

## 2019 Sustainability Report



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# Letter from the CEO

It is my pleasure to introduce Pioneer's third annual Sustainability Report covering the company's activities during calendar year 2018.

we continued our transformation into a Permian pure-play company. In fact, our Permian production exceeded 300,000 barrels of oil equivalent per day in the fourth quarter of 2018 – a new milestone for the company. We know that in order to continue to provide value to our shareholders, we must remain focused on our license to operate and committed to environmental, social and governance (ESG) issues. To that end, this report highlights many of our efforts to ensure that our operations are performed safely and with respect for the

environment, that our people are provided with the resources they need to be collaborative and successful in their careers, and that the communities in which we operate share in the opportunities created by our investments. On the environmental front, our stakeholders continue to focus closely on how the company is managing air emissions from our operations. This work has been a priority for Pioneer over the past several years. In fact, since 2016 Pioneer has significantly reduced both our greenhouse

We know that in order to continue to provide value to our shareholders, we must remain focused on our license to operate and committed to environmental, social and governance issues. tly reduced both our greenhouse gas and methane emissions and intensities, while continuing to achieve our production goals. Details about these reductions are documented on pages 17-30 of this report. In 2018, the company committed to two new industry partnerships designed to help achieve

The first is the Collaboratory to Advance Methane Science (CAMS). CAMS will bring together a diverse group of experts from industry and academia to conduct studies addressing methane emissions along the natural gas value chain.

The Gas Technology Institute (GTI) will serve as the program administrator. Other major companies joining Pioneer in this effort include BP, Cheniere, Chevron, Equinor and ExxonMobil. The second industry collaboration focused on reducing air emissions is The Environmental Partnership. The Environmental Partnership is comprised of companies in the oil and gas industry committed to continuously improving environmental performance. The group is focused on reducing emissions of methane and volatile organic compounds from the industry's operations in three specific areas – 1) pneumatic controllers, 2) manual liquids unloading and 3) leak detection and repair. I am proud to say Pioneer already meets or exceeds the Partnership's performance goals in each of these three areas.

Pioneer also continues to develop unique partnerships with the communities in which we operate. Throughout 2018, our company played a leading role in forming the Permian Strategic Partnership (PSP), an organization made up of 20 large companies operating in the Permian Basin, including companies from the exploration and production, service and midstream sectors. The PSP was formally chartered in November of 2018 and will be fully operational in 2019.

The group's mission is to improve the quality of life for Permian Basin families by partnering with local leaders to develop and implement strategic plans to foster superior education, accessible housing, a supportive healthcare system, safer roads, and workforce development. To our knowledge there isn't another organization quite like it in the oil and gas industry.

At our headquarters in Irving, Texas, we are one of only two companies to place in the top 10 of *The Dallas Morning News*' Top 100 Places to Work survey for the ten consecutive years the survey has been in existence. We're especially proud of this distinction, because it is based on direct feedback from our employees.



Scott D. Sheffield, President and Chief Executive Officer

These are just a few of our 2018 highlights. The full report includes data and information on how Pioneer governs and manages ESG issues, air and water quality, climate change, land use, safety statistics, political advocacy, and human resources initiatives. I hope you find the report informative.

Sincerely, Scott D. Sheffield President and Chief Executive Officer



# **Reporting Principles**

Pioneer's Sustainability Report highlights the specific sustainability-related governance and risk management measures we undertake to actively address issues important to both Pioneer and our internal and external stakeholders.

To more effectively prioritize and manage our Environmental, Social and Governance (ESG) information, the company formed an ESG advisory group comprised of executive leadership and subject matter experts from key functions in our organization.

The ESG advisory group reviews and prioritizes sustainability issues relevant to Pioneer and guides the company's sustainability reporting relative to our peer group and industry.

#### **Reporting Framework**

Our 2019 Sustainability Report references the reporting standards, terminology, and performance metrics developed by the Global Reporting Initiative (GRI) standards and the International Petroleum Industry Environmental Conservation Association (IPIECA). To help stakeholders locate this information, a Performance Data Table and Sustainability Content Index are provided on pages 53-62.

#### **Reporting Scope**

Unless otherwise indicated, the 2019 Pioneer Natural Resources Sustainability Report includes data and information from January 1, 2018, through December 31, 2018, and is focused on our direct operations as outlined in our 2018 Annual Report on Form 10-K (Annual Report) filed with the U.S. Securities and Exchange Commission (SEC). STEP

**Identify** Review existing and emerging issues, consolidate feedback and update reporting. **Prioritize** Determine topics to be included in the report as well as their relative prominence.

STEP

Pioneer has an integrated services model, with employees assigned to exploration and production (E&P) operations roles, and to roles within our service functions – Pioneer Well Services and the Pioneer Infrastructure Group. Performance metric subdivisions along these functional roles have been provided to better delineate our performance relative to industry peer companies.

Pioneer completed the divestment of its Raton Basin and West Panhandle assets in July and August of 2018, respectively. In November 2018, the company announced plans to close its sand mine operations in Central Texas, and, in December 2018, Pioneer completed the divestment of its pressure-pumping services assets. Consistent with reporting requirements, the Raton Basin and West Panhandle assets were not included as part of the USEPA greenhouse gas or Occupational Safety and Health Administration (OSHA) injury and illness programs, for the 2018 reporting year. However, Pioneer's pressure-pumping and sand mining operations are included in our 2018 performance metrics. In 2018, all Pioneer operations occurred onshore and interior to the State of Texas.

#### Sustainability Reporting Materiality Assessment

Pioneer conducted a materiality assessment to identify and prioritize sustainability topics we believe are most significant to our stakeholders. The content prioritization of this report is the result of an ongoing process that considers perspectives from a variety of sources, including employees, investors, and other key external stakeholders, as well as relevant reporting guidelines.

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### STEP 3

**Check** Confirm issue coverage and presentation is sufficiently detailed and prioritized appropriately.

### 5 step 4

#### Review

Periodically seek feedback on the sustainability report from both internal and external stakeholders to determine whether the report adequately covered the issues of importance to stakeholders.

In 2018, to better understand these issues, we conducted an additional analysis of current and emerging environmental and sustainability risks associated with our operations. Pioneer engaged both internal and external individuals and organizations to understand their respective views of perceived risks, the likelihood of their occurrence and potential impacts. The results of these conversations inform our sustainability strategy and help guide the content of this report. Prioritized issues included greenhouse gas emissions, usable water scarcity, produced water management, induced seismicity, and land and infrastructure footprint.

Beyond general annual updates, Pioneer's 2019 Sustainability Report now includes additional discussion on these topics. We expect the content of our sustainability reporting to evolve as Pioneer's leadership analyzes and responds to this feedback. Our Annual Report and financial filings include material risks as defined by regulatory requirements or which we believe are material to our investors. Detailed analysis of our financial performance can also be found in our Annual Report.



#### **Prioritizing Material Issues**

gnincance to the company \_\_\_\_\_



# **Company Overview** and Corporate Strategy

**Pioneer Natural Resources Company** ("Pioneer") is a large independent oil and gas exploration and production company that explores for, develops and produces oil, natural gas liquids and natural gas within the United States, with operations primarily in the Permian Basin in West Texas. The company's mission is to be America's leading independent energy company, focused on value, safety, the environment, technology and, our greatest asset, our people.

With approximately 760,000 gross acres (680,000 net acres), Pioneer is the largest acreage holder in the Midland Basin, which the U.S. Geological Survey (USGS) estimates is the largest continuous oil field in the United States. Pioneer's interests in the northern portion of the play comprise approximately 560,000 gross acres and its interests in the southern portion of the play, where the company has a joint venture with Sinochem, comprise approximately 200,000 gross acres.

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# 5.177 **EMPLOYEES** 1,006**EMPLOYED IN FIELD & PLANT OPERATIONS**

### **PIONEER AT A GLANCE • AT DECEMBER 31, 2018**

COMPANY OVERVIEW AND CORPORATE STRATEGY





# **PIONEERAT** AGLANCE

**AVERAGE DAILY PRODUCTION** FROM CONTINUING OPERATIONS (2018)







#### Governance

Pioneer's governance practices are described in our Corporate Governance Guidelines.

Pioneer's Board of Directors is responsible for overseeing the company's assessment of major risks, including those related to sustainable development, and the measures taken to manage such risks. Pioneer views sustainable development as a multidisciplinary approach to our business, which balances economic growth, environmental stewardship and social responsibility.

The Pioneer Board includes two formal committees and one ad hoc committee with corporate sustainability oversight.

#### Health, Safety and Environment (HSE) Committee:

The HSE Committee oversees broad company health, safety, environmental, and sustainability practices, including management efforts to create a culture of safety and environmental protection practices. The committee reviews and approves goals for Pioneer's health, safety and environmental programs and periodically reviews progress toward

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those goals; reports to the full Board on health, safety and environmental matters at least once per year; and provides oversight to company management regarding the company's sustainable development program, including sustainability reporting. In addition, the Board of Directors' HSE committee members take an active role in continuing to cultivate our HSE culture and performance improvement.

In addition to providing oversight for our HSE practices, the committee members regularly visit Pioneer's operational facilities and speak with employees personally, learning firsthand about Pioneer field operations and what the company's Board members can do to provide better support for safety, health and environmental initiatives. Through these visits, the committee members are able to assess many different aspects of our operations, interact directly with Pioneer employees in the field, see the latest environmental innovations being tested and report their observations to the full Board of Directors.

#### Nominating and Corporate Governance Committee:

The Nominating and Corporate Governance Committee oversees risks related to governance structures and processes, including Board and committee composition and succession planning; director independence; and Pioneer charitable contributions, political spending and lobbying activities. The detailed responsibilities for each committee are outlined in their respective Committee Charters.

Additionally, as part of the evolution of our sustainability disclosures, the Board formed an ad hoc committee that includes, among other directors, the chair of the HSE committee and the Board chairman, to provide oversight and guidance for the company's preparation of its Sustainability Report.

#### Role of Pioneer Leadership

Building on the Board of Directors' active oversight role, executive, technical and field staff participate in a cross-functional Health, Safety and Environmental Committee (HSEC). The committee convenes regularly to manage HSE and sustainability issues effectively and consistently, conducting monthly reviews of HSE performance, including current and emerging HSE issues and continuous improvement.

#### **Commitment to Ethical Operations**

Our Code of Business Conduct and Ethics represents the standards of integrity and business conduct that every Pioneer employee, officer and director must uphold and follow. Pioneer supports multiple methods of reporting compliance concerns, including anonymous reporting through our tollfree compliance hotline and online compliance portal, and we strictly prohibit retaliation against any person for providing truthful information relating to a possible violation of law or company policy.

