

2018 CORPORATE RESPONSIBILITY HIGHLIGHTS

#### **COMPANY OVERVIEW**

As a leading independent producer in the United States, Chesapeake discovers and develops its diverse resource base of unconventional oil and natural gas assets with careful attention to safety and environmental stewardship. We are committed to executing our business strategies and maximizing shareholder returns by operating responsibly and reducing risk.



#### **CORE VALUES**

Our core values are the foundation of Chesapeake and essential to our success. They are the lens through which we evaluate every decision we make. We demonstrate commitment to our core values in words and actions, building a stronger, more prosperous Chesapeake for all of our stakeholders.





Respect







Integrity and Trust

Transparency and **Open Communication**  **Commercial Focus** 

**Change Leadership** 



### Letter to Stakeholders

A s a top producer of oil, natural gas and natural gas liquids in the U.S., we are proud to be fueling lives through our business, investments and our employees. From producing the building blocks for so many items people use every day to supporting the places where we live and work through volunteer, in-kind and financial support, we remain committed to strengthening our communities and our country. We operate knowing that we impact people, businesses and the environment every day, and we shoulder that responsibility with respect, gratitude and the drive to continuously improve.

Each year this report reflects the progress we have made in improving our operations and our transparency. The following pages, in addition to our <u>online corporate responsibility report</u>, provide an overview of our performance related to safety, environmental, social and financial aspects of our business.

In 2018 we once again achieved outstanding health, safety, environmental and regulatory (HSER) performance with a Total Recordable Incident Rate of 0.23 and the reduction of our spill volume by 50% compared to 2017. I believe



<sup>44</sup>We operate knowing that we impact people, businesses and the environment every day, and we shoulder that responsibility with respect, gratitude and the drive to continuously improve.<sup>39</sup>

our continued HSER performance improvements are due to the ownership Chesapeake employees embrace as part of our culture. In our operating areas and on our corporate campus, they are empowered to speak up when they see potentially unsafe conditions, and they are recognized for doing so. We instill that same drive to sustain safe work sites through our relationships with the contractors with whom we work. We have implemented comprehensive procedures — from preliminary safety and environmental record checks to ongoing assessments — to align everyone who steps onto our work sites with our commitment to responsible operations.

We continue to make meaningful progress in delivering on our strategic priorities of HSER excellence, margin enhancement, free cash flow and leverage reduction. In addition to our top-quartile safety performance in 2018, we divested our Utica Shale asset and acquired the oil-rich WildHorse Resource Development Corporation asset — known in our portfolio as the Brazos Valley business unit. These transactions, combined with technical and operating efficiency gains, have significantly improved our balance sheet, company performance and long-term value.

As a company we remain focused on building and sustaining a corporate culture founded on employee ownership, collaboration, respect and a one team, One CHK mindset. As we continue to become a stronger, more competitive company, our core values will remain the lens through which we evaluate every decision we make. While we are proud of our accomplishments to date, we could not be more excited for our future.

Dang Furl

Robert D. Lawler President, Chief Executive Officer and Director May 2019

### Corporate Responsibility Approach

We are committed to protecting what matters most — from the people we work with every day to the land and communities we call home. For this reason, corporate responsibility is central to everything we do at Chesapeake. Using our core values to guide our business with integrity, we set high standards for ourselves, our partners and those who work for us.



### About Our Report

In our eighth year of reporting, we publish both a comprehensive online report and an annual highlights document noting our performance on topics of economic, environmental and social importance.

We referenced a number of reporting guidelines, including the Global Reporting Initiative (GRI) Sustainability Reporting Standards and the Oil and Gas Industry Guidance on Voluntary Sustainability Reporting produced by the International Petroleum Industry Environmental Conservation Association (IPIECA), when determining our reporting parameters and data table inclusions. An index of reported indicators is available on the Responsibility home page of <u>chk.com</u>. We also reviewed the Disclosing the Facts investor scorecard as a third-party source for greater reporting transparency.

