a $10.5 billion deal with BHP to purchase world-class unconventional oil and gas assets in the Permian-Delaware basin in Texas, along with two premium positions in the Eagle Ford and Haynesville basins in Texas and Louisiana. These assets currently produce 190,000 barrels of oil equivalent per day, of which about 45 percent are liquid hydrocarbons.

The deal represents BP’s largest purchase since buying ARCO in 1999, and it will greatly expand our Lower 48 onshore business, which already is one of the country’s biggest natural gas producers. In a broader sense, the BHP deal signifies our commitment to America.

Across our U.S. business lines, we’ve achieved strong momentum and continue to invest in significant new projects. For example:

• BP has been the largest energy investor in the deepwater Gulf of Mexico since 2005, and our average daily production in the region increased by more than 20 percent between 2014 and 2017. Our Mad Dog 2 project, which is scheduled for startup in 2021, will produce up to 140,000 barrels of crude oil per day from as many as 14 Gulf of Mexico production wells.

• Between 2015 and 2017, our Alaska team held Prudhoe Bay production levels consistent for three straight years, something that’s virtually unheard of in a 40-year-old oil field. Over the same period, BP Alaska improved its operating efficiency from 80 percent to upwards of 85 percent.

• The combined network of pipelines owned or managed by our U.S. Pipelines and Logistics business (USPL) is long enough to stretch from Chicago to London. In 2017, USPL formed a new master limited partnership — BP Midstream Partners LP — and completed the first initial public offering in BP history.

• Our BP-Husky Toledo Refinery can produce enough gasoline each day for an average car to drive back and forth from Toledo to Miami more than 30,000 times.

• In 2017, we delivered 13.6 billion gallons of fuel to our U.S. customers, and nearly 300 BP-branded sites joined our U.S. retail network.

• We remain North America’s No. 1 marketer of natural gas, buying and selling more than 20 billion cubic feet each day.

• In 2017, our Texas City Chemicals plant completed a major investment project that expanded the facility, significantly improved its operational efficiency and increased its production of metaxylene by 10 percent.
BP’s venturing arm has invested more than $300 million in dozens of U.S. companies since 2006. Even as we focus on maximizing our U.S. business performance, BP is working hard to reduce emissions in our operations, improve our products, and create new low-carbon businesses while enhancing our established portfolio of renewables:

- In 2018, we partnered with Tesla to install a high-storage battery at our Titan 1 wind farm in South Dakota. This project is the first of its kind in our U.S.-operated wind business and a potential step forward in the performance and reliability of wind energy.

- Since 2000, our Lower 48 business has slashed its total greenhouse gas emissions by more than 2 million metric tons of carbon dioxide equivalent, with methane reductions accounting for most of the decline.

- Thanks to a $200 million modernization project completed in 2017, BP’s Cooper River Chemicals plant will be able to reduce the amount of electricity it purchases from the grid by 40 percent and slash CO₂ emissions by up to 110,000 tons per year.

- BP’s Castrol business offers a growing number of carbon-neutral lubricants and engine oils. In 2017, Castrol launched EDGE Bio-Synthetic, a carbon-neutral motor oil made with 25 percent plant-based oil derived from sustainably produced sugar cane.

- BP has invested $40 million in Fulcrum BioEnergy, a California-based company that produces low-carbon “biojet” fuel from household waste. In 2018, Fulcrum began building a new plant in Nevada that will be America’s first commercial-scale operation diverting household garbage from landfills into a low-carbon, renewable transportation fuel product.

- BP Shipping recently designed and built 26 new product and crude tankers that are over 20 percent more fuel-efficient than its previous generation tankers. It’s also building six new liquefied natural gas tankers that will be roughly 25 percent more fuel-efficient than their predecessors.

- In 2018, our Cherry Point Refinery launched a renewable diesel unit that can produce lower-carbon fuel by co-processing biomass-based feedstock alongside conventional feedstocks.

- BP is one of the largest suppliers of renewable natural gas to the U.S. transportation sector.

- Our Whiting Refinery has launched a waste heat recovery project to generate steam from exhaust gas. This will reduce the amount of steam Whiting generates from boilers, which in turn will reduce both the amount of fuel it burns and the associated greenhouse gas emissions.

- Our San Diego Biosciences Center and other U.S.-based researchers support the production of renewable energy, along with the development of innovative and efficient fuels and lubricants. They also advise BP Ventures on low-carbon and other technology investments.

The foundation of all this work — from every rig and refinery to every plant and pipeline — is safety. I’ve spent most of my career in manufacturing and operations, so safety is profoundly personal. It’s a 24/7 commitment to our employees, our partners and our communities.

The quality of our work depends on the quality of our people. I feel truly privileged to count so many talented, dedicated individuals as colleagues and friends. This report illustrates how they’re helping us build a safer, stronger, more sustainable BP.

Susan Dio
Chairman and President, BP America
The Numbers Tell the Story

Safety is our No. 1 priority

BP generated $85 billion in economic value in the U.S. in 2017

BP donated more than $125 million to U.S. community programs between 2013 and 2017

BP paid 9,000 U.S. vendors in 2017

NOTE: All figures on these pages are approximate.
BP employs about 14,000 people across the U.S. 

In 2017, BP produced 712,000 barrels of oil and natural gas equivalent per day in the U.S.

BP invested more than $100 billion in the U.S. between 2005 and 2017.

BP supports more than 125,000 jobs across the U.S.

1 Includes revenue plus interest and dividend receipts, and proceeds from divestments.
2 Capital expenditures and acquisitions.
3 The number of jobs supported includes BP employees.
How BP Operates
A closer look at the oil and gas business

BP delivers energy products and services to people around the world.

Through BP’s two main operating divisions, Upstream and Downstream, the company finds, develops and produces essential sources of energy, turning them into products that people need.

This process creates jobs, opportunities for local suppliers and tax revenues for governments.

Finding oil and gas
First, BP acquires exploration rights. Then, the company searches for hydrocarbons beneath the Earth’s surface using seismic imaging technologies.

Developing and extracting oil and gas
Once BP has found hydrocarbons, the company drills into the Earth to bring them to the surface.

BP in the U.S.

150+ years of history in the U.S.

4 production platforms operated in the deepwater Gulf of Mexico — Atlantis, Mad Dog, Na Kika and Thunder Horse

7,200 BP- and ARCO-branded retail sites in the U.S. at the end of 2017

470,000 net acres of BHP assets acquired by BP’s Lower 48 business in 2018
Transporting and trading
BP moves hydrocarbons using pipelines, ships, trucks and trains.

Manufacturing
BP refines, processes and blends hydrocarbons to make fuels, lubricants and petrochemicals.

Marketing fuels and products
BP supplies its customers with fuel for transportation, energy for heat and light, lubricants to keep engines moving, and petrochemicals required to make everyday items.

Generating renewable energy
BP invests in and develops advanced biofuels, solar energy and biopower, and it also operates a major wind business.

3 refineries — Cherry Point (Wash.); Toledo (Ohio); Whiting (Ind.)

14 wind farms in eight states

1.4 million barrels of oil equivalent produced and refined each day

2 petrochemicals sites — Cooper River (S.C.) and Texas City (Texas)
BP’s Activity in the U.S.
Lower 48 onshore operations include assets in the Permian-Delaware, Eagle Ford and Haynesville basins that are part of a transaction expected to be completed by the end of October 2018.

Indicates a state where Air BP is active at one or more airports.

BP-operated and -owned terminals.

BP has a 25 percent interest in these terminals through a joint venture with its partner and terminal operator Kinder Morgan.

BP has a 49 percent ownership through a joint venture called Seaport Midstream Partners, LLC.
### BP’s Economic Impact across the U.S.

**By the numbers**

<table>
<thead>
<tr>
<th>State</th>
<th>Jobs Supported</th>
<th>Vendor Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>270+</td>
<td>$21m+</td>
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<tr>
<td>Alaska</td>
<td>8.3k+</td>
<td>$855m+</td>
</tr>
<tr>
<td>Arizona</td>
<td>30+</td>
<td>$33m+</td>
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<tr>
<td>Arkansas*</td>
<td>60+</td>
<td>$30m+</td>
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<tr>
<td>California</td>
<td>700+</td>
<td>$380m+</td>
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<tr>
<td>Colorado*</td>
<td>2.3k+</td>
<td>$190m+</td>
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<tr>
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<tr>
<td>Indiana</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>New Hampshire</td>
<td>10+</td>
<td>$9.6m+</td>
</tr>
</tbody>
</table>

**Total Vendor Spend:** $14b
New Jersey
JOBS SUPPORTED: 1.3k+
VENDOR SPEND: $215m+

New Mexico*
JOBS SUPPORTED: 775+
CAPITAL & OPERATING SPEND: $125m+

New York
JOBS SUPPORTED: 180
VENDOR SPEND: $280m+

North Carolina
JOBS SUPPORTED: 60
VENDOR SPEND: $47m+

North Dakota
JOBS SUPPORTED: 4
VENDOR SPEND: $6m+

Ohio
JOBS SUPPORTED: 4.4k+
VENDOR SPEND: $920m+

Oklahoma*
JOBS SUPPORTED: 1.8K+
CAPITAL & OPERATING SPEND: $200m+

Oregon
JOBS SUPPORTED: 25+
VENDOR SPEND: $135m+

Pennsylvania
JOBS SUPPORTED: 230+
VENDOR SPEND: $340m+

Rhode Island
JOBS SUPPORTED: 7
VENDOR SPEND: $2m+

South Carolina
JOBS SUPPORTED: 1k+
VENDOR SPEND: $230m+

South Dakota
JOBS SUPPORTED: 2
VENDOR SPEND: $720k+

Tennessee
JOBS SUPPORTED: 80+
VENDOR SPEND: $185m+

Texas
JOBS SUPPORTED: 19.1k+
VENDOR SPEND: $5.8b+

Utah
JOBS SUPPORTED: 40+
VENDOR SPEND: $38m+

Vermont
JOBS SUPPORTED: 2
VENDOR SPEND: $55k+

Virginia
JOBS SUPPORTED: 30+
VENDOR SPEND: $65m+

Washington
JOBS SUPPORTED: 9.6k+
VENDOR SPEND: $385m+

West Virginia
JOBS SUPPORTED: 6
VENDOR SPEND: $51m+

Wisconsin
JOBS SUPPORTED: 8
VENDOR SPEND: $74m+

Wyoming*
JOBS SUPPORTED: 875+
CAPITAL & OPERATING SPEND: $225m+

United States
TOTAL VENDOR SPEND: $14b³

Color Key
- Designates a top-five state for jobs supported
- Designates a top-five state for vendor spend

1 The BP employment figures used to help calculate number of jobs supported in each state are based on the work locations of employees and contractors as of June 30, 2018, except in the cases of offshore workers, in which case a worker’s state of residence is counted.
2 The state totals for how much BP spends with vendors are based on the location of the addresses to which BP sent payments in 2017.
3 Excludes spend related to the Deepwater Horizon incident.
4 This represents only capital and operating expenditures for BP’s Lower 48 onshore business in the state in 2017.
Safety
Committed to safe, compliant and reliable operations

Safety is the foundation of everything BP does, every day.