#### Human Rights Commitment

As a company operating solely within the United States, Pioneer adheres to its laws with respect to human rights, including laws prohibiting discrimination in the workplace, child labor and forced labor. Our policies regarding human rights are also reflected in our Code of Business Conduct and Ethics, making it a corporate value to conduct our business with respect for each other and the communities in which we operate. We recognize the dignity of all human beings, and our Pioneer core values embrace these inalienable rights for all people to live their lives free from social, political, or economic discrimination or abuse.

#### Our Pioneer Core Values, based on the concept of RESPECT, are the foundational principles on which our company is built:

ESPECT

which we operate.

### THICS AND HONESTY

We are ethical and honest and committed to uphold our strong reputation.

### AFETY AND ENVIRONMENT

We believe no job is so important that it cannot be done in a safe and environmentally sound manner.

### **ERSONAL ACCOUNTABILITY**

We are disciplined and personally accountable for our decisions, actions, attitude and results.

### NTREPRENEURSHIP

We have an entrepreneur's mindset, driving innovation and striving for excellence in all we do.

### OMMUNICATION

We openly and professionally communicate among all levels and between departments and teams.

### **EAMWORK AND INCLUSION**

We believe in diverse perspectives and teams collaborating toward common objectives with a can-do attitude.

We respect one another and the communities in



### Sustainable Development **Programs**

Sustainability starts with solid governance and committed leadership. Our Pioneer Health, Safety and Environmental Committee sets the direction and vision for programs in our operating areas.

Pioneer's Health, Safety and Environmental (HSE) professionals and operations partners lead our frontline efforts to:

- Comply with laws, regulations and policies,
- Identify opportunities to enhance operations, and
- Seek continuous improvement in HSE and sustainability performance.

We are dedicated to protecting the health and safety of everyone who works at Pioneer facilities and minimizing our impact on the environment in our operating areas by

applying high standards, strict corporate policies, and responsible and ethical procedures. We believe all HSE incidents are preventable, and we train employees to prevent them. We investigate all HSE incidents to determine cause and implement appropriate corrective actions.

The heart of the Pioneer HSE program lies with line management and field operations through participation in the development and implementation of HSEC initiatives. With support from Pioneer management, field office HSEC subcommittee representatives are responsible for evaluating HSE observations, reporting and discussing both safety and environmental concerns, reviewing accident investigations, assisting with field inspections, and developing and reviewing corporate standard operating procedures (SOPs).

#### Total Recordable Incident Rate per 100 Workers



#### Health and Safety Performance and HSE Training

Pioneer understands the importance of continual HSE training when it comes to our goals to reduce HSE incidents and maintain a strong HSE culture. By continuing to focus on creating an incident- and injury-free workplace, our Exploration and Production employees have achieved a 36 percent decrease in total recordable incident rate (TRIR) since 2016.

Our employee and contractor training programs cover incident prevention, protective equipment, SOP, and chemical material precaution and workplace hazards. We follow OSHA standards and regulations, provide new-hire and ongoing training for our employees and contractor site representatives, as well as contractor orientation training. In 2018, our Training team provided nearly 41,000 person-hours of HSE training to Pioneer employees and contractors. An additional 2,900 person-hours of SOP training was provided for operations and well services activities.

We continued to develop and implement our Contractor HSE Program companywide, specifically focused on familiarizing contractors with Pioneer HSE expectations early in the contractor relationship. Pioneer conducts a thorough internal review evaluating contractor HSE performance before contractors are added to the Approved Contractor List (ACL). The review is supplemented using the ISNetworld platform. Contractors added to the ACL are subject to an ongoing Pioneer monitoring program that includes periodic onsite HSE reviews. The contractors that support our operations are integral to our success. Development of a Contractor Partnership Program has increased engagement and continuous improvement with our contractor workforce.

#### Lost-Time Incident Rate per 100 Workers



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#### Motor Vehicle Incident Rate per 100 Workers

#### Motor Vehicle Safety

Pioneer drivers logged more than 31,737,000 miles on the road in 2018. While just two percent of Texans live in the Permian Basin, 10 percent of the state's serious motor vehicle accidents occur there, according to the Texas Department of Transportation (TXDOT), which has contributed to the increase in our vehicle incidents shown in the accompanying chart. Pioneer is committed to the safety of our drivers, and we are going to great lengths to make sure driver safety continues to be embedded in our culture and safety performance.

Pioneer provides driving safety training to our employees and expects our employees to operate their vehicles in the safest possible manner. Pioneer emphasizes driver safety through an instituted defensive driving program and by requiring employees who drive on company business to successfully complete a curriculum that includes distracted driver training. As part

of this training, employees are educated on reporting procedures and the Pioneer policy to report all incidents, regardless of severity.

Once drivers are on the road, Pioneer policy requires mandatory seatbelt use for all vehicle occupants and outfits all company vehicles with remote monitoring devices. These devices use a digital key to acknowledge driver identity and provide performance indicators of driver behavior, such as speeding, or aggressive cornering, braking or acceleration. Upgraded vehicles now provide audio feedback on these driving indicators to help with immediate behavior correction. Additionally, our HSEC Safe Driver subcommittee is responsible for monitoring performance and developing proactive measures to educate Pioneer drivers and prevent future incidents.

The National Safety Council (NSC) and TXDOT have honored Pioneer with the Texas Employer Traffic Safety Award. Since 2014, the nonprofit



NSC has recognized Texas employers who demonstrate an extraordinary commitment to traffic safety as part of the Our Driving Concern program, which is partly funded by TXDOT.

As the NSC stated in its award notes, Pioneer is "a leader in the area of traffic safety and an example for Texas employers statewide." Safety and Health performance metrics are provided within the Performance Data Table on pages 53-56.

#### **Environmental Release Prevention**

Pioneer designs, builds and operates our facilities and equipment with release prevention in mind. We invest in containment equipment, perform regular inspections and work to comply with release preparedness and response regulations. Our spill prevention and air quality staff, operations partners, and leadership committees are dedicated to studying past release findings and identifying operational or engineering safeguards that

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### Liquid Hydrocarbon Spills

could be used to prevent future incidents. When spills occur, Pioneer is required to report any releases.

Once reported, we attempt to recover and properly dispose of the spilled volume as quickly as possible. In situations where the total spilled volume cannot be fully recovered, spill area remediations are performed at or above regulatory requirements. Additionally, our HSEC Spill Management subcommittee is responsible for monitoring performance and developing proactive measures to prevent future incidents.

**Greenhouse Gases** 



#### **Emissions Intensity**



#### Climate Change and Greenhouse Gas Emissions

Climate change is an important priority for Pioneer and our stakeholders. As such, our strategy is to manage our environmental footprint proactively and limit emissions of methane and other greenhouse gases (GHG) from our operations. We are committed to working with the industry and communities to address our impacts to the environment while ensuring the supply of sustainable, abundant and affordable energy.

In addition to Pioneer's commitment to achieve compliance with federal and state requirements, Pioneer goes beyond compliance by developing proactive strategies to reduce emissions through research, industry partnerships, operational best practices, and strategic planning.

#### Natural Gas Benefits for Reducing Overall Greenhouse Gas Emissions

While Pioneer's future growth strategy focuses mainly on low-cost oil production in the Midland Basin, we are also a sizable producer of associated natural gas. In 2018, Pioneer averaged 393 million cubic feet per day in natural gas production, making it one of the top 40 natural gas producers in the U.S., according to data compiled by the Natural Gas Supply Association. A majority of our natural gas is transported by pipeline westward to markets in Arizona and California, a portion of which is used for generating electrical power. Pioneer natural gas is also shipped to points in Texas and Mexico for electrical power plant, residential or commercial use, and petrochemical manufacturing.

E C

Several studies have identified that natural gasfueled power plants emit half as much GHG in comparison with coal-fired power plants. The annual inventory of U.S. GHG Emissions, compiled by the U.S. Environmental Protection Agency (EPA), shows that a reliable supply of natural gas has lowered the national emissions and carbon intensity of the electric power sector.

Pioneer recognizes the benefits of using natural gas to displace coal can be impacted by fugitive methane emissions along the natural gas supply chain. Research studies conducted by the EPA, academia, non-governmental organizations, and the oil and gas industry estimate that pre-plant natural gas leakage rates vary widely, from roughly 1.0 percent-2.6 percent. Pioneer was an early adopter of comprehensive leak detection and repair (LDAR) in our operations, decreasing our emissions footprint and increasing salable product capture. Through various emissions management programs we are making a difference in reducing leakage rates in our operations as discussed in the following sections.

### Greenhouse Gas Emissions and Intensities

Pioneer emissions reporting follows EPA GHG Reporting Program requirements. The EPA GHG Reporting Program prescribes, for each emission source category, methodologies, engineering calculations and emission factors set forth in the applicable regulations to guantify GHG emissions, including methane. With the significant changes to industry reporting required by the EPA in 2016, we have selected 2016 as our emissions base year. In 2018, Pioneer changed the Methane Intensity unit of measure from tonnes  $CO_2e$  per thousand barrels of oil equivalent (MBOE) to CH<sub>4</sub> tonnes per MBOE, to align with common reporting practices. Methane Intensity is also provided in CH4 tonnes per million standard cubic feet (MMSCF) for benchmarking purposes. The implementation of GHG management strategies that consider methane, along with asset integrity and HSE practices, can be a strong indicator of

### Methane Intensity

sound operational management. Pioneer provides the following disclosures on these topics so our stakeholders can understand how we manage the risks associated with these emissions. We are proud of our success in addressing these risks and have prepared the following details for stakeholder consideration and investor capital allocation decisions.

As detailed in the reporting principles section, asset divestitures have contributed to emission reductions; however, proactive efforts to control emissions and improve operations, such as our efforts in LDAR, vapor recovery unit (VRU) utilization, and emissions research have also contributed to these reductions. Oil and gas from our current operations in the Permian Basin are now largely produced using modern infrastructure and facilities designed to provide better, more efficient, emissions controls. Pioneer is able to achieve success in our production goals, while improving performance in our environmental stewardship.

# **Emission Reduction and LDAR Milestones**

### 2014 & 2015

- Formalized LDAR program initiated in all operations - Procured necessary personnel and equipment resources and training
- Conducted green completions in oil and gas wells

# 2017

- Replacement, modification or retrofit of high-bleed natural gas pneumatic controllers completed
- Pilot-tested new technologies for aerial methane LDAR surveys
- Pilot-tested ground-based continuous methane sensors at strategic Permian facilities

Began installing VRUs to reduce air emissions

The second secon

### 2012

• LDAR at 100 percent of facilities: South Texas, Western Asset Team

- Trained Eagle Ford maintenance personnel to conduct LDAR optical gas imaging (OGI) camera surveys
  - Immediate repair, where feasible, of identified leaks

2016

2011

Implemented LDAR program

100%

- Surveyed 100 percent of Permian Operations using aerial methane LDAR technology
  - Developed program for ground-based verification and repair of leaks
- Continued development of aerial methane monitoring technologies
- Continue traditional lease operator LDAR practices in facility inspections
- Key focus area: Reducing the flaring and release of natural gas

# 2018

SUSTAINABLE DEVELOPMENT PROGRAM

#### Research

Modern industry technologies and facility designs have dramatically outpaced the original efficiencies and design considerations within EPA emissions datasets and models. As the oil and gas industry continues to improve its engineering, emissions management, and emission reduction practices, new. more accurate data is needed to drive our decision-making process. We actively participate in multi-stakeholder national and regional studies, which require collaboration among peer oil and gas operators, regulators, academia, industry trade groups and environmental organizations. For these studies, Pioneer provides direct access to production sites and equipment, and assists in the design of safe-sampling protocols. The participation of Pioneer and other oil and gas operators contributes to the development of methods for safely measuring methane emissions directly at the source and facilitates scientific analysis where little empirical data previously existed.