Our performance data table can be found on page 16 of this highlights document. This table reflects our operations at year-end 2018. Data and information included in this document were subject to internal review and are believed to be correct at the time of reporting. For certain reporting elements, later changes in categorization could affect data after publication. Also, since our WildHorse Resource Development Corporation acquisition was finalized in February 2019, this 2018 report does not include data or content specific to this new business unit.

In addition to this document, at year-end 2018, we published a Climate Risk Analysis studying the company's projected performance in a lower carbon future and highlighting the company's actions to manage and reduce emissions that could impact climate change. We consulted the Task Force on Climate-related Financial Disclosures and the World Energy Outlook 2017 when drafting this report, which is available on our website.

# *Highlighting 2018*

To determine the content for our 2018 Corporate Responsibility Highlights document, we identified and evaluated top stakeholder concerns, company priorities and key responsibility issues for the year. We gathered and analyzed this combination of internal and external factors by conducting a four-step topic focus process.

#### STEP 1: Identify Topics of Interest to Stakeholders

Through a variety of inputs, including stakeholder engagement by our employees, peer benchmarking and a review of scorecards and reporting guidelines, we identified topics most relevant to our stakeholders.



#### **STEP 2: Validate Stakeholder Representation**

After collecting the data, we confirmed the inclusion and fair representation of our primary stakeholder groups as defined on page 4 of this document.

#### **STEP 3: Prioritize Key Issues**

We analyzed our research, weighing each topic to determine those of greatest relevance and comparing them against our core values, business strategies and priorities.

#### **STEP 4: Determine Content Placement**

In this final stage, we reviewed each key topic and determined whether it should be included in our highlights document or in our web-based report.



# Engaging Our Stakeholders

We recognize the responsibility entrusted to us by our stakeholders and are committed to transparency and two-way communication. Regular interaction with those who have impact on, or are impacted by, our business allows us to listen, educate and deepen those relationships that matter most to our operational conduct.

Stakeholder Type	How We Engage	Engagement Frequency		
Business Partners	Safety and Code of Conduct education, employee engagement, ethics helpline and website, dedicated chk.com section and portal for suppliers	Regular and ongoing, ethics helpline and websites available 24/7		
Community	Owner Relations team interactions, Social Responsibility team contact and meetings, donation request application/review process, emergency responder trainings, field and HSER employee engagement	Daily employee engagement, donation reviews three times per year, monthly emergency responder meetings or trainings (on average)		
Employees	Intranet, town hall and other leadership meetings, HR business partner interactions, trainings, performance management program and professional development opportunities, targeted email communications, ethics helpline and website	Daily and ongoing, intranet and ethics helplin and website available 24/7		
Government	Meetings, agency interactions, Political Action Committee (PAC) activities, lobbying activities	Daily, ongoing		
Investors	Annual shareholder meeting, conferences and road shows, financial reports, Board and Investor Relations team contact, earnings statements and calls, dedicated chk.com section	Daily and ongoing, regular meeting and conference participation, annual shareholde meeting in May and quarterly earnings communications, website available 24/7		
Media	Press releases, social media, self-published reports, leadership interviews and phone calls, Media team contact	Daily, ongoing		
Royalty Owners	Owner Relations team interactions, employee engagement, ethics helpline and website, dedicated chk.com section and portal	Daily and ongoing, ethics helpline and websites available 24/7		
Special Interest Groups	Memberships and meetings, employees in advisory engagement roles, phone calls and other subject matter expert interaction	Regular, ongoing		

#### ▶ INCREASING TRANSPARENCY THROUGH SCORECARD ENGAGEMENT

Since 2016, we have been an active participant in the Disclosing the Facts investor scorecard process. As You Sow — a nonprofit organization — and its investor partners publish this annual rating to measure how oil and natural gas companies manage their environmental and community risks. Through transparency on key issues, As You Sow believes investors can better recognize and evaluate the effectiveness of risk mitigation across individual companies.