BP’s goals are clear: no accidents, no harm to people and no damage to the environment. That’s a huge responsibility — one the company does not take for granted.

A safer BP
From 2005 to 2010, BP had serious incidents in its refining, pipeline and offshore operations — in Texas City, in Alaska and in the Gulf of Mexico, respectively. Each had different causes, and each taught BP important safety lessons.

In the years since, BP has transformed itself by, among other things, introducing new training programs, deploying innovative technologies and strengthening its safety culture — all of which provide interlocking, overlapping layers of protection. As a result, the people who work for BP have never been better prepared or equipped to operate safely than they are today.

The numbers tell the story. From 2010 through 2017, BP’s most important safety metrics showed significant improvement.

For instance, the company’s total number of Tier 1 process safety events — the most consequential events involving an unplanned or uncontrolled release of materials — fell by roughly 75 percent across the globe.

BP has made progress, but it remains focused on continuous improvement. Complacency undermines safety, which is why BP is working every day to become even better, even safer.

How BP works
BP’s approach starts with its core values, including safety, respect, excellence, courage and one team. These values define BP, and its people strive to demonstrate them in all aspects of their work.
BP also has company-wide guidelines for how to operate, which it calls its Operating Management System (OMS), and it organizes people according to their functional responsibilities.

Each function develops rules and requirements that are appropriate for its own operations and consistent with BP’s broader OMS guidelines.

In the company’s Global Wells Organization, for example, BP drillers around the world meet specific requirements in their training, contractor management and well operations. This helps BP teams in the Gulf of Mexico conduct well operations in a similar way to teams in the Caspian Sea.

All BP teams — no matter where they work or what they do — can consult with the company’s Safety and Operational Risk (S&OR) team if they have any questions about how to safely execute their jobs.

While front-line workers still have the primary responsibility for safe and reliable operations, the S&OR team works alongside BP businesses to provide an independent view of risk, offering an additional and valuable layer of assistance and expertise.

Taken all together, BP’s values, OMS, functional organizations and the S&OR team provide the framework and the support to operate safely.

How BP trains
BP takes a comprehensive approach to training its workers, combining rigorous standards, world-class instruction and sophisticated tools to prevent incidents and injuries.

Its training programs include not just classroom instruction, but also hands-on simulation. BP replicates scenarios its teams are likely to encounter, as well as potential challenges that, though unlikely, BP expects people to be ready to handle.

For example, through BP’s partnership with Maersk Training, both employees and contractors train on lifelike, state-of-the-art simulators that can replicate nearly every critical job.

...so we can drill safely offshore.

BP teams train and re-train in virtual reality simulators, so they can be better prepared for any situation offshore.
on an offshore drilling rig. BP uses the simulation facilities to run customized exercises that allow its offshore teams to practice scenarios relevant to specific wells, and to prepare for a wide range of possible contingencies.

BP also uses simulators to train workers at its refineries and chemical plants. Much like the offshore simulators, these systems allow people to practice different job tasks — such as unit startup and shutdown, and pump and valve operations — in both normal and abnormal conditions, which helps them learn how to monitor for potential problems and avoid incidents.

**How BP responds**

While BP instructs, trains and practices to prevent incidents, it also prepares its teams to respond in the unlikely event that one were to occur. This way, if an incident were to happen, BP could quickly take the steps necessary to minimize its impact and protect people and the environment.

BP’s response plans and preparation incorporate what it has learned over many years of operation, including from the 2010 Deepwater Horizon incident. For example, BP has global standards and experts to help prepare and equip teams in deepwater regions to respond to an oil spill, and it has shared research and best practices with governments, partners and competitors around the world.

Even as BP has prepared to respond to an incident, it also has worked hard to ensure that such a response is never needed. Among its many initiatives, BP continues to work with industry members to improve standards on the safety and reliability of subsea blowout preventers and other critical equipment.

**Technology**

Once people are trained and on the job, BP uses leading-edge technologies to help its teams see things their naked eyes can’t. These technologies help BP teams predict where safety challenges might arise so that they can prevent incidents from occurring.

BP’s objective is to identify potential issues and intervene before they become actual problems.
For example:

- BP’s Global Monitoring Center provides round-the-clock support for deepwater well operations in the Gulf of Mexico, ensuring that offshore personnel receive 24/7 assistance from onshore experts — and extra sets of eyes on the company’s wells. Specialists in the Monitoring Center are in constant communication with rig teams to help analyze real-time data, focusing on things like pumps, pits, flow pressures and rates.

- BP has deployed a suite of intuitive computer consoles — known as BP Well Advisor — that use sensory technology to gather data about the company’s well operations and then translate the data into simple, real-time indicators to help rig crews and office-based experts enhance safety and performance.

- At its Cherry Point Refinery, BP uses phased array ultrasonic testing to check equipment and piping. This technology sends sound waves to verify structural integrity and provides early detection of corrosion damage.

Culture

Of course, BP workers provide the ultimate safety net. That means that anyone, anywhere, can and should stop any job for any reason if he or she thinks it is unsafe. This is the most important responsibility workers have — one that BP emphasizes across every team and every business line.

The company recognizes that to have a strong safety culture, it has to promote a strong speak-up culture — a culture in which employees and contractors alike are encouraged to raise questions or concerns. BP supervisors know they have a special duty to be accessible to their team members, and to ensure that everyone feels comfortable speaking up.

Conclusion

BP is committed to the safety of its people and the communities where it operates. This requires constant vigilance and dedication.

That’s why BP is working every day to improve its training, technology and culture. Because at BP, safety is never being satisfied and always working to be better.

...so everyone comes home safely.

At BP, our goal is no accidents, no harm to people, and no damage to the environment. That’s why we empower anyone to stop a job if something doesn’t feel right.
Upstream Technology
Innovating for the future

From Alaska and Wyoming to Texas and the Gulf of Mexico, BP uses innovative technologies to improve all aspects of its oil and gas production activities. Many of these technologies can help the company reduce greenhouse gas emissions in its operations.

Curtailing methane emissions, in particular, remains a major focus of BP’s Lower 48 onshore business, which is one of America’s largest natural gas producers.

Over the past two decades, BP Lower 48 has achieved significant methane reductions through a series of voluntary actions. For example:

- The business has replaced around 99 percent of its high-bleed pneumatic controllers with continuous low-bleed and intermittent pneumatic controllers. These controllers use energy from pressurized natural gas to operate valves and control pressure, flow, temperature and liquid levels. Depending on their design, they can release (or “bleed”) natural gas into the atmosphere. Thus, replacing high-bleed pneumatics can help reduce methane emissions.

- It has reduced venting during liquids unloading by implementing enhanced automation, plunger lift, and optimized shut-in cycles through its Smart Automation project in the San Juan Basin. The unloading process occurs when operators bring liquids that have accumulated in a well up to the surface.

- It implemented “green completion” technology before such technology was a regulatory requirement. Green completion equipment helps recover natural gas for sale and minimize the amount that is flared or vented during the completion of wells.

- It has replaced many of its chemical injection pumps with solar pumps.

- It has optimized its compressor engine fleet to reduce the number and size of engines.

- It has installed a waste heat recovery unit at its Florida River gas plant in Colorado. This unit allows the plant to capture exhaust gas waste heat and use it for energy.

In BP’s Lower 48 onshore business, technicians wear augmented-reality goggles that allow them to read sensor information and communicate in real time with experts at a control center. The experts, in turn, can overlay instructions and data in the technician’s field of vision.
Thanks to these actions and others, BP’s Lower 48 business has slashed its total greenhouse gas emissions by more than 2 million metric tons of carbon dioxide equivalent since 2000, with methane reductions accounting for most of the decline.

BP Lower 48 currently is piloting the use of drones (unmanned aerial vehicles) to further enhance methane leak detection.

It also uses digital platforms, augmented-reality goggles and advanced analytics to collect, share and explore data on its operations. Technicians wearing the goggles can read sensor information on their lenses and communicate in real time with experts at a control center. The experts, in turn, can overlay instructions and data in the technician’s field of vision.

Such technologies have helped BP Lower 48 improve safety while reducing its shale oil and gas production costs by more than a third over the past five years.

Meanwhile, in Houston, BP’s Center for High-Performance Computing (CHPC) — one of the world’s most powerful supercomputers for commercial research — provides crucial support to the company’s Gulf of Mexico business.

In Houston, BP’s Center for High-Performance Computing — one of the world’s most powerful supercomputers for commercial research — has enabled the company to make historic breakthroughs in rock physics and advanced seismic imaging.

Computer scientists and mathematicians at the CHPC have made historic breakthroughs in rock physics and advanced seismic imaging, allowing BP teams to see deep into the Earth’s subsurface.