We continue our partnership with Colorado State University (CSU) to better understand emissions from gathering and boosting equipment in our operations. The findings will enhance the industry's ability to identify opportunities to incorporate technological solutions and operational best practices for emission mitigation practices.

In addition to our project with CSU, Pioneer is one of the founding members of the Collaboratory to Advance Methane Science (CAMS). CAMS is a consortium of oil and gas operators, funding scientific studies to address methane emissions. from production to end use. The first research project funded through CAMS was awarded to the University of Texas at Austin to study spatial and temporal methane emissions profiles across various oil and gas basins and develop a publicly available tool to model emissions inventories from oil and gas production. The University of Texas at Austin project was developed in response to a need identified in a recent report by the U.S. National Academies

of Science, Engineering and Medicine. The report recommends improving the tracking of methane emissions by developing new emissions inventories, using the latest science available. This study is designed to better understand methane emission profiles by evaluating how past studies can harmonize with current industry practices.

#### **The Environmental Partnership**

In 2017, a voluntary industry initiative – The American Petroleum Institute's Environmental Partnership (TEP) – was introduced to continuously improve the environmental performance of participating companies. As a founding signatory of this program, Pioneer and 64 other participants have demonstrated that the oil and gas industry can voluntarily implement best practices without additional regulation, as well as provide the industry an opportunity to define and develop best practices to reduce emissions.

Each TEP participant has agreed to implement voluntary programs to reduce emissions:

- 1. Equipment LDAR using optical gas imaging (OGI) cameras, or other instrument/technology
- 2. Continuous/high-bleed pneumatic controller replacement, removal or retrofit
- 3. Manual liquids unloading monitoring and wellhead vent closure best practices

#### Since 2016, Pioneer has reduced our emissions.







Pioneer has met all requirements applicable to our operations. We have submitted our first annual report to API and the results have contributed to the following emissions reductions.

#### **Facility Design and Emission Reduction Practices**

Pioneer has improved its emissions intensities by focusing on the following areas of our operations.

#### Flaring

1.000

900

800

700

600

500

400

300

200

100

production (MCF/day)

gas

Gross

Pioneer strives to minimize the flaring of gas in all our operations. However, flares are necessary for upset or emergency conditions and in situations where capture is not possible. In addition to the safe diversion and combustion of gases, flares combust volatile organic compounds and greenhouse gas emissions, including methane. Pioneer recognizes rapid oil and gas development has resulted in additional flaring of natural gas in the Permian Basin. In 2018, Pioneer was the sixth largest natural gas producer in the Permian basin and was able to limit flaring to less than 2 percent

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Source: Rystad Energy research and analysis, Rystad Energy ShaleWellCube

of that produced gas, which is in line with Rystad energy research and analysis reporting on Permian flare percentages, as shown in the above figure. As part of our efforts to minimize flaring, we have partnered with third-party midstream operators to mitigate impacts from pipeline constraints by securing firm transportation commitments. These commitments are also designed to increase over time to accommodate our long-term expected production growth in the Permian Basin.

Additionally, Pioneer is a leader in making significant commitments to aid in physical Permian Basin oil and gas transportation capacity. Our support of nearly a dozen new large-scale construction projects will increase transportation capacities and build new natural gas processing facilities. These efforts provide safe transportation of oil and gas, while reducing flaring at our facilities. Pipelines provide the safest method of transportation both in environmental risk reduction as well as removing tanker trucks from already-congested roadways.

#### Vapor Recovery

Although flares are required as part of our operations, Pioneer prefers capturing and routing our oil and gas products to pipelines wherever feasible. This practice is best represented by our strategy to install VRUs at horizontal well tank batteries and include them as part of the standard design in our Permian Basin operations.

Pioneer controls emissions during oil well and gas well completions in our operations. This is accomplished by constructing necessary facility infrastructure and permanent production equipment ahead of associated well completions. Wherever possible, Pioneer captures and routes flowback emissions directly to production facilities and pipelines, rather than flaring.

For horizontal tank batteries handling high production volumes, Pioneer installs multiple VRUs to manage the high gas volumes. These compressor units remove vapors and gases (including methane) from the storage vessels and route the gases into sales pipelines.

#### Maintenance Process Vapor Capture

To perform facility maintenance, gases within facility vessels, pipelines and tanks need to be depressurized or "blown down" (the venting of pressurized vessels to the atmosphere). Over the past several years, Pioneer has created new methods to capture and route these gases to sales pipelines or the inlet suction on other operating compression units.



**VRU** Gases Captured

Capturing VRU gases creates a safer working environment, significantly reduces uncontrolled air emissions and can result in increased revenue.

#### **Gas-Driven Pneumatic Controllers**

Pioneer takes several approaches to reduce emissions from natural gas-driven pneumatic devices. Pneumatic devices powered by pressurized natural gas are a process control element in oil and gas facility engineering, and are components of compressors, separators, pressure vessels and piping. In 2018, Pioneer completed a two-year effort to replace or retrofit all existing high-bleed, gas-driven pneumatic controllers throughout our operations.

Additional methane emission reductions have been achieved by converting pneumatic devices to operate on "instrument air" systems. An instrument air system replaces pressurized natural gas with compressed atmospheric air, eliminating methane and volatile organic carbon emissions, while providing additional safety benefits. Our Permian, South Texas, and Texas Panhandle teams converted onsite gas-driven pneumatic controllers to instrument air systems at more than 79 horizontal tank batteries, compressor stations, pipelines and midstream facilities.

#### Utilizing Internet of Things for Operations Optimization

Pioneer is currently evaluating and pilot testing an Internet of Things (IOT) approach to our operations to improve efficiencies and environmental performance. The capability to remotely execute smart proactive decisions to govern equipment performance and control has already provided encouraging early results.

The use of analytics in many industries has already demonstrated beneficial increases in operational efficiency, long-term performance improvements, increased staff efficiencies and safety, reduced staff drive-time, and sustainability performance. Pioneer engineers are working to realize the benefit of these efficiencies in many



aspects of our operations, including reduced maintenance emissions and decreased combustion emissions with improved engine performance.

#### Methane Leak Detection and Repair

We utilize various techniques such as audio, visual, and olfactory (AVO) inspections, OGI cameras, Remote Methane Leak Detectors<sup>™</sup> (RMLDs), portable gas detectors, and aerial methane monitoring across Pioneer operations to monitor facilities for fugitive emissions. Our companywide LDAR program complies with EPA New Source Performance Standards OOOOa requirements which enacted an LDAR program for new or modified upstream facilities and compressor stations.

Pioneer employs a team of thermographers who use OGI cameras and leak detectors to conduct surveys at our facilities, such as well sites, tank batteries, compressor stations, pipelines and midstream locations. OGI cameras utilize infrared sensors to locate emissions not identifiable through other inspection methods. Each Pioneer thermographer receives biennial OGI training, designed to teach the proper safety practices, methods to set up and operate the imaging cameras, how to identify what gases can be found with the technology, and the different environmental conditions that affect gas leak detection.

RMLDs are laser-based methane detectors that can quickly and efficiently detect leaks up to 100 feet away. When the infrared laser beam is transmitted from the device, some of the laser light is reflected to an internal sensor, which can be used to determine a methane concentration. Leak detector training is provided to inspectors in accordance with manufacturer guidelines and regulatory requirements. Pioneer owns 12 OGI cameras and two RMLDs. In 2018, we performed more than 10,206 surveys using OGI, AVO, and aerial technologies at Pioneer wellheads, tank batteries and compressor stations. Of these surveys, 887 surveys were conducted as part of the OOOOa requirements. These surveys resulted in 940 found leaks, 939 prompt repairs, and a single leak requiring deferred repair. Permian and South Texas leak repairs were completed within 17.1 days and 1.6 days, respectively, on average.

Facilities are currently prioritized for surveys based upon the potential for fugitive emissions to occur, but an annual survey frequency is established as the baseline. Facilities identified as having a higher potential for emissions (e.g., larger tank batteries and compressor stations) are surveyed on a semi-annual or quarterly frequency.

In addition to our companywide LDAR program, Pioneer is testing two innovative approaches to monitoring methane emissions in its operations: 1) aerial methane monitoring, which provides field-wide survey capabilities; and 2) continuous methane monitoring, which detects leaks at the facility level. The technologies are designed to supplement the current LDAR efforts by detecting methane leaks and directing our team of thermographers and maintenance employees to efficiently locate and address leaks.

#### **Aerial Methane Monitoring**

In 2017, Pioneer initiated a pilot study to conduct aerial surveys to identify fugitive methane emissions on a field-wide basis. This method equips a fixed-wing aircraft with a passive spectrometer, optical camera and GPS. The onboard spectrometer images fugitive methane concentrations by measuring reflected sunlight for energy absorption at methane-specific wavelengths. The methane data is then overlaid with simultaneously collected optical images to form a single, geo-referenced image of methane leaks. This methodology identifies areas of high probability for elevated methane sources and is best used for identifying bigger leaks that require prompt attention.

Our 2017 pilot project covered more than 62 square miles and 170 Pioneer tank batteries in two days. The aerial methane surveys were conducted in coordination with simultaneous RMLD team inspections at select facilities. This allowed our researchers to compare and calibrate the aerial findings with traditional ground-based measurements.

In 2018, Pioneer conducted a full-field methane leak survey of our Permian assets. This survey covered 1,267 square miles and imagery was collected at 9,218 total sites: 7,486 wells, 1,119 tank batteries, 636 well pads with associated tank batteries, and 312 other assets. The results showed elevated methane at 111 of the surveyed sites. All the identified leaks were promptly repaired. This method has not only proven to be extremely efficient in directing our methane LDAR program but is also estimated to have saved 2,529 employee work hours and 1,099 driving hours. This time saved allows our employees to spend less time finding leaks and more time preventing leaks.

#### **Continuous Methane Monitoring**

In 2018, Pioneer continued our program studying the field application of continuous methane monitoring, extending sensors to 10 Permian tank batteries. To detect methane leaks quickly, these sensors are installed strategically within the facilities and continuously monitor for leaks. In the event of a leak detection, system alerts are being designed to provide an immediate notification, so maintenance



crews can promptly address the leak and minimize emissions. Pioneer is also working to use the system autonomously to identify equipment failures remotely. Pioneer plans to determine how this technology could be deployed on a larger scale across our operations.