Each year, Chesapeake continues to work with As You Sow and our internal subject matter experts to both increase our transparency and improve our scorecard ratings. For its 2017 scorecard (published in 2018), As You Sow prepared a special edition focused on methane emissions management. Out of a total of 13 possible points, Chesapeake scored a 10 and was positioned in the top quartile of companies.

In 2019, the organization published another focused installment of its scorecard series, with an emphasis on chemical and water management. Although our starting score was a 3, we added new content and data to our website's Environment section, meeting the criteria for 13 out of 25 points.

# Financial Performance and Sustainability

Paramount to being a responsible company is holding ourselves accountable to our shareholders. This means supporting the financial health of our organization by delivering on our business strategies and performance goals. Starting with financial discipline, we have used our innovation, grit and determination to better position Chesapeake for the future. And for all our financial accomplishments in 2018, our highest achievement remains our safety culture.

Strategic Priorities	2018	8 Accomplis	shments					
HSER Excellence	» TI	» TRIR of 0.23; one of the top safety records in our peer group						
Margin Enhancement	» 0	<ul> <li>Optimized portfolio through Utica divestiture and WildHorse acquisition</li> </ul>						
- Free Cash Flow								
Long Term Net Debt / EBITDA of 2x	» El	<ul> <li>» Eliminated \$2.6 billion in secured debt</li> </ul>						
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### Fueling the Economy

At Chesapeake, our hard work positively benefits the lives of our employees, their families and our neighbors. We work for a powerful purpose — to fuel lives by producing the building blocks of nearly everything people use every day. From fuel to plastics, from electronics to basketballs, most everything people touch has already been touched by us. Producing our country's energy resources allows us to strengthen our economy and improve lives.

As one of the top producers of natural gas, natural gas liquids and oil, Chesapeake has been a key leader in creating affordable energy. As a result of the low cost of natural gas, the average amount people paid for energy in their homes dropped nearly 15% in the last 10 years.



Chesapeake produces an average of 2.4 billion cubic feet (bcf) of natural gas / day



1 bcf is enough to heat more than 10,000 homes for an entire year



At the end of 2018, we produced an average of 42,000 barrels of natural gas liquids and 87,000 barrels of oil per day, directly supporting the growth of numerous industries from plastics and transportation to agriculture and renewables. U.S. manufacturers are now more competitive in the global market — lowering our trade gap — due to more affordable American energy.

Not only are we proud to produce domestic energy, we are proud to employ more than 2,300 employees in six U.S. operating areas and at our corporate headquarters. In addition to paychecks, we invest in our people through annual bonuses and competitive benefits packages, tuition reimbursement, professional development training, and opportunities for promotion and advancement. It is our goal for Chesapeake employees to reach their full potential while driving company success.

#### SUPPLY CHAIN: OPTIMIZED IMPACT

Our work also bolsters the economy through our supply chain. In 2018, we received services or goods from more than 2,000 U.S.-based suppliers. Nearly 50% of our spend was with small businesses, those companies employing fewer than 750 employees.



# Fueling Our Communities

Economic benefit is a measurable result of the success of our company, but our greatest impact is the one we make locally through our operations and our employees. We recognize that our actions make a difference, felt greatest where we live and work. Our communities — the places we call home — experience firsthand our core values in action.

At year-end 2018, Chesapeake operated 7,200 wells across five operating areas in the U.S. Each well generates some level of royalty payment to the owner of the well's land, lease or minerals. These payments, depending on the well's production, can supplement a household income or help an institution kick start a new project, as examples. Also this money, coupled with local tax payments associated with a well, is often reinvested locally to benefit the respective operating area.

We recognize the responsibility that we have been given — to be both a neighbor and an operator on someone's land — and we approach this role with a focus on safety, stewardship, transparency and accessibility.

Critical to this commitment is active listening and two-way communication. Multiple groups across Chesapeake, including our Land, Corporate Communications, Operations, Government and



Regulatory Affairs, and Health, Safety, Environment and Regulatory (HSER) departments, work together to proactively address questions and concerns of our mineral and surface owners.