In 2017, BP used the CHPC and its proprietary seismic imaging technology to identify an additional 1 billion barrels of oil in place at its existing Gulf of Mexico fields.

The company recently developed a new seismic technology known as Wolfspar, which can help scientists and engineers see through massive salt layers that typically distort survey images. BP is piloting the use of Wolfspar at its Mad Dog field, before deploying it around the world.

In Alaska, the company has used drones to inspect its equipment on the North Slope, and in 2018 it completed two important technology trials. The first one focused on improving methane leak detection, while the second one tested the use of crawlers to perform pipeline inspections.

In 2019, BP Alaska plans to complete a 3D seismic survey of the entire Prudhoe Bay operating area. This survey will help the company pursue new drilling and well work at Prudhoe Bay, and thereby extend the life of the field.
BP’s Castrol business offers a growing number of carbon-neutral lubricants and engine oils. In 2017, for example, it launched Castrol EDGE Bio-Synthetic, a motor oil made with 25 percent plant-based oil derived from sustainably produced sugar cane.

That reduces greenhouse gas emissions or absorbs carbon dioxide. These could be initiatives that provide lower-carbon alternatives, such as renewable energy or cookstoves to replace open fires. Or they could be projects that protect or enhance natural resources that soak up CO2 from the atmosphere, such as land and forests.

In May 2018, NASA once again turned to Castrol lubricants to support its latest mission, the Mars InSight lander.

Using advanced technology and carbon offsets, Castrol offers a growing number of carbon-neutral lubricants and engine oils. BP creates the offsets by investing in activities that reduce greenhouse gas emissions or absorb carbon dioxide. These could be initiatives that provide lower-carbon alternatives, such as renewable energy or cookstoves to replace open fires. Or they could be projects that protect or enhance natural resources that soak up CO2 from the atmosphere, such as land and forests.

In 2017, Castrol launched EDGE Bio-Synthetic, a carbon-neutral motor oil made with 25 percent plant-based oil derived from sustainably produced sugar cane, as certified by the U.S. Department of Agriculture. The performance of EDGE Bio-Synthetic highlights the natural lubricating properties of plants.

Castrol also makes other carbon-neutral engine oils (Professional), along with carbon-neutral lubricants for the wind industry (Optigear) and carbon-neutral lubricants for the commercial trucking industry (VECTON).1

Many Castrol engine oils contain BP’s proprietary S3 additive chemistry, developed at its New Jersey technology center. These advanced lubricants maintain their viscosity while helping improve the cleanliness of today’s high-performance engines.
In the United States, BP has redesigned some of its Castrol engine oil packaging to use less plastic, resulting in a reduction in CO₂ emissions of about 2,000 metric tons a year.

In the wind sector, Castrol has a joint venture with Onyx InSight — a digital monitoring platform — that provides engineering and software services to help wind farm operators track the condition of turbines and avoid breakdowns.

BP has deployed this technology to nearly 600 turbines at its U.S. wind facilities.

Meanwhile, BP’s Cherry Point Refinery in Washington state recently launched a renewable diesel unit that can produce lower-carbon fuel by co-processing biomass-based feedstock alongside conventional feedstocks.

Elsewhere at its U.S. refineries and chemical plants, BP develops and applies digital technologies that improve personal safety, support maintenance activities, inspect and monitor equipment, and enhance reliability.

For example, to monitor the tank fields at its Whiting Refinery in northwest Indiana, BP uses gas cloud imagery systems that combine infrared technology and complex algorithms to detect carbon-based gases.

During the construction of its new naphtha hydrotreating unit, the refinery also is using advanced infrared open path flammable gas monitors, as well as wireless multi-gas monitors, to provide workers with extra layers of safety and protection.

At BP’s Cooper River Chemicals plant in South Carolina, teams perform acoustic emission tests on the site’s equipment, using ultrasonic transducers to listen for possible corrosion and leaks.

Cooper River also uses robotics, including crawlers and remote-operated vehicles, to inspect its tanks.

The BP campus in Naperville, Illinois, serves as the company’s U.S. technology hub for these operations. Scientists and engineers in Naperville test innovative ideas and share the results with BP facilities worldwide.

1 Castrol, EDGE, Professional, Optigear and VECTON are registered trademarks.
Since 2006, BP Ventures has invested more than $300 million in dozens of U.S. companies, including eight alternative energy companies. Its investments focus on bio- and low-carbon products, carbon management, power and storage, advanced mobility, and digital transformation.

“BP intends to play our part in meeting the dual challenge of delivering the energy the world needs while transitioning to a lower-carbon future,” says Meghan Sharp, managing director of the Americas region for BP Ventures. “BP Ventures supports this lower-carbon ambition by identifying emerging trends and businesses, making strategic investments, and testing technologies and solutions for their scalability.”

For example, BP has invested $40 million in Fulcrum BioEnergy, a California-based company that produces low-carbon “biojet” fuel from household waste. When BP announced this investment in 2016, it also secured a 10-year deal with Fulcrum to supply 50 million gallons of biojet fuel per year to its aviation business, Air BP.

In 2018, Fulcrum began building a new plant in Nevada that will be America's first commercial-scale operation diverting household garbage from landfills into a low-carbon, renewable transportation fuel product.

BP also has invested $20 million in Beyond Limits, a Caltech startup that is commercializing artificial intelligence and cognitive computing software. Its technology uses machine learning and human knowledge to simulate human reasoning, applying the same exploration techniques that NASA’s Curiosity Rover used on the surface of Mars. BP’s support will help accelerate the delivery of this technology, providing the energy sector with new levels of process automation and better insight and effectiveness across all operations.

Since 2006, BP Ventures has invested more than $300 million in dozens of U.S. companies, including eight alternative energy companies. In 2018, BP announced a $5 million investment in FreeWire, a California-based manufacturer of mobile electric vehicle rapid-charging systems.
BP has invested $40 million in Fulcrum BioEnergy, a California-based company that recently began building America’s first commercial-scale operation diverting household garbage from landfills into a low-carbon, renewable transportation fuel.

Meanwhile, BP’s investment in Solidia, a cement and concrete company based in New Jersey, supports a technology that can produce cement with significantly fewer greenhouse gas emissions, using carbon dioxide instead of water to cure the concrete. This technology has the potential to reduce emissions in concrete production by up to 70 percent, and it allows 80 percent of the water used in the production process to be recycled.

As part of its focus on advanced mobility, BP has invested in Peloton, a California-based vehicle technology company dedicated to improving the safety and efficiency of freight transportation. Peloton’s technology enables two or more trucks to travel closely but safely together. This reduces aerodynamic drag, generating savings in fuel use and CO₂ emissions.

In 2018, BP announced a $5 million investment in FreeWire, a California-based manufacturer of mobile electric vehicle rapid-charging systems. It also announced a $500,000 investment in several members of Incubatenergy, a U.S.-based consortium of clean energy incubators and accelerators.

Globally, BP plans to invest around $200 million each year to help incubate and grow lower-carbon solutions. It will allocate at least $500 million a year for low-carbon activities in general, including its renewable energy businesses and acquisitions.

At least one U.S. company — Solidia — has received investment both from BP and from the Oil and Gas Climate Initiative (OGCI) fund.

BP was a founding member of OGCI, which includes 10 companies that produce more than 25 percent of the world’s oil and gas. Collectively, these companies have pledged to invest $1 billion in low-carbon technologies over 10 years.

Thus far, the two primary focus areas for OGCI Climate Investments have been reducing methane emissions and developing carbon capture, use and storage technology.
Community Investment
Building a stronger America

BP’s commitment to America goes well beyond providing the energy and jobs that fuel economic prosperity. The company also supports a wide range of institutions and initiatives that strengthen the communities where its employees live and work.

These include everything from disaster relief organizations, to education programs for underprivileged children, to career transition programs for military veterans, to charity fundraisers for disease research, to world-class training for America’s Olympic and Paralympic athletes.

Over the past five years alone, BP has donated more than $125 million to U.S. community programs, while also maintaining business partnerships with hundreds of women- and minority-owned enterprises.

BP Foundation
The BP Foundation is a charitable organization — separate from but funded entirely by BP — that supports philanthropic activities around the world. Since 2008, it has contributed more than $145 million to thousands of community groups and causes in the United States.

As part of its commitment to service, the foundation matches personal charitable donations — including donations of time and effort — made by BP employees.

In 2017 alone, U.S. employees contributed around $4.6 million and nearly 50,000 volunteer hours to 1,700-plus organizations. The foundation matched these contributions with grants totaling about $5.2 million.

Hurricane Harvey response
In the aftermath of Hurricane Harvey, BP and the BP Foundation joined with company employees to donate nearly $1.6 million combined, along with 200,000 gallons of fuel, to help Houston recover.

BP employees also volunteered in large numbers to aid the response effort. They served meals at shelters, answered phones at emergency call centers, remediated damaged properties, rescued stranded families, and opened their homes to evacuees, all of which provided crucial support to those affected by the storm.
Supplier diversity
Every year, BP partners with more than 200 of America’s certified minority and women’s business enterprises, while working to create a strong pipeline of other potential suppliers. It was one of the first major corporations in the U.S. to create a formal program aimed at increasing supplier diversity, and it has spent more than $6 billion with diverse suppliers since 2008.

This investment creates jobs and strengthens local employers in the communities where BP operates.

The most important recognition of BP’s supplier diversity work comes from the suppliers themselves. For example, Lee Jackson of Jackson Offshore Operators, which supports BP facilities in the Gulf of Mexico, says BP played a crucial role in helping his company grow and thrive. “BP was very supportive, pointed us in the right direction, and gave us face time with the end user,” Jackson explains. “They shared information and were transparent and honest. That’s a significant reason why we’re here today.”

Military veterans
BP is proud to support American military personnel both during and after their time in uniform. In 2015, it won the Secretary of Defense Employer Support Freedom Award, which is the highest recognition the U.S. government gives to employers for supporting workers serving in the Guard or the Reserve.