#### 2018 Restricted Carbon Scenario Analysis

In addition to our efforts to limit emissions from our activities, we assess the potential impact of growing alternative energy sources and climate change policy on global fossil fuel demand and Pioneer long-term business prospects. A complete Restricted Carbon Scenario Analysis summary is provided within Pioneer's online content library at www.pxd.com/sustainability. Highlights from that assessment are provided below.

As part of Pioneer's strategic planning process, management prepares and reviews with the Board of Directors long-term scenarios under varying assumptions to stress test the company's business outlook. When evaluating possible future business scenarios, Pioneer considers several published energy forecasts and analyses by leading official agencies such as, but not limited to:

- The U.S. Energy Information Administration's (EIA) International Energy Outlook
- The Organization of Petroleum Exporting Countries' (OPEC) World Oil Outlook, and
- The International Energy Agency's (IEA) World Energy Outlook

Pioneer also engages private commodity market analysis firms to provide the company with industry and economic projections, which are utilized to test management's assumptions of future business conditions.

Pioneer is in a particularly strong position to benefit from the Permian Basin's quality assets as the largest acreage holder with approximately 760,000 gross acres (680,000 net acres) under lease in the eastern part of the Permian Basin, also known as the Midland Basin.

To capitalize on this significant resource potential, more than 95 percent of Pioneer's current and expected future capital expenditures are directed to the Midland Basin. The profitability of the Midland Basin is particularly evident when compared with other onshore U.S. liquid-rich basins. As Figure 1 illustrates, the Midland Basin is among the best-in-class with an estimated oil price breakeven cost of approximately \$26 per barrel as of mid-2018.

#### The Pioneer Natural Resources Story

As indicated in Figure 2, the \$23/BBL breakeven cost attributed to Pioneer by Citi Research is well within the borders of the Sustainable Development Scenario, indicating the company is in a strong position to produce oil and gas economically and help meet global demand for oil. This assessment is consistent with the June 2018 updated "2 Degrees of Separation" analysis compiled by The Carbon Tracker Initiative, which examined the oil sector's economic viability in a carbon-constrained regulatory environment. Their analysis found that Pioneer is among the least exposed oil producers to 2025 carbon-related capital expenditures (Carbon Tracker, 2018). The study also notes that companies like Pioneer, which have a relatively low percentage of potential future capital directed to high cost projects, are more aligned with a 2-degree and 1.75-degree warming limit. This reinforces our belief that we are in a strong position to produce oil and gas economically in a carbonconstrained scenario.



#### Figure 1: Oil Breakevens by Basin

Source: Citigroup research report published on 3/26/2018; assumes commodity prices of \$50/BBL oil and \$3.00/Million British Thermal Units (MMBTU)

### Figure 2: Oil Breakevens by Company





Figure 3 depicts the global demand for oil in 2040 for each of the 2017 World Energy Outlook's three main scenarios and the likely oil sources that would satisfy that demand. This analysis assumes the relative volume output of basins producing today and that the resources with the lowest available breakeven costs are likely to satisfy demand.

#### Figure 3: Production Potential by Asset – Cumulative Global Breakeven & 2040 Oil Prices

2040 Production by Region - Cumulative Cost Curve



IEA 2040 Oil Price Breakevens (\$BBL)

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Source: 2018 Oil & Gas Price Breakeven Analysis and Basin Benchmarking Update, Citi Research, published March 26, 2018 Breakevens reflect each respective company's production-weighted oil assets (at \$3MMBTU gas price). Companies include: APC, CDEV, CHK, CLR, CPE, DVN, ECA, HES, MRO, NBL, NFX, OAS, PE, SRCI, WLL, WPX, XEG, XOG.

# **Case Study: Going Beyond the Industry Standard**

Pioneer has invested millions of dollars installing and retrofitting its equipment with the latest and safest technology. Two recent improvements to our equipment in West Texas not only demonstrate Pioneer's search to find efficiencies wherever possible but also reflects our priority of taking the environment into account and doing things differently:

- 1. Since 2016, we've been converting the operating pressure of our old-style tank batteries from 6 ounces to 8 ounces. This change allows for improved tank vapor recovery efforts and, ultimately, less air pollution. Plans are also in the works to double that design pressure to 16 ounces, further increasing vapor recovery performance.
- 2. All of Pioneer's tank batteries now operate with instrument air instead of processed gas. Using instrument air eliminates a potential emission source from pneumatic devices while also providing additional safety benefits.

Together, these changes perfectly illustrate the sixth principle of our Pioneer *Stewardship365* initiative, Continual Improvement.

#### **Retrofits to Tank Batteries**

When our old-style tanks reached 6 ounces of pressure from flash gas build-up, it triggered the thief hatch, which opens and releases tank vapors into the atmosphere. To prevent this vapor release, we've installed vapor recovery units – known simply as VRUs – to collect any flash gas before it vents into the air. But there's still one problem: Efficient VRU operation can be challenging, given the narrow pressure range it must operate under.

An increase from 6 ounces to 8 ounces "doesn't sound like a lot but results in a greater operating range by more than a third," said Matt Scott, facilities engineering supervisor.

"Essentially, it allows more time for the VRU to engage and collect vapors before the thief hatch opens," Matt said. "And the higher inlet pressure you send [to the VRUs], the more volume each unit can move, too."

Pioneer's decision to improve VRU performance "is purely environmental," said Eric Felderhoff, facility engineering operations supervisor, noting that a lot of operators don't have VRUs on their tanks. "There's no operational benefit; it would be a lot easier to just emit," said Eric. "This is truly an example of Pioneer reducing our environmental footprint, because it's the right thing to do."

#### Instrument Air

The constant bleed of pressurized gas from pneumatic controls is collectively one of the largest sources of methane emissions in our industry. Where we once used processed gas for these controls – a method that emits some vapors – every one of Pioneer's tank batteries now operates with instrument air. In addition to reducing emissions, instrument air has far more benefits operationally, especially in the winter.

"Gas containing water vapor, if it gets cold enough, will freeze," Matt said. "This can cause a wide range of issues at the tank batteries, because they rely on pneumatic controls for operations." Gas-powered pneumatic controls also pose an inherent safety risk because it's a flammable substance. So, with the change, operational safety is significantly increased by using instrument air instead of gas, he said. In addition to stewardship, this also touches on our *Safely8760* principle of Continual Improvement and being better, safer, every day.

#### **Environmentally Conscious**

Both of those changes improve our ability to operate, but they also represent conscious decisions Pioneer has made to invest in the equipment that goes "above and beyond" the industry standard, said Rupangi Faldu, director, Air Programs. "It's a bonus when an operational improvement and an environmental improvement come together," she said. "Pioneer has spent time and resources ensuring that we take *how* we operate just as seriously as *where* we operate."

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#### Water Protection

Pioneer designs, builds and maintains its wells to protect groundwater quality and meet strict regulatory requirements. Through highly regulated casing and cement designs, safety and monitoring systems, and thousands of feet of rock between the hydrocarbon and fresh water zones, Pioneer actively minimizes the possibility for groundwater impact. State of Texas regulations require all wells be drilled using fresh water prior to reaching the base of protected groundwater, and be protected with additional casing and cement barriers.

Ensuring the mechanical integrity of wellbore casings is another longstanding regulatory requirement for groundwater protection. In accordance with industry standards and best practices, we tested the surface casing integrity on the 297 wells drilled in 2018. Additionally, Pioneer performs additional mechanical integrity testing, as prescribed by the Texas Railroad Commission, throughout the well's production life cycle. Future wells will continue to be tested in this manner.

For more than 70 years, the industry has successfully drilled and produced wells using hydraulically fractured completions. As additional protection during the well completions process, Pioneer installs pressure gauges to monitor and test the annular space between the inner and outer well casing. In 2018, 100 percent of Pioneer's completed wells were tested in this manner.

#### Hydraulic Fracturing Chemical Use

Pioneer has been an industry leader on chemical use disclosures. To help address questions about hydraulic fracturing, Pioneer joined industry peers and regulators to create the website FracFocus.org, a public registry of reported chemicals used in hydraulic fracturing.

The disclosure of chemicals used in wells using hydraulic fracturing completions is important. Pioneer supports this national initiative and complies with state regulations on reporting. As of December 31, 2018, Pioneer disclosed

#### Water Source



on FracFocus.org the chemicals used in more than 4,162 wells drilled.

While the FracFocus registry is a comprehensive disclosure of chemicals used in the completions process, some commercial products have unique properties that are protected as proprietary information under trade secret provisions under state laws in which the chemical is used. As an example of our responsible product sourcing, in 2018 the Pioneer Pumping Services LLC (PPS) chemical supplier pre-qualification process reviewed information for each chemical in use, including details deemed by the supplier to be proprietary information. In addition to this level of scrutiny in the selection of chemicals, PPS policy excluded diesel fuel as an additive in hydraulic fracturing fluids.

#### Water Sourcing: Maximizing Non-freshwater Resources

Pioneer Water Management LLC (PWM) is responsible for providing consistent, low-cost water sourcing, transportation and sales to internal and external customers. PWM strives to source in a sustainable manner by reducing the company's use of fresh water, mitigating the disposal of produced water through water recycling efforts, further reducing water acquisition and transportation costs, and minimizing water trucking on public roadways. addressing water-related risks and is improving water conservation by:

- Ensuring a consistent, locally available and economic water supply;
- Offsetting fresh water sourcing with otherwise unusable resources;
- Utilizing municipal effluent water resources;
- Optimizing water recycling and reuse in economically viable ways; and
- Efficient transportation and storage of water, including reduced roadway traffic.

As our industry drills longer lateral wells and increases the number of hydraulically fractured stages in each well, water use per well increases. Through these practices, however, more oil and gas is recovered from these wells, reducing overall "water intensity" – gallons of water per million British thermal units (MMBTU) of energy. The amount of water used for well completions varies by well length, completion design and geology of the formations targeted by each well. In 2018, Pioneer used, on average, 0.51 barrels of water per barrel of oil equivalent estimated to be ultimately recovered from wells drilled.

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### Water Intensity



Water Intensity (barrels per MBOE) Fresh water Intensity (barrels per MBOE)

our water usage to that of other leading power sources. By this calculation, Pioneer used, on average, 3.39 gallons of water per MMBTU. Additional water use metrics are provided in the figure above and in our Sustainability Performance Data Table.

#### **Fresh Water**

Pioneer understands the importance of fresh water scarcity and strives to minimize fresh water use. Fresh water resources exist within lakes, rivers, wetlands and in groundwater reservoirs below the surface. Pioneer does not utilize surface water resources in our operations. Pioneer does utilize groundwater resources, and the World Resources Institute (WRI) Aqueduct Water Risk Atlas for oil and gas operations shows that areas of high or extremely high overall groundwater risk are not present within our operational footprint.