In addition to these teams of employees, we also offer our Owner Relations department as a central information hub for owners. Owners may call or email this group about topics such as lease agreements, payments and production. Our Owner Relations representatives receive comprehensive training to enable them to listen effectively and respond with the resources needed. In 2018, more than 80% of the communications received were handled within the Owner Relations group, creating a more efficient experience for our owners.



Each contact received by our Owner Relations team is tracked through a system that allows us to document the nature of the communication received and assign specialized employees for response, if necessary. The program creates accountability across our organization, enabling Owner Relations team members and business unit supervisors to monitor the timeliness of our owner communications, report lessons learned and improve our processes.

OWNER RELATIONS ENGAGEMENT PROCESS

Outreach to Owner Relations Owner Relations Uses Resources to Resolve without Transfer If Needed, Transfer to a Specialized Employee Resolve Matter and Document for Future Reference Report Any Lessons Learned In 2018, many conversations with our owners related to our acquisition and divestiture activity, specifically the divestiture of our Utica Shale asset. We were committed to a smooth transition between our thousands of Utica owners and the new owner. With a focus on transparency, we sent written communications describing the change in ownership and trained our Owner Relations team members to efficiently handle questions from our owners. Specific to our transition agreement with the new owner, we have continued our Utica owner relations into 2019 to help ensure consistent coverage and communication.

Also in 2018, we began the process of acquiring WildHorse Resource Development Corporation and its assets in South Texas. Although our owner communications were limited until the acquisition finalized in 2019, we formed an owners' support team from the start of the definitive agreement. We were able to activate this team immediately after the deal officially closed, in addition to a dedicated phone line and email address. These resources were communicated through a welcome letter sent to all who held mineral and surface ownership through the Brazos Valley business unit.

#### LIVING OUR CORE VALUES

Our core values drive us to be a responsible member of the communities where we operate, and that includes partnering with nonprofit organizations to improve the areas where we live and work.

At Chesapeake, community involvement means more than just a financial donation. Our engagement is built upon intentional relationships with nonprofits, sharing both our resources and the power of our people. After learning of an organization's needs, we consider many forms of giving, including financial and in-kind donations. In 2018, we donated more than \$1.6 million in financial and goods contributions to organizations that meet local needs within our four charitable categories:





EMERGENCY AND DISASTER RESPONSE



ENVIRONMENT



COMMUNITY DEVELOPMENT

Our employees — including members of our executive team — also share their time, resources and business acumen by serving as board members for many of our nonprofit partners. Due in part to the leadership those employees provide on nonprofit boards, more than 50 organizations in Oklahoma City alone continued to strengthen and expand the services they offered to our communities in 2018.

#### **CONSERVING OKLAHOMA LANDSCAPES**

Chesapeake has a more than 10-year history with the Oklahoma Chapter of The Nature Conservancy — a history that deepened through the company's transformation in the last six years. At a basic level, we support the organization's national mission — to conserve the lands and waters on which all life depends — with financial and in-kind donations. For example, we have donated two company vehicles to the organization to aid in their environmental work across the state.



A member of our leadership team also serves on the Oklahoma Chapter's board of directors, and we have had consistent employee participation in the organization's Oklahoma Conservation Leadership Academy since its inception in 2015. Each year the academy's class of approximately 40 individuals participates in field trips and educational opportunities to learn about science-based conservation throughout the state. Ultimately the Academy hopes to inspire class graduates to utilize nature-based solutions to support the growth, sustainability and economic vitality of the state.



Through our H.E.L.P. (Helping Energize Local Progress) Initiative, we actively seek partnerships and volunteer opportunities that create a sustainable impact in the areas we live. Showcasing the power of One CHK, our employees give their time generously, either individually or as larger groups. Employees may also use four hours of company time per year to volunteer at the nonprofit of their choice.