In addition, G.I. Jobs magazine has designated BP America as a “Military Friendly Employer,” while U.S. Veterans Magazine has named it one of America’s “Best of the Best Top Veteran Friendly Companies.”

Beyond its own workforce, BP helps veterans across America transition back into civilian life through programs such as the Paralympics and events such as the Warrior Games.

Meanwhile, through its support for the Hiring Our Heroes initiative, BP makes it easier for veterans, transitioning service members, and military spouses to find meaningful employment.

The company also partners with Student Veterans of America to provide scholarships for veterans, and its Military Placement Program gives veterans the opportunity to hold a six-month paid position with BP’s marketing and trading business.
STEM education
For more than six decades, BP has supported science, technology, engineering and math (STEM) education programs across America. Indeed, the company donated more than $42 million to U.S. STEM programs between 2013 and 2017 alone.

BP supports programs that encourage students to pursue STEM careers, that educate and train teachers, and that mobilize employees to volunteer in their communities.

In 2017 and 2018, it partnered with the Offshore Technology Conference (OTC) in Houston to present the OTC Energy Challenge, a competition in which teams of high school students developed and presented solutions to real-world energy challenges.

Through the BP STEM Ambassador program, employees build strategic partnerships with schools and local organizations nationwide, working directly with students, teachers and administrators alike.

The company tries to focus its STEM efforts on traditionally underrepresented groups, such as women and minorities. In Houston and Chicago, for example, BP sponsors STEM-themed summer camps led by the National Society of Black Engineers.

Elsewhere in Houston, it supports the Houston Hispanic Forum’s Annual Career and Education Day, during which BP employees and others discuss professional opportunities with thousands of local students and their parents.

BP also supports the Million Women Mentors project, which helps young women of all backgrounds learn about and succeed in the STEM fields.

Olympic and Paralympic support
A longtime supporter of the U.S. Olympic Committee (USOC) and Team USA, BP currently sponsors six U.S. Paralympic national teams, including three teams that competed in the PyeongChang 2018 Paralympic Winter Games (alpine skiing, Nordic skiing and snowboarding) and three teams that will compete in the Tokyo 2020 Paralympic Games (cycling, swimming, and track and field).

BP also helps U.S. athletes receive world-class training all year round. For example, it donated $1 million to help build the USOC’s Ted Stevens Sports Services Center in Colorado Springs, Colorado. In addition, it partnered with the USOC

Over the past five years alone, BP has donated more than $125 million to U.S. community programs, including a wide range of initiatives designed to support military veterans, promote STEM education, accelerate disease research, protect the environment and reduce poverty.
and the University of Illinois to create America’s first official Paralympic wheelchair racing training site, located on the university’s Urbana-Champaign campus.

**BP MS 150**
BP is the title sponsor of the BP MS 150 bike ride, the National Multiple Sclerosis (MS) Society’s largest annual fundraising event. Since 2001, BP and Team BP riders have raised or contributed more than $20 million to support MS research and programs, including more than $800,000 in donations in 2018.

**Student Conservation Association**
Since 2015, BP has contributed $1.75 million to the Student Conservation Association to support environmental programs for high schoolers and young adults in the Chicagoland and northwest Indiana region.

Through this partnership, the company has helped improve conditions at Chicago’s Calumet Watershed and the Indiana Dunes National Lakeshore, while helping local youths gain valuable skills and experience.

**Chicago Architecture Biennial**
BP served as presenting sponsor of the inaugural Chicago Architecture Biennial in 2015 and 2016, to which it contributed $2.5 million, and then served as founding sponsor of the second Biennial in 2017 and 2018, to which it contributed $1 million. Each exhibition featured projects designed by many of the world’s leading architects.

**Support for the arts**
BP has a rich history of supporting the arts in America. For example, BP and the BP Foundation have made significant donations to the Art Institute of Chicago and the Los Angeles County Museum of Art. In 2017 and 2018, BP sponsored an historic exhibition at the National Gallery of Art, “Vermeer and the Masters of Genre Painting: Inspiration and Rivalry,” which featured more than 60 masterpieces from the Dutch Golden Age.

**Houston Livestock Show and Rodeo**
Since 2013, BP has contributed nearly $5 million to the Houston Livestock Show and Rodeo (HLSR), including around $400,000 for HLSR scholarship programs.

**United Way**
A strong supporter of the United Way (UW), BP has raised more than $15 million for local UW organizations over the past five years alone.

BP is the title sponsor of the BP MS 150 bike ride, the National Multiple Sclerosis (MS) Society’s largest annual fundraising event. Since 2001, BP and Team BP riders have raised or contributed more than $20 million to support MS research and programs.
Exploration and Production
Alaska | Gulf of Mexico | Lower 48
BP operates the entire Prudhoe Bay field, which accounts for more than half of Alaska’s total oil production.

BP supports more than 8,300 jobs in Alaska.

In 2017, the company donated more than $3 million to Alaska community organizations.

In 2018, BP signed a milestone Gas Sales Precedent Agreement to help advance the Alaska LNG project.

Alaska
Advancing the energy transition

BP believes Alaska is uniquely positioned to support the global energy transition, both by producing oil more efficiently and by supplying the world with liquefied natural gas (LNG).

The company began working in Alaska in 1959, started drilling at the massive Prudhoe Bay oil field in 1968, and helped build the Trans-Alaska Pipeline System in the mid-1970s.

Today, it operates the entire Prudhoe Bay field, which produced an average of more than 280,000 barrels of oil per day in 2017, accounting for more than half the state’s total oil production.

“Prudhoe Bay and the Trans-Alaska Pipeline System laid the foundation for Alaska’s oil and gas development,” says BP Alaska President Janet Weiss. “Now we must continue to evolve and adapt, using new strategies and technologies to become even more efficient. The past few years demonstrate that, with the right mix of investment and innovation — encouraged by sound public policy — we can create a positive future.”

Indeed, between 2015 and 2017, BP held Prudhoe Bay production levels consistent for three straight years, something that’s virtually unheard of in a 40-year-old field.

Over the same period, BP Alaska improved its operating efficiency from 80 percent to upwards of 85 percent. That represents an additional 10,000 to 15,000 barrels of oil flowing through the Alaska pipeline every day — the equivalent of adding a whole new field within Prudhoe Bay.

In 2019, BP plans to complete a 3D seismic survey of the Prudhoe Bay operating area, using its proprietary, state-of-the-art technology. The survey will provide high seismic
coverage to support new drilling and well work, which will help BP further prolong the life of the field.

Since Prudhoe Bay began production in 1977, it has generated 13 billion barrels of oil — far exceeding initial projections of 9.6 billion barrels — thanks in part to enhanced oil recovery technologies that BP pioneered. It remains the most prolific oil field in American history.

Prudhoe Bay also contains massive natural gas resources, and BP has worked with industry partners and the state government to advance the Alaska LNG project. If sanctioned, this project would move North Slope gas to overseas markets, allowing Alaska to play a key role in the global gas transition.

BP is doing its part to make that happen. In May 2018, the company announced a Gas Sales Precedent Agreement between BP Alaska and the Alaska Gasline Development Corporation — an important milestone in moving the project forward.

Through its investments and operations, BP makes huge contributions to Alaska’s economic and fiscal health.

It supports more than 8,300 jobs across the state, and in 2017 alone it spent more than $855 million with vendors in Alaska, while paying $543 million in taxes, royalties and other government payments.

The company also donated more than $3 million to Alaska community organizations, with BP employees supporting more than 800 education and community groups, along with 230 youth teams.

Over the past 30 years, BP has awarded more than $3.5 million to Alaska graduating high school seniors from across the state as part of the Principals’ and Commissioner’s Scholarship program.

Meanwhile, the BP Teacher of Excellence program receives more than 1,000 Alaska teacher nominations each year, and it has recognized 750 teachers since 1996.

We’re working to make all kinds of energy cleaner & better.

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Gulf of Mexico
Advancing the energy transition

The deepwater Gulf of Mexico epitomizes BP’s strategy of using advanced technology — including one of the world’s largest supercomputers for commercial research — to produce oil more safely, more efficiently and more sustainably.

In 2017, for example, the company used seismic processing and its Houston supercomputer to identify an additional 1 billion barrels of oil in place around its Gulf of Mexico production hubs. In effect, the technology allowed BP to locate new oil fields within existing fields.

Historically, one of the biggest seismic challenges in the Gulf of Mexico was finding a way to see beneath thick, horizontal salt sheets. To meet that challenge, BP scientists developed an innovative seismic source technology called Wolfspar, which lets them see deeper below the salt layers than anyone ever has. This will give the company a much better sense of where to drill its offshore wells.

BP currently is piloting Wolfspar at its Mad Dog field, and eventually it plans to deploy the technology around the world.

As part of another Gulf of Mexico pilot project, the company has used a robotic fleet of drones and crawlers to inspect its Thunder Horse platform. The robot technology allows BP to conduct more thorough inspections of its facilities — transmitted through a live video feed — while creating a safer work environment. (The drones and crawlers perform inspections that otherwise would be conducted by people harnessed to ropes.)

Elsewhere in the gulf, BP has partnered with GE to deploy a digital technology known as Plant Operations Advisor, which provides real-time surveillance tools to detect potential facility issues. The company uses this technology to monitor and control its facilities in real time, improving efficiency and reducing costs.

Since 2005, BP has been the largest energy investor in the deepwater Gulf of Mexico.

Scheduled for startup in 2021, BP’s Mad Dog 2 project will produce up to 140,000 barrels of oil a day.

Between 2014 and 2017, BP’s daily production in the deepwater gulf increased by more than 20 percent.

BP supports thousands of jobs across the Gulf Coast region.
technology at all four of its gulf platforms — Thunder Horse, Atlantis, Mad Dog and Na Kika — to help engineers spot abnormalities.

During a successful pilot project at BP’s Atlantis platform, Plant Operations Advisor monitored more than 1,200 mission-critical pieces of equipment and analyzed more than 155 million data points each day.