To mitigate water scarcity in our operations, we are:

- Operating with a goal of maximizing non-fresh water sources;
- Continually working to minimize fresh water use; and
- Increasing the use of recycled produced water in hydraulic fracturing.

#### Non-Freshwater

#### **Municipal Water Reuse**

Pioneer contracted with the cities of Midland and Odessa to purchase significant volumes of effluent municipal water, also called reclaimed water. The mutually beneficial, public/private water-sourcing transactions are already saving millions of gallons of fresh water throughout the Permian Basin, providing significant upgrades to municipal water treatment facilities, and serving as an additional stream of municipal revenue. These projects provide Pioneer with millions of gallons of water for our operations, reducing the need to extract groundwater in a droughtprone area, decreasing water transport traffic and compensating the cities for water that would otherwise be discharged waste. We are proud to have found a solution that mutually benefits the communities in which we operate and also fulfills a critical operational need.

Pioneer began sourcing water from the city of Odessa in 2016, when PWM completed the construction of a 20-mile pipeline from Odessa's Water Reclamation Plant in Midland County to Pioneer supply facilities. By fully utilizing our Odessa supply alone, we have reduced our fresh water usage by 27 percent.

Our project to make improvements to Midland's wastewater treatment plant in return for a supply of reclaimed water broke ground in 2018. Under the agreement, upgrades to treatment processes will make the water suitable for use in our operations.

#### **Brackish Water**

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Brackish water reservoirs that contain water too high in salinity for drinking or agricultural usage are another important water resource in the Permian Basin. The Santa Rosa Aquifer, a brackish water formation, lays thousands of feet above the Permian Basin's oil shale plays. Geologists and engineers have evaluated the unique reservoir's significant brackish water supply through geologic mapping, logging analysis, well optimizations and other subsurface techniques. Using these tools, PWM can economically drill high-producing brackish water wells to support our operations across our acreage. In recent years, Pioneer has developed methods that allow high-salinity water sources to be used in hydraulic fracturing operations with fewer processing steps required. These innovations allow PWM to supply higher volumes of usable brackish water for our well completion operations, and further allow the expansion of economically reusing treated produced water.

#### **Produced Water**

As it occurs naturally within the same reservoirs, water is produced with oil, condensate and gas. Since the water is part of the liquid or gas hydrocarbons stream in the production cycle, it is considered "produced water." Produced water is generally a mixture of water, naturally occurring dissolved solids, and a small amount of products used in the oil and gas production process. Like brackish water, produced water is a very high-salinity water source. Innovative hydraulic fracturing technology and water processing methods have allowed produced water to become a viable alternative water source.

Historically, Pioneer has disposed of produced water through underground injection disposal, or using a third party. Today PWM is providing economically viable volumes of treated produced water to support our operations, which both reduces disposal requirements and provides another significant alternative to fresh water use.

#### **Produced Water Handling**

Pioneer storage ponds for non-fresh waters, including treated produced water (also referred to as "clean brine"), are designed to meet or exceed the requirements outlined by the Texas Railroad Commission for pit design, monitoring, backfill and reporting. Clean brine processing removes oil and other solids from produced water through specially designed water treatment facilities, so that oil or sheens will not normally be present. This process occurs prior to introduction into open storage ponds. Each PWM treated produced water/clean brine treatment facility storage pond is double-lined with automated leak-detection systems. Operating and maintenance procedures and the regular inspection of ponds help prevent abnormal or upset conditions. Additionally, PWM has developed a Wildlife Mitigation Plan that identifies the resources and wildlife that could be impacted by PWM operations and provides tiered solutions for wildlife impact mitigation. Additional detail on the Wildlife Mitigation Plan is provided within the Biodiversity Conservation section of this report on page 37.

#### **Avoiding Induced Seismicity**

The Central U.S. has seen an increase in earthquake activity, also known as seismicity, in several areas since 2010. Most notably, seismicity has occurred in Oklahoma and primarily two regions within Texas the Fort Worth Basin near Dallas, and the Delaware Basin near Pecos. The South Texas Eagle Ford play area has also experienced limited seismicity. Pioneer operations are outside these areas of seismicity. The United States Geological Survey (USGS) Earthquake Hazards Program and the State of Texas TexNet Seismic Monitoring Program (TexNet) continually monitor seismicity across Texas. TexNet is composed of permanent and temporary earthquake sensing seismometer arrays across the state of Texas. TexNet is used to better understand statewide earthquakes and earthquake-related risks. This resource provides an independent and comprehensive tool to monitor Texas earthquakes. To date, no events in the historic USGS or TexNet earthquake catalogs have been located beneath our operations.

Pioneer has taken a proactive and scientifically driven management approach toward monitoring, understanding, and potentially addressing any seismicity issue, should it arise. Over the past eight years, Pioneer has conducted internal monitoring of local seismicity through deployed monitoring sensors in multiple basins, and our scientists have regularly engaged with state regulators and industry groups to address seismicity concerns. Pioneer has also contributed to leading seismological research consortia at the Stanford Center for Induced and Triggered Seismicity (SCITS), the University of Texas Center for Induced Seismicity Research (CISR), the University of Calgary, and the University of Alberta Microseismic Industry Consortium. Pioneer continues to play a leadership role in understanding and managing induced seismicity risks, both in scientific analysis, and in our collaborative approach with regulators and researchers.

Pioneer is committed to complying with applicable federal and state regulations regarding underground injection control. These requirements include injection rate and pressure monitoring, pressure testing, and mechanical integrity testing. Using the latest science and taking advantage of our extensive subsurface data set to improve our operational knowledge, Pioneer incorporates seismicity risk analysis in the siting of both our production and salt water disposal well locations.



#### The Butterfly Effect

Seeds help Pioneer employees provide essential habitat for monarch migration.

Alan Smith, health and safety technical advisor, and his wife were on vacation in South Texas when their vehicle was unexpectedly engulfed – in butterflies.

"It was during the monarch migration, and we had to pull over on the side of the road, because we couldn't see," said Alan. "Butterflies were covering our entire car, and it was just beautiful."

The monarch butterfly, easily recognizable by the species' vibrant orange and black wings, is in trouble, due to habitat loss, pesticide use and climate change. Monarch numbers have decreased significantly during the last 20 years. As part of our commitment to Stewardship365, Pioneer held a seed packet giveaway, with each employee receiving a Pollinator Plant Pack called "Butterfly Retreat" that contains seeds of native Texan milkweed and other flowering plants. Planting these seeds gives the monarch and other pollinators the life-saving food source needed by larvae, caterpillars and adult insects.

"Milkweed is essential to monarchs at all stages of their development," says Henry Hill, staff environmental specialist. "Monarch larvae and caterpillars rely solely on milkweed to survive. Adult monarchs use milkweed as a food source too, along with nectar from other plants."

Both migration pathways of the monarch funnel through Texas, and the plantings from Pioneer's Pollinator Plant Packs will provide essential habitat and nutrients to these beautiful creatures.

"By conserving and connecting habitat for monarchs," Henry says, "we also benefit other native plants and animals."



other pollinators by providing a life-sustaining food source.





A Pioneer employee sent us photos of her flowers blooming!

#### **Our Approach to Biodiversity Conservation**

We recognize the importance of biodiversity conservation and endeavor to minimize our impact to these natural resources. Pioneer teams engage with Federal and State governmental organizations and regulators; partner with researchers, consultants and universities; and source and explore new technologies, all with the goal of applying innovative solutions to protect key habitats and species. Additionally, these engagements promote the development of conservation methods and strategies to mitigate environmental impacts and biodiversity risks in our operations.

For years, we have taken stewardship lessons learned from our former operations in Alaska, Colorado, Canada and offshore, applying them to the Permian Basin. Pioneer has ambitious goals for the Permian Basin. In fact, with our recent decision to become a Permian pure-play company, we're determined to responsibly operate in the basin for a long time to come. We are dedicated to using our broad experience to provide environmentally responsible solutions to help us achieve those goals.

#### State of Texas Natural Resources Conservation

In the State of Texas, the Comptroller of Public Accounts (CPA) takes a leadership role on certain endangered species issues and policy. As the steward of the Texas economy, the CPA is tasked to help find solutions to issues relating to identified endangered and threatened species that are sustainable ecologically, socially and economically. The CPA facilitates collaboration between state and federal government agencies, industry sectors, and nonprofits to help find solutions to the state's endangered species issues. Pioneer engages in the CPA-directed public work groups to help in the development of up-to-date and accurate scientific and technical information. Additionally, the CPA has been instrumental in bringing together stakeholders, including Pioneer, to develop voluntary conservation measures that are effective and efficient.

#### **Reducing Our Footprint**

Pioneer continues to innovate multi-well pad drilling that reduces the overall area of surface disturbance and limits the number of associated roadways and easements, compared to those required to support single-pad drilling. This practice allows Pioneer to significantly reduce the area of impact by pad construction and limit what is known as habitat fragmentation.

As Pioneer's operations grow in the Permian Basin, our most sustainable well pad practices allow us to drill up to 24 wells in the same space we formerly drilled three wells. Pioneer is the first company to successfully bring this concept to life in the Permian Basin. Needing only 1/4 of an acre per well translates to, in some cases, more than 80 percent reduction in surface impacts. This approach allows us to maximize the resource potential beneath the surface, especially in places where surface space is limited. Through this strategy, Pioneer is efficiently developing our underground resources and significantly reducing our surface impacts, all while delivering the same product. Pioneer is actively planning today's wells with tomorrow in mind.

#### **Conservation and Mitigation Actions**

The states of New Mexico, Colorado, Kansas, Oklahoma and Texas are home to the lesser prairie chicken and its habitat. The Western Association of Fish and Wildlife Agencies, an association of 24 U.S. States and Canadian Provinces, formed a partnership of the five lesser prairie chicken states' respective wildlife management agencies, and, together with the U.S. Fish and Wildlife Service and partners from multiple industries, created a Range-wide Conservation Plan for the lesser prairie chicken. The Conservation Plan outlines the needs of the grouse species in the several habitats occurring within the five states and was endorsed by the U.S. Fish and Wildlife Service. As a result, several members of the oil and gas industry adopted the Conservation Plan and jumpstarted conservation efforts with over \$65 million in initial conservation enrollments. Pioneer was a founding contributor to the Candidate Conservation Agreement with Assurances (CCAA) for the pre-listing conservation of the lesser prairie chicken. By working under the CCAA, we can proactively assess the siting of projects and select locations that minimize or completely avoid impact. In areas where we are not able to avoid habitat impact, the CCAA program allows Pioneer to generate habitat impact offsets. This allows Pioneer to maintain predictability in our development plans, while promoting lesser prairie chicken conservation.