A cornerstone of our H.E.L.P. Initiative is the Chesapeake Mentoring Program, one of Oklahoma's largest mentoring organizations. For 24 years, the program has paired employees with Oklahoma City students for weekly mentoring. Employees spend quality time with students during scheduled visits, encouraging academic performance, building self-esteem and helping instill responsibility.

#### SUPPORTING UNITED WAY

Every fall, Chesapeake hosts an employee-driven companywide fundraising campaign for our local United Way chapters, with the company matching employee donations. Through a variety of activities and events, our corporate campus and field offices raise awareness and collect donations for the organization and its beneficiaries.

In Oklahoma City, Chesapeake consistently has one of the largest employee giving campaigns benefiting United Way of Central Oklahoma each year. Chesapeake employees raised approximately \$1.35 million for the organization in 2018.



SUPPORTING UNITED WAY OF CENTRAL OKLAHOMA

**S1.35** millior donated

employees including CEO Doug Lawler, serving on United Way and agency boards



Emerging Leaders young professional leadership donors



# Fueling a Responsible Energy Future

At Chesapeake, protecting our people and the planet is a commitment we make at every level of our organization. Employee ownership drives our HSER excellence, specifically the expectation that making safe decisions and respecting the environment are part of every employee's daily responsibility. Not only is our compensation tied to these values, but our employees are both empowered and held accountable to make the best decisions for each other and the communities where we operate.

To support our employees and lead continuous improvement, a team of well-trained professionals make up our HSER department. In 2018, Chesapeake welcomed a new HSER Vice President — Morgan Hager — an environmental scientist and engineer with extensive oil and natural gas experience. Hager and the HSER team continue to build upon Chesapeake's transformation into one of the industry's most responsible operators. Recent organizational changes include updating the departmental name to reflect our safety-first culture and adopting a new HSER vision statement for the company.

<sup>44</sup>The Chesapeake team has built a strong culture of safety and stewardship. With that foundation in place, we will continue to do more, paving a better way of life for our employees, partners and the communities where we operate. That's what drew me to this company, and what motivates us to do our best every day.<sup>11</sup>

> *— Morgan Hager* HSER Vice President

#### **PROTECTING OUR PEOPLE**

Chesapeake's success is built on our strong safety culture, fueled by our unwavering commitment to make sure every employee goes home safe, every day. In 2018 our employee TRIR was 0.23 -one of the top rates among our peers - and we achieved 357 days without an employee recordable injury.





Creating an incident-free work environment starts with setting clear expectations among employees, contractors and suppliers regarding our safety standards, and working to equip these individuals with the skills necessary to promote safety in their areas of work.

The foundation of our safety efforts is our Stay Accident Free Every Day (S.A.F.E.) program, which addresses the activities that can often lead to safety incidents and encourages actions that create safe work locations. The pillars of this program include:



- Stop Work Authority: A pledge that empowers employees to stop work if activities appear to be unsafe.
- **Training:** In 2018, our HSER team offered more than 16,000 hours of training to raise the safety awareness of our employees.
- Good Catch Initiative: Employees and contractors submit moments where work was stopped to protect our people or the environment; these submissions are analyzed for trends and key learnings, as well as recognized by senior leadership.

**Testimonials:** Individuals who have experienced injuries due to oil and gas-related work testify to the aftereffects of their accidents, reinforcing that a safety culture requires personal commitment.

Building and sustaining a strong safety culture requires leadership support, personal employee responsibility and an organizational commitment to continuous improvement. Reflecting this commitment, we solicited feedback from our field employees about improving our safety training program. As a result of listening and learning, we recognized that our traditional classroom approach to field safety training was not driving the level of employee ownership we hoped to achieve.

To address this, we developed and piloted a new format for safety meetings in our Pennsylvania and Wyoming offices, moving all HSE meetings on-site at drilling or production locations. Also, each meeting is led by foremen or superintendents, with support from HSE staff. These changes allow for more hands-on training and live reenactments of incidents, while reinforcing the ownership necessary for those employees most affected by the hazards of our business. It is our goal to implement these changes across the company, further improving how we raise safety awareness.