BP first began exploring the deepwater Gulf of Mexico more than 30 years ago, and it has been the region’s largest energy investor since 2005. Between 2014 and 2017, its average daily production in the deepwater gulf increased from 252,000 barrels of oil equivalent to 304,000.

Beyond its four operated platforms, BP holds interests in four other Gulf of Mexico hubs that other companies operate: Mars, Olympus, Ursa and Great White.

In 2017, BP launched a new gulf project called Mad Dog 2. Scheduled for startup in 2021, this project will produce up to 140,000 barrels of crude oil per day from as many as 14 production wells.

“Mad Dog 2 is a great example of how we’re becoming more competitive,” says Starlee Sykes, regional president of BP’s Gulf of Mexico business. “The estimated cost of that project started at $20 billion. Now it’s under $9 billion. Some of the reduction can be attributed to market deflation, but most of it came from finding simpler, more efficient ways of working. That’s what we’re trying to do across the region.”

To support its Gulf of Mexico business, BP maintains a logistics base in Port Fourchon, Louisiana, along with a heliport in Houma. In any given month, about 2,700 people pass through the Houma heliport on their way to BP facilities.

Once well operations begin, offshore teams receive 24/7 support — including constant communication and real-time data analysis — from the company’s Houston-based Global Monitoring Center.

We’re working to make all kinds of energy cleaner & better.

Gulf of Mexico

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Lower 48
Advancing the energy transition

With operations that span six states — Colorado, Louisiana, New Mexico, Oklahoma, Texas and Wyoming — BP’s Lower 48 onshore business is one of America’s largest natural gas producers.

In 2018, BP signed a $10.5 billion deal with BHP to purchase world-class unconventional oil and gas assets in the Permian-Delaware basin in Texas, along with two premium positions in the Eagle Ford and Haynesville basins in Texas and Louisiana. These assets currently produce 190,000 barrels of oil equivalent per day, of which about 45 percent are liquid hydrocarbons.

The deal represents BP’s largest purchase since buying ARCO in 1999. BP Group Chief Executive Bob Dudley has called it “a transformational acquisition for our Lower 48 business,” and BP Upstream Chief Executive Bernard Looney has said it will give the Lower 48 team “access to some of the best acreage in some of the best basins in the onshore U.S.”

Even as it dramatically expands its operations, BP Lower 48 continues to be an industry leader in understanding and addressing the challenge posed by methane emissions.

Since 2000, the Lower 48 business has slashed its total greenhouse gas emissions by more than 2 million metric tons of carbon dioxide equivalent, with methane reductions accounting for most of the decline. That’s comparable to the annual electricity-related emissions of more than 300,000 typical homes.

The business regularly analyzes and tests innovative methane leak detection technologies that could help operators identify leaks more quickly and more efficiently.

As part of those efforts, it is piloting the use of drone
technology (unmanned aerial vehicles), while also testing other technologies that aim to quantify emissions.

In addition, BP Lower 48 recently launched a separate pilot project in which it teamed up with a Silicon Valley firm and applied a mathematical model to optimize production at 180 onshore wells in Wyoming. This led to a 75 percent reduction in venting emissions events, a 20 percent increase in production and a 20 percent reduction in costs. The project will expand to more than 2,000 onshore wells by the end of 2018.

As that example demonstrates, BP’s focus on reducing methane emissions is closely tied to its larger strategy of improving efficiency and productivity.

“We recognize that, to maximize the climate advantage of natural gas, we have to reduce methane leakage,” says Lower 48 CEO Dave Lawler. “Our team has played a leading role on methane, and we’re proud of our recent progress. We also understand that reducing methane emissions with advanced technology can help make our operations safer, stronger and more reliable. In that sense, tackling the methane challenge is not only good for the environment, but also good for business.”

BP Lower 48 produces primarily natural gas, along with oil, condensate and natural gas liquids. In 2017, the business produced an average of 300,000 barrels of oil equivalent each day, and its investment and operating expenditures totaled more than $1.5 billion.

In 2018, it brought online five Mancos Shale horizontal wells in New Mexico. Horizontal wells allow companies like BP to reduce both surface disturbance and the number of production facilities needed to access a given reservoir, while also reducing the associated emissions.

Meanwhile, the Lower 48 team expanded its presence in the east Texas portion of the Haynesville/Bossier shale gas formation, which could have more gas in place than almost any other shale formation in the United States.

Since 2000, BP’s Lower 48 business has slashed its total greenhouse gas emissions by more than 2 million metric tons of CO₂ equivalent, with methane reductions accounting for most of the decline.

We’re working to make all kinds of energy cleaner & better.

Lower 48
As part of a comprehensive effort to improve its efficiency, BP’s Whiting Refinery has launched a waste heat recovery project to generate steam from exhaust gas. This will reduce the amount of steam Whiting generates from boilers, which in turn will reduce both the amount of fuel it burns and the associated greenhouse gas emissions.

In 2017, the refinery replaced two steam-driven turbines used to pump cooling water with electric-driven turbines that require less energy to achieve the same flow. It also began constructing a $300 million naphtha hydrotreating unit that will significantly reduce the amount of sulfur in its fuel, allowing it to make cleaner products and meet federal standards.

Located on the Lake Michigan shoreline in northwest Indiana, 17 miles southeast of downtown Chicago, Whiting is BP’s largest refinery anywhere in the world. It produces around 10 million gallons of gasoline, 3.5 million gallons of diesel and 1.7 million gallons of jet fuel each day, along with roughly 5 percent of all asphalt in the United States.

By way of perspective, Whiting produces enough gasoline each day to support the average daily fuel needs of more than 7 million cars.1

The facility first opened in 1889, as part of John D. Rockefeller’s Standard Oil Company, and for more than 125 years it has been a key anchor of the northwest Indiana economy. It’s the largest refinery in the Midwest, and it makes enormous contributions to the region’s transportation network, processing around 430,000 barrels of crude oil every day.

In 2013, Whiting completed a modernization project that amounted to the biggest private investment in Indiana state history. Since then, the refinery has made great strides in
boosting plant availability, meaning it can spend more time running normal operations.

In 2016, Whiting completed a separate, $180 million flare gas recovery project. The new units recover — and use as fuel for refining — certain gases that normally would have been released as carbon dioxide and sulfur dioxide.

Also in 2016, the refinery invested $235 million to remove oil and solids from its waste water. It plans to make further wastewater technology upgrades in late 2018 and early 2019.

The Whiting team uses innovative technologies not only to protect the environment and boost efficiency, but also to improve safety. For example, the refinery has deployed drones (unmanned aerial vehicles) to inspect flares, rather than have workers climb up temporary scaffolding.

“The Whiting Refinery is committed to helping build a safer, stronger, more sustainable BP,” says Refinery Manager Don Porter. “Technology is a big part of that, and we’re proud of the ways in which we’ve harnessed innovation to enhance our operations and increase our competitiveness.”

Over the years, Whiting and its employees have supported a diverse range of local and regional institutions, such as Ivy Tech Community College, Purdue University and the Lake Area United Way (LAUW).

In 2017, the LAUW gave Whiting its Volunteer of the Year award, in recognition of the fundraising work done by refinery employees.

BP also has supported local environmental initiatives, including Student Conservation Association projects at Indiana Dunes National Lakeshore, along with the Northwest Indiana CommuniTree program, which works with municipalities to plant trees in parks and vacant lots.

1 Calculation based on the average amount of gasoline an American passenger car uses each day.

We’re working to make all kinds of energy cleaner & better.

BP’s Whiting Refinery has launched a waste heat recovery project to generate steam from exhaust gas. This will reduce the amount of steam Whiting generates from boilers, which in turn will reduce both the amount of fuel it burns and the associated greenhouse gas emissions.
BP’s Cherry Point Refinery is using innovative technology to produce cleaner fuels and operate more efficiently.

In 2018, it launched a renewable diesel unit that can co-process biomass-based feedstock alongside conventional feedstocks to produce ultra-low-sulfur diesel.

This investment will reduce the carbon footprint of Cherry Point’s diesel while supporting compliance with federal and state programs that require blending of renewable fuel.

The renewable diesel project reflects Cherry Point’s broader commitment to provide the energy people need while doing its part to promote a lower-carbon economy.

Located in Blaine, Washington, the refinery helps fuel cars, trucks and airplanes throughout the Pacific Northwest, and it also plays a significant role in the global aluminum industry.

When the facility first opened in 1971, it primarily refined crude oil brought by tanker ships from the North Slope of Alaska. Since then, Cherry Point has diversified its capabilities, and today it accepts and refines crude oil from around the world.

It can process up to 236,000 barrels each day, roughly 90 percent of which emerges as transportation fuel. For example, Cherry Point is the largest supplier of jet fuel to Seattle, Portland and Vancouver (B.C.) international airports.

The remaining 10 percent of its crude oil typically gets converted into anode-grade calcined coke, which the refinery sells to aluminum smelters worldwide.

Over the past decade, BP has invested more than $1.5 billion in capital improvements at the refinery. Its proximity to rail, shipping and pipeline infrastructure helps it move products swiftly to market.
Like all BP businesses, Cherry Point makes safety its highest priority.

In 2018, it marked an historic milestone, when its employees and contractors — representing more than 80 local companies — surpassed 25 million hours and more than five years worked without a single day away from work case.

“Safety is our first priority — on every job, every day,” says Refinery Manager Bob Allendorfer. “Our values determine how we work, and no value is more important than safety. We want all our people to go home at the end of their shift in the same shape they came to work.”

Surrounded by forest, wetland, stream, pond and shoreline habitats, the refinery devotes considerable resources to help preserve its natural environment.

Employee initiatives include monitoring a colony of great blue herons, documenting amphibians in protected wetlands and conducting an inventory of native wild species.

Cherry Point also partners with the Nooksack Salmon Enhancement Association to restore salmon habitat and teach water science to local schoolchildren, and it helped underwrite the BP Heron Center for Environmental Education at Birch Bay State Park.