#### VIDEO: WESTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES

#### Wildlife Mitigation Planning

PWM currently uses several measures to protect wildlife, including siting decisions, preconstruction reconnaissance and wildlife impact avoidance measures. In 2018, PWM developed and implemented a Wildlife Mitigation Plan to outline additional mitigation efforts to support PWM's overall mission to ensure continued environmental stewardship. Under the mitigation plan, obsaervations made in the field drive corrective measures, including the training to recognize wildlife issues and appropriately respond. Wildlife observations during inspections should be logged to monitor wildlife presence and changes over time. At a minimum, all workers and contractors should be trained in or informed of the following:

- Identification of species of interest;
- Who to contact when a wildlife issue is observed;
- General Migratory Bird Treaty Act-prohibited actions;
- PWM-established rules on speed limits and designated smoking areas; and
- Prohibition of harassing/collecting any wildlife.

In addition, environmental training of workers and contractors should include instruction to keep unnecessary lights to a minimum or eliminating lights in areas where they are not required or necessary. The Wildlife Mitigation Plan is designed to allow PWM to use an adaptive management approach make informed decisions regarding wildlife observations.

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## **Workplace Initiatives** and Community Involvement

Quite simply, we want to be the best place to work within our industry, and we want to actively enhance the communities in which we live, work and operate.

#### **Top Places to Work Distinction**

program's inception in 2009.

More information about Pioneer's employee practices is available in the **CAREERS** section of our website: http://www.PXD.com/careers.

Pioneer's core values are focused on people, including employees, contractors and those with whom we interact in our communities. At the highest level, our leadership team keeps our company culture and employee well-being at the forefront.

#### **Diversity and Inclusion: One Pioneer**

Pioneer is committed to creating an inclusive environment where all employees feel respected, valued and connected to the business. We strive to be a workplace where individuals bring their authentic selves and are successful in achieving their goals. An inclusive workplace enables us to embrace the diverse backgrounds and perspectives of employees and attract the best talent.

While Pioneer's Diversity and Inclusion program is fewer than five years old, we are proud of our progress and excited about the momentum we've gained through grassroots interest, support from leadership, and participation in our training and programs that build awareness of differences and teach us how to better leverage them to achieve business results.

As part of our commitment, Human Resources has a dedicated Diversity and Inclusion team that oversees our program, One Pioneer.

#### For 2018, Pioneer ranked seventh among large employers in the Dallas/Fort Worth area in The Dallas Morning News' annual Top 100 Places to Work survey. Pioneer is one of only two companies to place in the Morning News' Top 100 Places to Work top 10 every year since the

#### **The Ballas Morning News**

# PLACES TO WORK 2009 2018

#### **One Pioneer focuses on the** following areas related to diversity and inclusion:

- Community: Positively impact our communities by providing opportunities to economically disadvantaged youth and increasing underrepresented groups in the science, technology, engineering and math (STEM) fields.
- Culture: Promote a culture of innovation and inclusion where all employees feel respected and valued as their authentic selves.
- Talent: Develop accountable leadership and talent programs that enable us to reach full representation of women and people of color. Educate employees and leaders to appreciate and leverage differences.

Additionally, Pioneer's Diversity and Inclusion program now encompasses our Communities of Practice, including team members focused on continuous improvement, public speaking (such as Toastmasters) and our thriving team of talented administrative professionals.

An essential part of the One Pioneer program is our Employee Resource Groups (ERGs). Our ERGs definitely have a positive impact on our company culture. They offer programs that develop members, establish mentoring networks, offer close collaboration with philanthropic organizations, and encourage underrepresented groups to enter the industry and STEM fields.

We are proud of the commitment and participation our employees have demonstrated across all levels within Pioneer. In 2018, our ERGs continued to grow with more than 30 percent of our employees participating in one or more of our resource groups.

#### Pioneer is proud to have six thriving ERGs:

• The Women's Resource Group seeks to engage and empower the women at Pioneer for the

#### **Gender Diversity**

Pioneer is committed to transparency around our diversity and inclusion efforts. As part of that, we intend to incorporate more information in this area, beginning with gender demographics in this year's report:



#### benefit of Pioneer and the community.

- The Military Resource Group advocates for the recruitment, development and support of military members and their families at Pioneer.
- The Multicultural Resource Group works to foster a culture of inclusion through promoting a positive understanding of our differences.
- The Pioneering Innovative Leaders of Tomorrow (PILOT) group cultivates cross-discipline communication and professional development among technical professionals who are relatively new to the oil and gas industry.
- One Pioneer Mentoring seeks to empower Pioneer employees to adapt and succeed throughout their career in a rapidly changing workplace.
- The PRIDE+ Resource Group, which launched in early 2019, advances our culture of RESPECT by cultivating a work environment that visibly supports and actively empowers our LGBTQ employees, their allies and the community through education, advocacy, recruitment, mentorship and philanthropy.

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WORKPLACE INITIATIVES AND COMMUNITY INVOLVEMENT

In 2018, our ERGs continued to grow with more than 30% of our employees participating in one or more of our resource groups.

Through our longstanding partnership with Habitat for Humanity, Pioneer has donated more than \$4 million and built 23 new homes.

### Community Involvement and Social Investments

Whether in West or North Texas, Pioneer's presence is felt in the lives and communities where we live and work. When you spend time with us, it won't take long to see that we love being good neighbors. Pioneer is proud to model the importance of becoming a force for good in our local communities.

**Habitat for Humanity:** Pioneer has partnered with Dallas Area Habitat for Humanity since 2006, in support of its efforts to transform communities through home ownership.

Through our longstanding partnership, Pioneer has donated more than \$4 million and built 23 new homes. We've also made repairs on 32 other homes through Habitat's "A Brush with Kindness" program, which offers minor exterior home repair services for owners with certain age, disability or family circumstances, seeking to revitalize the appearance of the neighborhood, encourage connections within the community and, most importantly, help residents reclaim their homes with dignity.

In 2018, Pioneer commenced another three-year, \$1.5 million commitment to help revitalize neighborhoods in South and West Dallas.

Pioneer's commitment to our partnership with Dallas Area Habitat runs deep; Executive Vice President, Permian Operations, Joey Hall, serves as Secretary of the Habitat Board of Directors. His active participation lends a valuable business perspective to the organization and helps ensure the goals of Habitat and Pioneer continue to align.

Our employees clearly have a heart for Habitat's mission, as evidenced by the more than 375 Pioneer employees who volunteered to build three homes and complete five home renovation projects. While Pioneer's relationship with the Midland Area Habitat for Humanity is newer, our West Texas employees are no less dedicated to this wonderful cause that helps transform neighborhoods in their local communities. In 2018, the company contributed \$70,000 to fund the building of a new home, ultimately built by our employees, through the organization.



**United Way:** United Way chapters across the country target communities in need and invest in improving the education, financial stability and health of both families and individuals within those communities. The organization empowers residents to reach out and help their neighbors in need, and it has inspired Pioneer employees to do the same.

Our employees give generously, and Pioneer matches every dollar they pledge, ultimately doubling our donation to local United Way chapters. In the Dallas area, Pioneer and its Irving-based employees have donated \$4.8 million to United Way since 2005.

Our partnership with United Way extends to our West Texas communities as well. In 2018, Permianbased Pioneer employees, in conjunction with the company match, contributed more than \$130,617 to United Way of Midland and \$8,025 to United Way of Concho Valley. Together, United Way and Pioneer work to create positive, perceptible change in their communities while improving the lives of others.

**Dallas CASA:** Pioneer is a strong supporter of Dallas CASA (Court Appointed Special Advocates) and its conviction that all children have the right to be safe. Judges appoint Dallas CASA volunteers to advocate for the best interests of abused and neglected children, helping these children gain safe, permanent homes as quickly as possible. Dallas CASA exists so that abused and neglected children in protective care have the chance to become successful adults.

In 2018, Dallas CASA served more than 3,300 children with more than 1,400 volunteer advocates, including many of our own Pioneer employees and

their spouses. Still, the year ended with more than one out of four children left to navigate the complex child welfare system without a CASA volunteer, reinforcing the resolve of Pioneer and Dallas CASA to serve each and every child in need.

Pioneer, together with Goldman Sachs and AT&T, co-hosts the annual Dallas CASA Classic invitational golf tournament. The tournament is now the highest grossing non-PGA, one-day charity tournament in Texas. In 2018, the Dallas CASA Classic raised \$1.7 million, bringing the total amount raised by the tournament since its inception to \$17.9 million.

In addition to co-hosting the Dallas CASA Classic, Pioneer supports the organization through sponsorships of other local events, including the Parade of Playhouses, where generous architects, builders, organizations, corporations and individuals design, build and donate extraordinary children's playhouses to raise funds so that Dallas CASA can recruit and train more volunteer advocates.





In 2018, the Dallas CASA Classic raised **\$1.7 million,** bringing the total amount raised by the tournament since its inception to **\$17.9 million.** 



#### **Deeps & Creeps**

In October 2018 and again in May 2019, Pioneer Permian employees, organized by the Permian Environmental Department, volunteered at Peeps & Creeps, a nonprofit wildlife rehabilitation based out of A to Z Veterinary Clinic in Midland.

Initially established in 2007 to provide a home and veterinary care for dozens of exotic animals after their owners could no longer care for them, the clinic is today home to a pair of camels, a zebra, an arctic fox, a llama, several coatimundi, a few giant tortoises, a dwarf caiman and dozens of exotic birds of every feather, to name just a few species on its guest roster.

The facility has sheltered or treated hawks, owls, squirrels, bobcats, foxes, raccoons and more. "With wells going up and a busier city in general, we're seeing a large amount of wildlife trying to adapt," says LeAnn Bruner, who, along with her small staff, is dedicated to caring for the animals of the Permian Basin.

It didn't take long, of course, for Pioneer to find out about the nonprofit's mission and offer a lending paw and a \$5,000 donation. "Pioneer is one of only two oil companies that have approached us to find out what they can do to help," LeAnn said.

Our budding relationship with Peeps & Creeps dovetails perfectly with Pioneer's *Stewardship365* initiative, which outlines our principles for operating responsibly. Pioneer is actively working to develop a Wildlife Mitigation Plan to further ensure all our exploration activities take local wildlife into account. **The Arts:** The Dallas Theater Center (DTC) performs to an audience of more than 80,000 Dallas-area residents annually, and is known for its original works, beloved classics, and community arts education programs.

Project Discovery, Dallas Theater Center's signature education program, provides in-depth theater experiences for thousands of at-risk teens from 30 North Texas high schools. Dallas Theater Center provides this program at no charge. In 2018, Pioneer committed to another five-year \$320,000 contribution to allow the DTC to continue implementing its successful community programs.

As a Co-Producer for the Midland Community Theatre, Pioneer hosts "Pioneer Night at the Theatre" twice a year in the spring and fall. This longstanding tradition brings Pioneer employees from all of our Permian offices together, giving them a chance to involve their families and friends in supporting the fine arts locally.