#### ENCOURAGING EMPLOYEE WELLNESS

We recognize that employee health and safety extends beyond the job site, and we champion healthy lifestyles by offering comprehensive medical benefits to both prevent and treat physical health conditions.

In addition to physical health, we provide a number of benefits that support an employee's total well-being. For example, we offer our Employee Assistance Program, a referral service that can help employees and their families cope with different life stages and challenges. This program provides a variety of resources, including confidential counseling sessions. We also host emotional intelligence training, recognizing that an employee's ability to deal effectively with his or her emotions in the workplace is critical to professional success and well-being.

Evolving our industry-leading compensation and benefits package provides another opportunity for Chesapeake to encourage work-life harmony. Most recently, we implemented paid parental leave for both male and female full-time employees, offering up to four weeks per year of paid leave following the birth or adoption of a child. This is in addition to the paid disability leave available to a woman who gives birth to a child.

#### PROTECTING OUR ENVIRONMENT

Operating responsibly means being intentional in reducing our environmental impact and innovative in developing practices to protect the land on which we operate. We foster a culture of ownership and accountability among our employees and suppliers, supported by our strict standards for environmental stewardship.



#### MANAGING CONTRACTOR PERFORMANCE

We recognize that safety and environmental stewardship depends on everyone at our work sites. From the start of a relationship with Chesapeake, contractors provide their safety and environmental records for supplier qualification. They must also agree to abide by Chesapeake's Supplier Code of Conduct, committing to honor our core values and provide a safe and healthy workplace for all employees.

Once approved, Chesapeake contractors complete a Chesapeake safety orientation and an industry orientation course, before arriving on a company location. The orientation sets clear safety expectations in accordance with SafeLandUSA<sup>™</sup> industry-standard safety guidelines, which establish minimum requirements for HSER practices.

We also host quarterly contractor meetings during which we tailor safety discussions to the individual geographies and operations where contractors are working. As an additional step, we conduct contractor assessments in the field to confirm that our contractors are reporting their safety and environmental performances accurately.

#### MINIMIZING OUR IMPACT THROUGH SPILL PREVENTION

Reducing spills continues to be a key performance objective for our company. Since 2013 we have significantly decreased our number and volume of reportable spills as a result of spill prevention and containment efforts. In 2018, we handled nearly 194 million barrels of liquids and safely contained more than 99.99% of this freshwater, produced water and oil.



2018 RESULTS

~52% Reduction of Reportable Spill Volume



One of our primary spill causes in 2018 was corrosion. Over time, environmental conditions and produced water can corrode steel equipment, leading to a potential leak or malfunction. For this reason, our company design standard requires new and replacement steel storage tanks be internally coated to resist corrosion. The majority of our production lines, vessels and tanks are also treated with liquid corrosion inhibitors. Other prevention measures include:

- Using anodes, pieces of sacrificial metal that corrode first and protect the integrity of our equipment
- Applying a protective primer and paint layer as an external coating standard for our steel tanks
- Positioning tanks on gravel, plastic or cement bases to prevent corrosion from standing water
- Installing impervious secondary containment designed to last the lifetime of the facility



Should an incident occur, a cross-functional team of experts responds comprehensively to address the spill, from securing the site for safety to confirming regulatory closure of the incident. This team and its resources are ready and available 24/7.

#### PRESERVING AIR QUALITY, REDUCING AIR EMISSIONS

From 2005 to 2017, energy-related carbon dioxide emissions decreased 14% despite natural gas production increasing by more than 50%\*. As one of the largest domestic producers of natural gas, we are proud to have played a leadership role in this emissions reduction. However, we know there is more work to be done, and that starts at our well sites.

Chesapeake's robust air program has regulatory compliance at its foundation — a minimum standard for our operations. We also voluntarily implement proactive measures to reduce air emissions, including automatic tank gauging, remote facility monitoring and shut down, diesel-alternative fuels and green completions.

\*Energy In Depth, "Natural Gas: A Boon to the U.S. Economy ... and Environment," March 19, 2019.