In addition to its environmental work, the refinery supports a diverse mix of community groups, with employees serving as board members of organizations such as the United Way, Boys & Girls Clubs of Whatcom County, the YMCA and the American Red Cross.

It also invests in the next generation of energy and technology workers by supporting local schools and education initiatives, ranging from Bellingham Technical College to the Blaine High School Technology Student Association.

“Cherry Point is powered by our people, and we share a deep commitment to the communities in which we operate,” says Allendorfer. “We value being a good neighbor, as we have for nearly 50 years.”
The BP-Husky Toledo Refinery

Advancing the energy transition

Since 2016, the BP-Husky Toledo Refinery has completed its largest maintenance turnaround in 40 years, along with the largest facility building project in its entire history. Both have helped the refinery improve safety and become more efficient in its use of energy.

The turnaround project took place in the summer of 2016, when Toledo brought in an additional 3,000 contractors to work alongside its regular personnel. The renovations and equipment upgrades included changing out catalysts, tying in new processing units and installing new metallurgy to help the site process greater volumes of lower-cost crude oil from Canada.

More recently, Toledo replaced its Refinery Excellence Center with a new, more energy-efficient building that features a higher concentration of LED lighting technology and a state-of-the-art maintenance facility. Covering 90,000 square feet, the new building houses roughly 200 employees. To construct the maintenance facility, BP relied on local, Toledo-area craftsmen.

“The new Refinery Excellence Center demonstrates both our commitment to safety and our commitment to using energy as efficiently as possible,” says Refinery Manager Des Gillen. “It was the biggest project of its kind in our history, and we’re already seeing positive results.”

Some of Toledo’s other energy efficiency initiatives include changing light fixtures to consume less power and enhancing operational controls to make better use of steam.

Located in the city of Oregon, Ohio — just east of Toledo proper — the refinery can process up to 160,000 barrels of crude oil each day. BP operates it as part of a joint venture with Husky Energy, providing the Midwest with gasoline, diesel, jet fuel, propane and asphalt.

BP supports more than 4,400 jobs in Ohio.

In 2017, BP spent more than $920 million with vendors in Ohio.

It can produce enough jet fuel each day for an airplane to fly round-trip from Toledo to Miami 100 times.

In 2017, BP spent more than $920 million with vendors in Ohio.
The refinery can produce enough gasoline each day for an average car to drive back and forth from Toledo to Miami more than 30,000 times. Meanwhile, it can produce enough jet fuel each day for an airplane to fly round-trip from Toledo to Miami 100 times.

To train people for both the routine and the unexpected, the refinery uses advanced simulators, including high-fidelity equipment that replicates real operations and processes. A separate training program enables workers to improve their footing and balance in winter weather or slippery conditions by practicing on a mechanical “slip simulator.” BP has shared this technology with local firefighters, police officers, rescue personnel and others.

In 2017, the Toledo Refinery opened a new, interactive hazard recognition training facility that can reproduce actual workplace scenarios and help workers learn how to identify potential problems.

“We believe in fostering a people-based safety culture,” says Gillen. “We want our leaders and employees to work together as a cohesive unit, with everyone speaking up, sharing information and providing feedback to each other. The success of our refinery depends on our safety culture, and our safety culture depends on engaging and empowering our people.”

Beyond developing its current workforce, the Toledo Refinery also helps cultivate America’s workforce of the future.

For example, it has partnered with the University of Toledo (UT) to sponsor a scholarship program that gives local high school students the opportunity to pursue a career in engineering. The students who are selected attend summer college-prep courses, and after successfully completing three years of classes, they receive full scholarships to study engineering at UT.

In addition, BP has donated more than $300,000 to UT over the past five years to support engineering and business education programs for women and minorities.

We’re working to make all kinds of energy cleaner & better.

The BP-Husky Toledo Refinery

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Cooper River Chemicals
Advancing the energy transition

Thanks to a $200 million modernization project completed in 2017, BP’s Cooper River Chemicals plant will be able to curtail its electricity use and carbon dioxide emissions, while increasing its total output of purified terephthalic acid (PTA), a BP-invented chemical feedstock.

More specifically, the project will allow Cooper River to reduce the amount of electricity it purchases from the grid by 40 percent, slash CO₂ emissions by up to 110,000 tons per year and boost production of PTA by 10 percent.

Cooper River also will be able to supply the U.S. plastic industry with PTAir Neutral, the world’s first certified carbon-neutral PTA, which uses carbon offsets such as reforestation projects to help customers meet net zero-carbon targets. BP introduced PTAir Neutral in Europe in 2016 and soon will bring it to the United States.

“Retailers and brand owners are seeking more environmentally friendly solutions that will reduce the carbon impact of their products, and they’re choosing brands that address those concerns,” says Luis Sierra, head of BP’s global aromatics business. “We know that today’s ultra-competitive U.S. petrochemicals industry demands a relentless focus on innovation, safety and the environment — and BP is rising to the challenge.”

The company remains America’s largest producer of PTA, a key building block of clothing, home textiles, carpets, plastic bottles and thousands more everyday items.

Indeed, BP’s Cooper River plant has the capacity to generate about 1.5 million tons of PTA each year — enough to make more than a billion children’s backpacks.

Located in a picturesque wilderness on the outskirts of Charleston, South Carolina, Cooper River celebrated its 40th anniversary in 2018.

Over the past four decades, the plant has compiled a
Cooper River’s $200 million modernization project will allow it to reduce the amount of electricity it purchases from the grid by 40 percent, slash CO₂ emissions by up to 110,000 tons per year and increase its total output of purified terephthalic acid by 10 percent.

Cooper River Chemicals

We’re working to make all kinds of energy cleaner & better.

Cooper River’s $200 million modernization project will allow it to reduce the amount of electricity it purchases from the grid by 40 percent, slash CO₂ emissions by up to 110,000 tons per year and increase its total output of purified terephthalic acid by 10 percent.

“At Cooper River, we take enormous pride in our environmental stewardship and our commitment to safe, reliable operations,” says Plant Manager John Harvey. “We feel lucky to live and work in such a beautiful part of the country, and we feel a personal duty to protect our employees, our business partners and the local wilderness.”

BP also contributes to the communities around Cooper River by supporting science, technology, engineering and math (STEM) education programs.

For example, the company donated money to help build a new interactive STEM lab for a neighboring elementary school, and it supported the construction of a new fabrication lab at Laing Middle School, which in 2017 was named America’s top STEM-focused middle school.

In addition, Cooper River employees support the annual PTSD River Challenge, a 175-mile kayaking excursion in which combat veterans paddle through South Carolina waterways to raise awareness of post-traumatic stress and veteran suicide.

distinguished record of conservation leadership, which its employees exemplify through their support for nearby wildlife initiatives.

Cooper River’s production facilities are surrounded by dense forests and wetlands featuring a rich ecosystem of plants and animals indigenous to the South Carolina Lowcountry, including longleaf pines, turkeys, white-tailed deer, wood ducks, bluebirds and red-cockaded woodpeckers.

The forests and wetlands serve as a vast outdoor classroom and nature preserve for local schools and community organizations, such as search-and-rescue dog training teams and veterans groups.

Cooper River has received recognition for its environmental programs from the Wildlife Habitat Council, the National Land Conservation Conference and other nature groups.

Meanwhile, the plant’s safety efforts have earned it the South Carolina Chamber of Commerce Workplace Safety Award four years in a row.

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Texas City Chemicals
Advancing the energy transition

In 2017, BP’s Texas City Chemicals plant (TCC) completed a major investment project that expanded the facility, significantly improved its operational efficiency and increased its production of metaxylene (MX) by 10 percent. Known as Project Hedera, this initiative represented a huge milestone for the business.

“Project Hedera was a timely capital investment designed to meet growing demand for metaxylene,” says Terry Trevino, TCC’s plant operations manager. “It helped us create a stronger, more flexible business that will continue to meet the requirements and changing needs of our customers.”

TCC is a leading producer of both metaxylene (MX) and paraxylene (PX), chemical compounds that help make everything from clothes and carpets to soda bottles and surfboards.

Located about 60 miles southeast of BP’s U.S. headquarters in Houston, TCC has three process units and a deepwater marine terminal.

It can produce nearly 1.5 million tons of chemicals each year, including enough PX to make seat belts for 1.1 billion cars.

The plant buys hydrocarbon mixtures called “xylenes” from Gulf Coast refineries, and it uses them to manufacture PX and MX. TCC delivers much of its PX output to BP’s Cooper River facility in South Carolina, which in turn manufactures purified terephthalic acid, a BP-invented chemical feedstock mainly used to make polyester products.

Meanwhile, TCC sells its MX output to other manufacturers, who use it to make a wide variety of plastic products, including fiberglass auto bodies, cooling fans, electronic connectors and upholstery.

The plant began operating more than half a century ago, and today it is part of BP’s global aromatics business, headed by Luis Sierra.
“BP’s world-leading technologies in both paraxylene and PTA were developed in our U.S. laboratories and have been deployed by our partners and licensees around the world, giving rise to a whole new industry,” says Sierra. “Today, polyester plays an important role in so many different aspects of our lives — from clothing, to food packaging, to electronics such as smartphones.”

Committed to safe and reliable operations, TCC has received the Distinguished Safety Silver Award for top industry safety performance from the American Fuel & Petrochemical Manufacturers association.

When Hurricane Harvey struck the Houston area in 2017, bringing historic levels of rainfall, TCC maintained safe and reliable operations throughout the storm.

“Many of our employees were affected by Harvey,” says Plant Manager Pete Nowobilski. “Our site received about 35 inches of rain, yet we continued to operate safely and reliably. I’m tremendously proud of how our team prepared for and responded to an unprecedented natural disaster.

It speaks volumes about the quality of people we have working here.”

Since its first unit started up in 1962, TCC has made significant contributions, not only to the southeast Texas economy, but also to local schools and regional community groups.