**Youth and Education:** Contributing to youth and education initiatives remains a priority for Pioneer. As a strong advocate for academic enrichment in all our operating areas, Pioneer supports education by partnering with our employees, local communities, and community colleges and universities, through both small and large programs. In 2018, Pioneer contributed more than \$2 million to colleges and universities, as well as youth and education initiatives.

Throughout the years, Pioneer has forged a strong partnership with the Midland Independent School District, as well as the increasing number of private schools being established in West Texas, illustrating the company's ongoing dedication to education in the community. The new Chris Davidson Opportunity Park in Midland began construction on its new location in 2018 with a \$150,000 commitment from Pioneer. After 25 years in its original location, the park is relocating near the Bush Tennis Center and looks forward to providing a safe place where children can play and families can celebrate for years to come. This universally accessible park will provide an active and meaningful experience that recognizes individual strength, dignity and ability.

Another example is Pioneer's partnership with Early College High School (ECHS). ECHS is an innovative collaboration between the Midland Independent School District and Midland College to provide students with the opportunity and support necessary to obtain a high school diploma and an associates' degree in just four years. The majority of students come from underserved minority and low-income communities where many of ECHS's potential first-generation college students lack the support network to pursue a college education.

ECHS's attendance rate has been the highest in the district every year since its inception in 2009. Pioneer became a major sponsor in 2012, contributing \$1.75 million since that time. ECHS has become the standard for academic excellence in the Midland Independent School District and the surrounding communities.



### **Our Economic Impact** and Advocacy

Pioneer is a significant contributor to the economies of the communities where we operate and where our employees work and live. The following map depicts the number of people Pioneer employed in each asset region and our North Texas headquarters in 2018, and the state and county taxes

Pioneer paid in 2018. Production, or severance, taxes are levied by the state on companies producing natural resources. Ad valorem taxes are levied at a county level, and the producing resources are taxed according to their appraised fair market value.

1,591 Jobs

Ad valorem taxes: \$69.8 million Severance taxes: \$1.6 million Sales taxes: \$4.6 million

#### Advocacy and Lobbying

Pioneer works in conjunction with industry partners to advocate for a secure energy future. We actively participate in the political process, with the goal of informing policymakers and regulators about our business and advocating for policy solutions that mutually benefit the communities and states in which we operate, our industry, Pioneer, and our stockholders.

**49** 



### 1,233 Jobs

Ad valorem taxes: \$915,865 Sales taxes: \$2.6 million

### **130 Jobs**

Ad valorem taxes: \$11.58 million Severance taxes: \$25.62 million Sales taxes: \$138,330

#### National and State Trade Associations

Pioneer collaborates with a number of national, state and regional trade associations representing the oil and gas industry to share information and advance a common agenda on legislative and regulatory matters.

All Pioneer lobbying and advocacy expenditures are made in the United States. In 2018, Pioneer made significant financial contributions (more than \$25,000) to the following trade and business associations, which we considered strategic partners:



#### NATIONAL PETROLEUM COUNCIL

A comprehensive list of lobbying and advocacy contributions for 2018 can be found on the Advocacy page of PXD.com.

#### **Political Expenditures**

Pioneer has adopted a policy regarding political expenditures, which is set forth in our Code of Business Conduct and Ethics and is applicable to all Pioneer directors and employees. Under the policy, no company funds may be used for political contributions in the United States, unless permitted by law, approved by the Chief Executive Officer, and then approved by either the General Counsel or Chief Compliance Officer.

The charter of the Nominating and Corporate Governance Committee of Pioneer's Board of Directors provides for the committee's oversight of all Pioneer political spending and lobbying activities. The committee, which is composed entirely of independent directors, and the full Board of Directors, receive an annual report from senior management regarding Pioneer

political activities, including corporate contributions to issue campaigns or referenda, payments to 527 organizations, 501(c)(4) groups, and other tax-exempt organizations, dues paid to trade associations, and political action committee (PAC) contributions.

#### **Corporate Political Contributions**

Pioneer may make occasional corporate contributions to political organizations and issue campaigns whose objectives are consistent with our business objectives in the areas in which we operate. While Pioneer directors and employees are free to participate in the political process individually, they may not represent a personal political contribution as being made on behalf of the company, and no director or employee may seek reimbursement, directly or indirectly, from Pioneer for any political contribution. Pioneer did not make any corporate political contributions in 2018.

#### **Political Action Committees (PACs)**

Some eligible employees contribute to PACs sponsored by Pioneer. The activities of the Pioneer PACs are subject to comprehensive governmental regulation, including detailed disclosure requirements. These disclosures are posted on the website of the Federal Election Commission or the Texas Ethics Commission, where they can be reviewed by members of the public. All distributions made from the PACs are approved by their respective boards, currently

### **Contributions to Candidates**



#### Federal PAC- Disbursements:

Total Disbursed: \$85,500 Total Candidates: 49 Median Contribution Amount: \$1,000

#### Federal PAC – Receipts:

Total Raised: \$89,751 Participants: 64 Median Contribution: \$980



51

comprising senior members of management. All suggested distributions are reviewed to ensure they are consistent with legal limits and are delivered to entities eligible to receive PAC funds. All contributions to PACs are voluntary, and it is Pioneer policy that no one be favored or disadvantaged by reason of the amount of their contribution or their decision not to contribute. A comprehensive list of our PAC contributions for 2018 can be found on the Advocacy page of PXD.com.

Number of Candidates

#### Texas PAC- Disbursements:

Total Disbursed: \$98,500 Total Candidates: 24 Median Contribution Amount: \$2,500

#### **Texas PAC – Receipts:**

Total Raised: \$48,664 Participants: 45 Median Contribution: \$230



OUR ECONOMIC IMPACT AND ADVOCACY

# Sustainability Performance Data

#### METRIC

#### PIONEER AT A GLANCE (AT YEAR END)

Enterprise Value<sup>1</sup> (\$ Billion)

Proved Reserves (MMBOE)

Net Producing Wells<sup>1</sup>

WORKFORCE

Total Employees

Field & Plant Operations Employees

Service Company Employees

GENDER DIVERSITY (PERCENT WOMAN)

Employees

Individual Contributor

Mid-Level Leadership

Senior Executive

**Board of Directors** 

SAFETY (RATE PER 100 WORKERS)

Total Recordable Incident Rate (TRIR)

TRIR - E&P Employees

TRIR - Service Employees

TRIR - BLS U.S. Oil & Gas

Lost-Time Incident Rate (LTIR)

LTIR - E&P Employees

LTIR - Service Employees

Motor Vehicle Incident Rate

TRAINING (PERSON HOURS)

Health, Safety and Environment

Standard Operating Procedures

LIQUID HYDROCARBON SPILLS

Spills > 100 Barrels

Spills > 1 Barrel

Volume from spills > 100 Barrels (barrels)

Volume of Spills > 1 Barrel (barrels)

Volume Recovered from Spills > 1 Barrel (barrels)

Volume Recovered from Spills > 1 Barrel (percent)

Spill Rate (barrels per MBOE)

2018	2017	2016
32	33	32
1,049	985	726
6,939	9,296	9,978
3,177	3,827	3,604
1,006	2,430	1,343
618	1,246	947
22.7	21.0	22.0
22.7	21.9	22.0
21.2	20.3	20.5
32.4	32.0	31.1
23.7	21.6	19.6
25.0	25.0	25.0
0.94	0.86	1.12
0.18	0.49	0.28
1.75	1.27	2.02
	1.70	2.00
0.31	0.36	0.12
0.05	0.13	0.00
0.58	0.61	0.25
0.54	0.37	0.28
40,948	43,248	47,488
2,889	4,358	10,430
5	1	1
383	327	317
1,113	153	135
3,265	2,108	1,959
2,080	1,171	1,317
64%	56%	67%
0.021	0.016	0.016

SUSTAINABILITY CONTEXT INDEX

METRIC	2018	2017	2016		
GREENHOUSE GASES (MILLION TONNES CO2E)					
Greenhouse Gases - Pioneer Total	1.67	2.28	2.2		
Carbon Dioxide	1.05	1.45	1.37		
Methane	0.62	0.83	0.82		
Nitrous Oxide	0.0012	0.0015	0.0018		
Greenhouse Gases - Permian Basin	1.39	1.26	1.13		
Carbon Dioxide	0.89	0.79	0.68		
Methane	0.50	0.46	0.45		
Nitrous Oxide	0.0012	0.0012	0.0012		
GREENHOUSE GAS EMISSION INTENSITIES					
Emissions Intensity (CO <sub>2</sub> e tonnes per MBOE <sup>3</sup> )	10.95	17.29	17.69		
Emissions Intensity - Permian Basin	10.50	12.44	14.17		
Methane Intensity (CH <sub>4</sub> tonnes per MBOE <sup>3</sup> )	0.16	0.25	0.27		
Methane Intensity - Permian Basin	0.16	0.19	0.23		
Methane Intensity (CH <sub>4</sub> tonnes per MMSCF <sup>3</sup> )	0.09	0.13	0.11		
Methane Intensity - Permian Basin	0.10	0.12	0.15		
Methane Leakage Rate (CH <sub>4</sub> tonnes per CH4 MMSCF <sup>3</sup> )	0.12	0.18	0.16		
Methane Leakage Rate - Permian Basin	0.14	0.16	0.21		
ENERGY USE (TRILLION BTUS)					
Grid Electricity Purchased - Permian Basin	1.82	1.45	1.29		
Natural Gas (percent)	44.4	38.9	43.7		
Renewable Energy (percent)	19.8	18.4	15.6		
VAPOR RECOVERY <sup>4</sup>					
VRU Captured Gases (million tonnes CO <sub>2</sub> e)	1.40	1.10			
LEAK DETECTION AND REPAIR (LDAR)					
Optical Gas Imaging Cameras	12	9	9		
Remote Methane Leak Detectors	2	2	2		
LDAR Program Surveys (Regulatory and Voluntary)	10,206	13,240	41,685		
LDAR-Identified Leaks - 0000a	940	542			
LDAR Leak Repairs - 0000a	940	542			
Average Days to Repair Leaks - Permian	17	11			

METRIC	
WATER SOURCING	
Fresh water (million cubic meters)	
Non-freshwater (million cubic meters)	
Fresh water (percent)	
Non-freshwater (percent)	
Water Intensity (barrels per MBOE)	
Water Intensity (barrels per MMBTU)	
Fresh Water Intensity (barrels per MBOE)	
Fresh Water Intensity (barrels per MMBTU)	
WATER PROTECTION	
FracFocus.org Chemical Use (cumulative wells)	
Surface Casing Integrity Tests	
Completions Pressure Monitoring (percent)	
ECONOMIC CONTRIBUTION (\$ MILLION)	
Pioneer Charitable Investments	
Political Contributions (\$ Thousand)	
PAC Contributions (\$ Thousand)	
Ad Valorem Taxes	
Production/Severance Taxes	
Sales Tax	
Shareholder Dividends	

1 - Approximate value. Refer to Pioneer Natural Resources financial filings

2 - No environmental releases occurred near shorelines or in the Arctic.