#### PROTECTING THE WELL, PROTECTING THE ENVIRONMENT

Throughout a well's lifecycle, protecting both the wellbore and the pad site is vital. Chesapeake utilizes a supervisory control and data acquisition (SCADA) system for monitoring a well's performance during its life stages. Through a series of sensors, SCADA collects data, such as well pressure, downtime and tank levels, which is monitored at all times by our Operations Support Center (OSC) employees. Should data indicate a potential concern, OSC team members alert field employees to investigate.

Also using site-sensor data is our proprietary CHK WellTender mobile application. CHK WellTender acts as a dispatch system, partnering with our OSC team to help prioritize lease operator site visits after measuring and evaluating a series of well performance inputs.

Launched in 2018 and utilized in our Eagle Ford operating area, there is significant growth ahead for CHK WellTender, as the company plans to adopt the application across all business units in 2019. Also as the application collects more data, there is an opportunity to analyze inputs to determine if predictive patterns exist, thereby proactively identifying potential risk factors.

Beyond facility design, consistent monitoring and maintenance is a leading preventive effort to preserve air quality. Using an application on their smartphones, our lease operators perform regular, on-site air quality observations, filing real-time reports reviewed by supervisors and HSE team members. This monitoring data, coupled with maintenance analysis, can help direct preventive improvements at our sites.

For example, we found that, over time, gasket failures can cause leaks due to the cracking and warping of the standard material. In response, Chesapeake formed an interdisciplinary team to research and test gasket materials before recommending the most appropriate gasket material to reduce future leaks and equipment failure.



Leak detection and repair (LDAR) are also important to reducing air emissions. Chesapeake utilizes two primary methods — infrared cameras and regular onsite inspections — for leak monitoring. Forward-looking infrared (FLIR) cameras allow field technicians to visualize leaks that may not otherwise be detected by unaided senses, as well as help pinpoint the source of the leak and direct specific maintenance activities.

FLIR camera operation is a specialty requiring the proper training for the best results. Our FLIR inspectors complete the Optical Gas Imaging Certification Training through the Infrared

Training Center, and many have lease operator experience or other suitable training, giving them both the knowledge and authority to repair certain leaks immediately. In 2018, more than 60% of leaks were repaired within one day of detection, and sites are reinspected to confirm successful leak repair.

Chesapeake complies with state and federal LDAR regulations, conducting leak detection surveys at the prescribed frequency and inspecting sites within 60 days of a new well producing. We also voluntarily survey a number of our sites, exceeding regulatory requirements. Of the sites we surveyed in 2018, more than 40% were inspected voluntarily.

#### ANALYZING CLIMATE-RELATED RISK

In December 2018, Chesapeake released a Climate-Related Risk Analysis, studying the company's projected performance in a lower-carbon future and highlighting the company's actions to manage and reduce emissions that could impact climate change. This analysis, the result of conversations with shareholders, follows reporting guidance suggested by the Task Force on Climate-Related Disclosures and utilizes third-party research for greater accuracy.

In studying our climate-related risks, we also presented our risk mitigation plans and concluded that our current operating processes — including short duration cycles, technological efficiencies, operational flexibility and cash cost leadership — will allow for continued efficient investment returns in the event of a drop in fossil fuel demand.

In any scenario, our commitment remains the same — to be constantly improving stewards of our assets and the environment. We believe that our global energy future will include a number of forms of energy, and even with these additional energy sources, the vast majority of our energy and product needs will continue to be met by oil and natural gas.

#### DECREASING FRESHWATER USE, PROTECTING GROUNDWATER RESOURCES

Protecting water supplies and conserving water sources are critical to both our environmental stewardship efforts and our future. In 2018, we used approximately 85.68 million barrels of water, or 1.27 gallons of water for every 1 mmbtu of energy we anticipate producing over the life of the well. We also recycled more than 107 million gallons of produced water and continued researching alternatives to freshwater use through our Aqua Renew<sup>®</sup> program.