For example, TCC employees volunteer for and donate to organizations such as the United Way and Junior Achievement. Over the past five years alone, they have contributed more than 20,000 volunteer hours to community service initiatives.

Elsewhere in Texas City, BP continues to partner with Eastman Chemical Company on the production and marketing of acetic acid, which can be used to make household fabrics, washing powder and other everyday items.

In fact, BP is the exclusive marketer of Eastman’s annual output, which can reach around 580,000 tons.

We’re working to make all kinds of energy cleaner & better.

Texas City Chemicals

In 2017, BP’s Texas City Chemicals plant completed a major investment project that expanded the facility, significantly improved its operational efficiency and increased its production of metaxylene by 10 percent — creating a stronger, more flexible business.
Additional Businesses
Marketing and Trading | Wind Energy | Biosciences Center | Shipping | Retail, Fuels and Lubricants | Pipelines and Logistics
Based primarily in Chicago and Houston, BP’s U.S. marketing and trading business supplies a wide range of products that can help reduce greenhouse gas emissions.

For example, BP is one of the largest suppliers of renewable natural gas (RNG) to the U.S. transportation sector. Produced entirely from organic waste, RNG — or “biogas” — can reduce emissions by around 70 percent compared with gasoline or diesel.

Thanks to its partnership with Clean Energy Fuels, BP now owns RNG production facilities in Michigan and Tennessee, along with a share of two RNG plants currently under construction in Oklahoma and Georgia.

“BP is committed to supporting the transition to a lower-carbon energy future,” says Carey Mendes, head of BP’s oil, products and low-carbon trading business in Chicago. “Our partnership with Clean Energy reflects that commitment, as it helps us accelerate the growth of renewable natural gas and promote a more sustainable energy mix.”

In California, BP supplies RNG to three transit agencies and more than 70 compressed natural gas and liquefied natural gas fueling stations.

The company also participates in California’s carbon emissions trading market, which has helped the Golden State become a global leader in addressing the climate challenge.


A year later, the same magazine recognized BP as “Natural Gas House of the Year,” citing its ability to supply gas across global markets.

In an average year, BP’s marketing and trading team serves more than 3,500 customers in North America.

In 2018, Energy Risk magazine named BP “Natural Gas House of the Year,” citing its supply capability.
BP remains the largest marketer of natural gas in North America, buying and selling more than 20 billion cubic feet each day.

The company manages more than 11 billion cubic feet of transportation capacity and schedules gas flows on approximately 180 pipelines across North America.

This represents a crucial part of its broader strategy to advance the energy transition, since gas can dramatically reduce carbon dioxide emissions in the power sector. Indeed, the recent growth of natural gas in electricity generation — displacing other fossil fuels — is the main reason that America’s energy-related CO₂ emissions declined by 14 percent between 2005 and 2017.

“In addition to our gas and power businesses, we are expanding our natural gas liquids (NGLs) business both domestically and globally,” says Orlando Alvarez, head of BP’s gas, NGLs, and power marketing and trading business in Houston. “We have deep expertise across the value chain — including in pipelines, railcars and ships — which allows us to deliver to multiple destinations for our U.S. customers.”

Because its marketing and trading team is integrated with the rest of the company, BP can maximize the value of its energy resources.

For example, the trading group buys crude oil for BP’s refineries and helps them maintain their product inventory levels.

In an average year, BP’s marketing and trading business serves more than 3,500 customers across North America.

BP provides those customers — including oil and gas producers, refineries, petrochemical plants and power generators — with hedging products and other risk management services that support capital investments and promote long-term economic growth.

It was the first energy company to register as a “swap dealer” — an entity that participates in certain derivatives markets — under the Dodd-Frank Act.

We’re working to make all kinds of energy cleaner & better.

Marketing and Trading

BP is one of the largest suppliers of renewable natural gas to the U.S. transportation sector. Produced entirely from organic waste, this fuel can reduce greenhouse gas emissions by around 70 percent compared with gasoline or diesel.
Wind Energy
Advancing the energy transition

BP is one of the largest operators of renewable energy businesses among its peers, with more than a dozen onshore wind farms in the United States.

In 2017, a net wind portfolio the size of BP’s helped avoid around 2.3 million metric tons of carbon dioxide emissions.

To put that number in perspective, it is roughly equivalent to:
- the annual energy-related emissions of 248,000 typical homes;
- the emissions produced by burning 2.5 billion pounds of coal;
- the emissions produced by consuming 258 million gallons of gasoline.

In 2018, BP partnered with Tesla to install a high-storage battery at its Titan 1 wind farm in South Dakota. This project is the first of its kind in BP’s U.S.-operated wind business and a potential step forward in the performance and reliability of wind energy.

BP will integrate the battery with its Titan 1 facility and configure it to help manage internal electricity demands when the wind isn’t blowing. This will enable the site to store electricity and make it available whenever needed.

“The battery pilot project at our Titan 1 wind farm will provide BP Wind Energy with valuable insights as we seek opportunities to use energy storage more effectively across our diverse portfolio,” says BP Wind Energy CEO Laura Folse. “It’s another way that we’re working to create a wind energy business that is sustainable for the long term and supports the global transition to a low-carbon future.”

BP’s U.S. wind farms have a gross generating capacity of 2,259 megawatts. That’s enough electricity to power all the homes in a city the size of Philadelphia, and it makes BP one of America’s top wind energy producers.
of America’s top wind energy producers.

The company directly operates 13 wind farms — in Colorado, Idaho, Indiana, Kansas, Pennsylvania, South Dakota and Texas — while holding an interest in a separate wind facility in Hawaii.

Its largest wind facility is the Flat Ridge 2 farm in south-central Kansas, which can generate enough electricity to power twice the number of homes in the state capital of Topeka.

Every BP-operated wind farm receives round-the-clock support from on-site personnel and/or from BP’s Remote Operating Center (ROC) in Houston. During normal business hours, operators at individual wind farms manage their sites. During off-hours, weekends and holidays, operators at the ROC take control.

Using advanced technology, ROC teams centrally monitor all BP sites — 24 hours a day, seven days a week — while working with colleagues in the field to enhance performance, reliability and safety.

ROC monitoring systems capture turbine availability, power generation capacity, wind speed, weather and other critical factors. An embedded alarm system immediately notifies operators of potential problems, such as approaching storms or flash flood warnings.

BP works hard to prevent its wind operations from affecting the wildlife and habitats that surround its facilities. For example, it voluntarily adjusts the movement of wind turbines to reduce their impact on bat populations during peak migration seasons.

“We’re always focused on safety and sustainability in everything we do at our wind farms,” says Folse. “Our staffers at the ROC provide an extra set of eyes and help our people in the field work safely and responsibly.

“Additionally, we continue to optimize our business by seeking out technological advancements and finding ways to deliver power more efficiently.”

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BP’s San Diego Biosciences Center (BSC) conducts research, supports investments and manages academic partnerships aimed at accelerating the world’s transition to a lower-carbon future.

As part of the company’s global technology team, the BSC studies how bioscience can add value to BP’s businesses and make them more sustainable. Created in 2015, its staff includes both scientists and engineers.

“What can biology do for an energy company? The short answer is, a lot,” says Kirsty Salmon, the BSC’s science team leader. “Most BP businesses work with biology in one form or another. The BSC conducts research and development programs that can help the biosciences make larger contributions to the company. It also identifies academic programs that can complement business needs.”

Among other capabilities, the BSC performs research on microbiology, metabolic engineering, microbial physiology, metabolic modeling, biochemistry, enzymology, fermentation and biogeochemistry. Its scientists can rapidly unlock genome information and identify potential models for gene integration. Their biodiversity archives feature some 80,000 tubes, vials and plates.

This research supports many aspects of BP’s operations, including the production of renewable energy, oil and natural gas, along with the development of innovative and efficient fuels and lubricants.

For example, the BSC works closely with BP Biofuels, which produces ethanol from sugar cane in Brazil. This ethanol has lifecycle greenhouse gas emissions that are 70 percent lower than conventional transportation fuels.

In 2017, BP Biofuels formed a joint venture with Copersucar — the world’s leading sugar and ethanol trader — to own and operate a major ethanol storage terminal in Brazil. The joint venture has helped BP better connect its ethanol.
production with the main Brazilian fuels markets.

The San Diego BSC also provides specialist advice to Butamax, BP’s joint venture with DuPont. The Butamax technology converts sugars from corn into an energy-rich biofuel known as bio-isobutanol, which can be blended with gasoline at higher concentrations than ethanol and transported through existing fuel pipelines and infrastructure.

In 2017, Butamax acquired a state-of-the-art ethanol plant in Kansas, and it plans to add bio-isobutanol production capacity to the facility.

Meanwhile, the BSC advises BP Ventures on low-carbon and other investments. To date, BP Ventures has invested more than $190 million in California-based companies, partnering to bring clean technologies and other leading-edge energy solutions to market.

In the years ahead, the BSC plans to expand its research in areas such as wastewater, remediation and enhanced oil recovery.

For example, it plans to help BP make further progress on converting waste streams to biogas, cleaning legacy industrial sites and producing oil more efficiently from existing resources.

“The BSC will play a significant role in helping BP reduce emissions in its operations, improve its products and create or expand low-carbon businesses,” says Steve Taggart, director of engineering, projects and operations both for the BSC and for BP’s Advanced Modeling Team. “The biosciences have broad application across our industry.”

Beyond its lab and business work, the San Diego BSC team manages BP’s partnership with the Energy Biosciences Institute (EBI), a world-class research program based at UC-Berkeley, Lawrence Berkeley National Laboratory and the University of Illinois at Urbana-Champaign.

To date, the EBI has funded more than 75 research programs or projects in areas such as biofuels, biomass and renewable chemicals. BP has contributed more than $300 million to the EBI since 2007.

We’re working to make all kinds of energy cleaner & better.