3 - Tonnes per gross production volume

4 - Calculated volumes from best available data.

CO2e - Carbon dioxide equivalent

2018	2017	2016
12.09	12.58	10.50
12.22	9.56	7.22
49.74	56.83	59.26
50.26	43.17	40.74
0.46	0.51	0.34
3.04	3.39	2.29
0.23	0.30	0.15
1.51	1.96	0.98
4,107	3,821	3,558
297	250	229
100	100	100
\$5.5	\$4.2 (estimated)	\$4 (estimated)
0	140	25
145	29	153
82	65	55
303	218	150
7	4	TBD
55	14	13



# Sustainability Context Index

<b>GRI Standards</b> (number and title of disclosure)	<b>DisclosingTheFacts.org</b> (number of disclosure)	IPIECA (number of disclosure)	Disclosure Location
GRI 101: FOUNDATION			
REPORTING PRINCIPLES			
<b>101</b> - Reporting Principles			<b>Reporting Principles</b> (Sustainability Report 2018)
<b>101</b> - Materiality			Sustainability Reporting Materiality Assessment (Sustainability Report 2018)
GRI 102: GENERAL DISCLOSUR	ES		
ORGANIZATIONAL PROFILE			
<b>102-1</b> - Name of the Organization			Pioneer Natural Resources, USA Inc. (Pioneer)
<b>102-2</b> - Activities and Services			Pioneer Natural Resources is a large, Texas-based independent exploration and production company. 2018 SEC Form 10-K (Annual Report 2018)
<b>102-3</b> - Location of Headquarters			5205 North O'Connor Boulevard, Suite 200, Irving, Texas 75039
<b>102-4</b> - Location of Operations			All offices and operations: Texas, USA at Dec. 31, 2018. www.pxd.com/ operations-innovation
102-5 - Ownership and Legal Form			Publicly Traded Company
102-6 - Markets Served			2018 SEC Form 10-K (Annual Report 2018)
<b>102-7</b> - Scale of the Organization			2018 SEC Form 10-K (Annual Report 2018)
<b>102-8</b> - Information on Employees			2018 SEC Form 10-K (Annual Report 2018) Corporate Strategy (Sustainability Report 2018)
<b>102-10</b> - Significant Changes to the Organization			2018 SEC Form 10-K (Annual Report 2018)
<b>102-13</b> - Membership of Associations		SE14 - Public Advocacy and Lobbying	Advocacy and Lobbying (Sustainability Report 2018)
		SE16 - Workforce Engagement	<b>Company Overview</b> (Sustainability Report 2018)
STRATEGY			
102-14 - Statement from Senior Decision-maker			CEO Letter (Sustainability Report 2018)
102-15 - Key Impacts, Risks and Opportunities			2018 SEC Form 10-K (Annual Report 2018)
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GRI Standards	DisclosingTheFacts.org	IPIECA	Disclosure Location
ETHICS AND INTEGRITY			
102-16 - Values, Principles, Standards and Norms		SE8 - Human rights due diligence	Commitment to Ethical Operations (Sustainability Report 2018)
102-17 - Ethics		SE18 - Non-Retaliation and Workforce Grievance System	Non-Retaliation Policy (Pioneer Code of Business Conduct and Ethics)
GOVERNANCE			
102-18 - Governance Structure			
102-19 - Delegating Authority			<b>Governance</b> (Sustainability Report 2018)
102-20 - Executive-Level Responsibility for Sustainability			
102-22 - The Board of Directors and Its Committees			Leadership Profiles (www.pxd.com) Governance
102-23 - Board of Directors - Chair			(Sustainability Report 2018) Leadership Profiles (www.pxd.com)
102-24 - Nominating and Governance			Nominating and Corporate Governance Committee Charter
102-25 - Conflicts of Interest			Pioneer Code of Business Conduct and Ethics
102-26 - Setting Purpose, Values, and Strategy			<b>Governance</b> (Sustainability Report 2018)
102-28 - Board of Directors Performance Evaluation			2019 Proxy Statement
102-30 - Risk Management Processes			<b>Governance</b> (Sustainability Report 2018)
102-31 - Review of Sustainability Topics			<b>Governance</b> (Sustainability Report 2018)
102-32 - Board of Directors and Sustainability	38 - Management and HSE Performance		<b>Governance</b> (Sustainability Report 2018)
102-33 - Communicating Critical Concerns			Contact the Board of Directors (www.pxd.com)
REPORTING PRACTICE			
102-45 - Entities Included in the Consolidated Financial Statements			<b>2018 SEC Form 10-K</b> (Annual Report 2018)
102-46 - Defining Report Content and Topic Boundaries			Reporting Principles (Sustainability Report 2018)
102-49 - Changes in Reporting			Not Applicable - 2018 Inaugural Report
102-50 - Reporting Period			January 1, 2018 – December 31, 2018
102-51 - Date of Most Recent Report			Not Applicable - 2018 Inaugural Report
102-52 - Reporting Cycle			Annual Reporting Cycle
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	GRI Standards	DisclosingTheFacts.o
REPOF	TING PRACTICE, CONTINUE	D
102-53 -	Contact Point for Questions Regarding the Report	
102-54 -	Claims of Reporting in Accordance with the GRI Standards	
102-55 -	GRI Content Index	
GRI 20	00: ECONOMIC	
ECON	OMIC PERFORMANCE	
201-1 -	Direct Economic Value Generated and Distributed	
201-2 -	Financial Risks Due to Climate Change	
201-3 -	Defined Benefit Plan Obligations and Other Retirement Plan	
INDIR	ECT ECONOMIC IMPACTS	
203-1 -	Infrastructure Investments and Services Supported	
203-2 -	Significant Indirect Economic Impacts	
ANTI-	CORRUPTION	
205-2 -	Anti-Corruption Communication and Training	
GRI 30	00: ENVIRONMENTAL	
MATER	RIALS	
301-1 -	Materials Used	3 - No Diesel in Completions Fluids
		5 - CBI Exclusion
		6 - Reducing CBI Claims
WATER	2	
303-1 -	Water Withdrawal by Source	16 - Non-Potable Water Policy
		10 - Seismicity Avoidance
		18 - Water Intensity
SPILLS		
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SUSTAINABILITY CONTEXT INDEX

org	IPIECA	Disclosure Location
		Pioneer "Request Information" (www.pxd.com)
		This report references these indexed GRI Standards (2018), and DisclosingTheFacts.
		Sustainability Content Index (Sustainability Report 2018)
		Annual Report 2018
		Climate Change Scenario Impact Analysis (Sustainability Report 2017)
		<b>2018 SEC Form 10-K</b> (Annual Report 2018)
		Annual Report 2018
	SE11 - Preventing Corruption	Code of Business Conduct and Ethics, Annual All-employee Compliance Training
		·
	HS4 - Product Stewardship	<b>FracFocus.org</b> (Sustainability Report 2018)
ns		
		Water Sourcing (Sustainability Report 2018)
		Avoiding Induced Seismicity (Annual Report 2018)
		<b>Water</b> (Sustainability Report 2018)
	E9 - Spills to the Environment	Environmental Release Prevention (Sustainability Report 2018)
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#### SUSTAINABILITY CONTEXT INDEX

GRI Standards	DisclosingTheFacts.org	IPIECA	Disclosure Location
EMISSIONS			
<b>305-1</b> - Direct (Scope 1) GHG Emissions		E1 - Greenhouse Gas Emissions	
<b>305-4</b> - GHG Emissions Intensity			
<b>305-5</b> - Reduction of GHG Emissions	24 - Voluntary Emission Reductions		
	27 - High-Bleed Pneumatic Controllers		
	28 - Leak Detection and Repair (LDAR)		
	29 - LDAR Frequency		
	25 - Water Infrastucture Development		
	1 - LDAR Program		
	2 - LDAR Methods		Climate Change and Greenhouse Gas Emissions (Sustainability Report 2018)
	3 - LDAR Frequency		
	6 - LDAR Training		
	8 - Potential to Emit Reduction		
	9 - Flaring Practices		
	10 - Methane Intensity		
	11 - Emission Reporting		
	12 - High-Bleed Pneumatics		
	13 - Emission Reduction Innovation		
GRI400: SOCIAL			
OCCUPATIONAL HEALTH AND S	AFETY		
<b>403-1</b> - Health and Safety Committee Participation		HS1 - Workforce Participation	Governance, and Health and Safety Performance and HSE Training (Sustainability Report 2018)
403-1 - İnjury		HS3 - Occupational Injury and Illness Incidents	Health and Safety Performance and HSE Training
	41 - Contractor Evaluation		(Sustainability Report 2018)
COMMUNITY INVOLVEMENT			
		SE4 - Social Investment	Community Involvement and Social Investments (Sustainability Report 2018)
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	GRI Standards	DisclosingTheFacts.org	IPIECA	Disclosure Location
TRAINI	NG AND EDUCATION			
404-1 -	Training Hours			Health and Safety Performance
404-2 -	Employee Skills and Assistance Programs	36 - Driver Training	SE17 - Workforce Training and Development	and HSE Training (Sustainability Report 2018)
404-3 -	Performance and Career Development Reviews			All employees receive annual performance and career development reviews.
DIVERS	SITY AND EQUAL OPPORT	Γυνιτγ		
405-1 -	Diversity of Governance Bodies and Employees		SE15 - Workforce Diversity and Inclusion	<b>Leadership Profiles</b> (www.pxd.com/culture/leadership) <b>Diversity and Inclusion</b> (Sustainability Report 2018)
PUBLIC	POLICY			
415-1 -	Political Contributions		SE14 - Public Advocacy and Lobbying	Advocacy and Lobbying (Sustainability Report 2018)

#### DisclosingTheFacts.org - KEY:

Gray – Updated disclosures to address DisclosingTheFacts.org 2016 Report Questions after report publication.
White – Disclosures to address DisclosingTheFacts.org 2017 Methane Report (CH4).

#### FOOTNOTES:

1 - This report references these GRI Standards and the IPIECA guidelines (2015), whether partially completed or otherwise.

#### Forward-Looking Statements

Except for historical information contained herein, the statements in this document are forward-looking statements that are made pursuant to the Safe Harbor Provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements and the business prospects of Pioneer Natural Resources Company are subject to a number of risks and uncertainties that may cause Pioneer's actual results in future periods to differ materially from the forward-looking statements. These and other risks are described in Pioneer's 10-K and 10-Q Reports and other filings with the U.S. Securities and Exchange Commission (SEC). In addition, Pioneer may be subject to currently unforeseen risks that may have a materially adverse impact on it. Pioneer undertakes no duty to publicly update these statements except as required by law.