Biosciences Center

BP’s San Diego Biosciences Center supports the production of renewable energy, oil and natural gas, along with the development of innovative and efficient fuels and lubricants. It also advises BP Ventures on low-carbon and other technology investments.
In 2017, BP Shipping completed about 1,400 voyages to or from U.S. ports. BP’s shipping business, which completed about 1,400 voyages to or from U.S. ports in 2017, has worked to reduce its carbon dioxide emissions and make its operations more sustainable while also supporting the growth of natural gas.

For example, BP Shipping recently designed and built 26 new product and crude tankers that are over 20 percent more fuel-efficient than its previous generation tankers. It’s also building six new liquefied natural gas (LNG) tankers that will be roughly 25 percent more fuel-efficient than their predecessors.

The new LNG tankers will feature hull designs that make them faster and easier to maneuver, along with state-of-the-art engines that utilize evaporated or “boil-off” gas from cargo tanks as fuel. With a thermal efficiency of around 52 percent, they will be the most efficient marine engines on the market, reducing CO₂, nitrogen oxide, sulfur oxide and particulate emissions when operating in gas mode.

“These will be the largest LNG vessels BP Shipping has ever owned or operated,” says BP Shipping Americas President Lambros Klaoudatos. “They’ll play a vital role in the company’s future, supporting our shift to gas.”

Once delivered, the new LNG tankers will help increase BP’s global LNG portfolio by an additional 4.4 million metric tons per year. In America, the vessels will service BP’s 20-year liquefaction contract with the LNG terminal in Freeport, Texas.

“BP continues to expand the reach of our LNG business and serve our customers with flexible solutions by leveraging our scale, integration and relationships,” says Klaoudatos. “The expansion of the gas fleet allows us both to manage risks and to grow our own capability for the future while remaining at the forefront of this rapidly growing and...
Important global business.

BP Shipping first began transporting oil and gas products more than a century ago. In fact, it is BP’s oldest continuously operating business unit, with a history that dates to 1915, when the British Tanker Company started carrying products from Persia.

Today, it brings the company’s oil and gas cargoes to market while providing technical and maritime expertise for its business activities.

In 2017, BP Shipping moved more than 47 million metric tons of cargo to or from U.S. ports. By way of perspective, 47 million metric tons of concrete would be enough to build seven Hoover Dams.

The business relies on a combination of company-operated, time-chartered and spot-chartered vessels.

BP also owns a 25 percent stake in the Alaska Tanker Company (ATC), which it helped create in 1999 to consolidate all of its Alaskan crude oil shipping requirements into one operating company. ATC’s four tankers deliver crude oil from the Valdez Marine Terminal in southeast Alaska to facilities on the West Coast and in Hawaii.

BP Shipping works hard to monitor the safety, not only of its own vessels, but also of third-party vessels moving BP cargoes. As part of those efforts, it runs a ship-vetting and port/terminal inspection program in which BP teams rigorously assess vessels based on a range of criteria, including management, operational, crewing and structural standards.

In 2018, the Chamber of Shipping of America recognized the crews of 15 BP vessels for their excellent safety performance, honoring them with the prestigious Jones F. Devlin Award. To receive the award, a merchant marine vessel must operate for at least two years without a crew member losing a full turn at watch due to an occupational injury.

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Shipping
Retail, Fuels and Lubricants
Advancing the energy transition

From New York to San Francisco, BP provides Americans with fuels, lubricants and other products essential to modern transportation, including a growing number of lower-carbon and carbon-neutral products.

Its U.S. retail presence consists of roughly 7,200 BP- and ARCO-branded sites, along with more than 1,000 ampm convenience stores in California, Oregon, Washington, Arizona and Nevada.

In 2017, BP delivered 13.6 billion gallons of fuel, including 7.3 billion gallons of BP-branded fuel, to its U.S. customers. That was enough fuel to run all the cars in New York and New Jersey for the entire year.

The company continues to make new investments in its retail business, both to enhance its products and to upgrade its stations. In 2016, for example, BP launched a new version of its leading fuel brand, BP gasoline with Invigorate, which uses an innovative formula to help remove dirt from car engines.

In 2017 alone, nearly 300 BP-branded sites joined the company’s U.S. retail network. That same year, BP reintroduced its Amoco brand and made it available as a complementary brand for select U.S. retail stations.

“Understanding our consumers’ needs and exceeding their expectations is a cornerstone of our business,” says Rick Altizer, senior vice president for sales and marketing at BP’s North American fuels business. “We work hard to provide a great product at our pumps and also to give our consumers a great experience when they fill up — with modern, updated stores serving quality food and drinks.”

The company also markets products made by Castrol, BP’s world-class lubricants business, which is America’s No. 1 motor oil brand for consumers who change their own oil. Indeed, Castrol accounts for 23 out of every 100 gallons of consumer motor oil purchased in U.S. stores.

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In 2017, BP delivered 13.6 billion gallons of fuel to its U.S. customers.
Internationally renowned for its pioneering technologies, Castrol directly serves around 500,000 customers across the globe, and more than 200 million people use its products.

Many of those products — such as the Nexcel oil cell and Castrol EDGE — can boost engine efficiency and help drivers reduce their carbon intensity.²

Launched in 2015, Nexcel is a revolutionary technology that represents one of the most significant oil change innovations in automotive history. An easy-to-change unit containing both engine oil and filter, the Nexcel oil cell is designed to reduce tailpipe carbon dioxide emissions, improve vehicle servicing and increase the recycling of used oil.

In 2017, Castrol introduced a new “bio” variant of its EDGE motor oil, called EDGE Bio-Synthetic. Made with 25 percent plant-based oil, it offers a more renewable alternative without compromising the Castrol EDGE performance that customers have come to expect.

Like numerous other Castrol products, EDGE Bio-Synthetic is carbon neutral, thanks to the combination of its advanced technology and BP’s carbon offset program. BP creates the offsets by investing in activities that reduce greenhouse gas emissions or absorb CO₂.

Castrol has facilities across the United States, from Port Allen, Louisiana — where it blends, packs and distributes lubricants — to Wayne, New Jersey, which is home to its Western Hemisphere headquarters.

BP’s fuel and lubricant customers include commercial airlines and other aircraft operators.

In fact, the company’s aviation division, known as Air BP, is one of the world’s leading suppliers of aviation fuel products and services. Active in more than 50 countries — including the United States — it serves everyone from commercial carriers and private aircraft owners to the U.S. military.

Among other things, Air BP designs, builds and operates fueling facilities; it provides technical consulting and training; its Sterling Card offers efficient general aviation refueling; and it helps customers achieve their lower-carbon goals.

¹ Dirt refers to deposits on critical engine parts.
² Castrol, Nexcel and EDGE are registered trademarks.
Pipelines and Logistics
Advancing the energy transition

BP’s U.S. Pipelines and Logistics business (USPL) functions as the transportation and delivery hub for BP businesses and third parties across America, moving and storing the energy resources that power economic growth.

Every day, USPL manages more than 3,200 miles of pipelines carrying 1.1 million barrels of crude oil, natural gas liquids and refined products. It also has an ownership stake in close to 1,500 miles of additional pipelines.

The combined network of pipelines that USPL owns or manages is long enough to stretch from Chicago to London.

Meanwhile, the business maintains 72 above-ground storage tanks with a combined capacity of about 5.3 million barrels.

These pipelines and storage tanks serve both the Midwest and Pacific Northwest regions.

In 2017, USPL formed a new master limited partnership — BP Midstream Partners LP (BPMP) — and completed the first initial public offering in BP history.

The BPMP assets include pipelines that transport onshore crude oil production to BP’s Whiting Refinery in northwest Indiana and offshore crude oil and natural gas production to key refining markets and trading and distribution hubs. Other BPMP assets deliver refined products and diluting agents from the Whiting Refinery and other U.S. supply hubs to major demand centers.

USPL continues to operate and manage the BPMP pipeline assets with BP employees.

“The pipeline system operated by BP is a key element of the economic and security infrastructure of the United States,” says Clive Christison, vice president of pipelines, supply and optimization for BP’s North American fuels business. “Our extensive network of pipes safely and reliably delivers the energy that America needs to heat homes, businesses.
and schools, and it also delivers the energy that fuels the vehicles, airplanes and machines that make modern life possible."

For example, USPL operates the 400-mile Olympic Pipeline, which moves gasoline, diesel and jet fuel from four Puget Sound refineries — including BP’s Cherry Point Refinery — to seven intermediate delivery sites and 17 terminals in the Pacific Northwest.

The Olympic system helps fuel cars, trucks and planes from Blaine, Washington, to Portland, Oregon, including the planes at Portland and Seattle international airports. It transports more than 12 million gallons of fuel each day, meaning it effectively does the work of around 1,400 tanker trucks.

USPL has an important control center in Tulsa, Oklahoma, where employees schedule and monitor the movement of specific energy products. The Tulsa facility uses satellite communications and other innovative technologies — including a state-of-the-art leak detection system and an industry-leading damage prevention program — to make BP’s pipeline operations run safely and efficiently.

In fact, USPL received the American Petroleum Institute Pipeline Occupational Safety Performance Award for large operators in 2016.

Beyond the pipelines and terminals that USPL operates directly, BP also has an ownership interest in more than a dozen additional terminals in California, Georgia, Illinois, Indiana, Maryland, Minnesota, New Jersey, New York, Ohio, Oregon and Washington.

As part of BP’s North American fuels business, USPL is headquartered in the famous Chicago Mercantile Exchange building in the heart of downtown Chicago.

BP supports more than 7,200 Illinois jobs overall, and in 2017 it spent more than $825 million with vendors in Illinois.

Across the entire Chicagoland region — from its Whiting Refinery, to its downtown offices and trading floor, to its technology center in suburban Naperville, Illinois — BP supports more than 17,300 jobs in total.

We’re working to make all kinds of energy cleaner & better.

Pipelines and Logistics

BP’s U.S. Pipelines and Logistics business uses satellite communications and other innovative technologies — including a state-of-the-art leak detection system and an industry-leading damage prevention program — to make its pipeline operations run safely and efficiently.
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