Beyond water conservation, protecting ground and surface water resources is integrated within our daily operations. Our site assessment program creates consistent procedures to protect water and other environmental receptors when constructing new locations or conducting maintenance to existing locations.

Once we identify the location to build a well site, we take additional steps to protect ground and surface water during our operations. For example, during drilling we install three to five layers of steel well casing and cement that reinforce the integrity of our wells. We also conduct pre- and/or post-drill water quality sampling in accordance with state regulations, lease obligations or on a risk basis.

Water Acquisition	Well Planning and Construction	Storage and Transportation	Recycle, Reuse or Dispose
<ul> <li>» Seek to use non-potable water first</li> <li>» Permit withdrawals from freshwater sources</li> <li>» Certify the environmental and safety performance of all vendors before and during work for CHK</li> <li>» Comply with all state and federal regulations</li> </ul>	<ul> <li>Conduct thorough site assessment, including wetlands and floodplain delineations</li> <li>Baseline water quality assessments performed in all operational areas</li> <li>Install 3 – 5 layers of steel well casing and cement for well integrity reinforcement</li> <li>Incorporate secondary containment</li> <li>Comply with all state and federal regulations</li> </ul>	<ul> <li>» Store produced water in API-certified tanks made of either steel or fiberglass</li> <li>» Coat tanks and use sacrificial anodes to resist corrosion</li> <li>» Transport by pipeline when and where feasible</li> <li>» Comply with all state and federal regulations</li> </ul>	<ul> <li>Recycle produced water and evaluate freshwater-use alternatives through Aqua Renew<sup>®</sup> program</li> <li>Participate in peer committees and academic research to increase knowledge and improve water stewardship efforts</li> <li>Comply with all state and federal regulations</li> </ul>

#### OPERATIONAL WATER USE AND PROTECTION MEASURES

### **Performance Metrics**

#### as of December 31, 2018

ECONOMIC	2018	2017
Revenues	\$10.231 billion	\$9.496 billion
Operated wells	7,200	9,500
Average daily production (mboe/d)	520	548
Proved reserves (bboe)	1.4	1.9
Tax payments (state and federal)	\$236.5 million	\$206 million

HEALTH AND SAFETY*	2018	2017
Employee Total Recordable Incident Rate (TRIR)	0.23	0.05
Employee Lost Time Incident Rate (LTIR)	0.03	0.02
Employee Days Away, Restricted or Transferred (DART) rate	0.06	0.02
Contractor TRIR	0.62	0.58
Contractor LTIR	0.14	0.14
Contractor DART rate	0.33	0.34
Fatalities	1	0
Motor vehicle accident rate (per million miles)	1.47	1.43
HSER training hours per employee (average)	9	13

ENVIRONMENT	2018	2017
Greenhouse gas emissions (million metric tons, $\rm CO_2e)^{\star\star}$	2.32	3.24
Greenhouse gas emissions intensity (kg $\rm CO_2e/boe)^{**}$	6.89	9.11
Methane loss rate**	0.15%	0.20%
Average water used to drill and complete a well (gal/foot)	546	571
Water efficiency rate (gal/mmbtu)	1.27	1.61
Total volume of produced water recycled/reused (gal)	107,543,659	128,052,162
Spills > 100 bbls (number of spills)	3	11
Spills > 100 bbls (total bbls)	692	2,960
Spills $>$ 100 bbls (% recovered)	51%	37%
Environmental penalty assessments in excess of \$100,000	0	0

COMMUNITIES	2018	2017
Charitable giving (financial and in-kind)	\$1.60 million	\$1.78 million
Employee giving (workplace campaigns)	\$834,768	\$1.06 million
Owner Relations team interactions (phone calls and emails)	~85,600	~105,700

EMPLOYEES	2018	2017
Employee headcount	2,351	3,223
Women in workforce	32%	31%
Women in leadership (supervisor level and above)	22%	22%
Ethnic minorities in workforce	17%	16%
Ethnic minorities in leadership (supervisor level and above)	11%	9%
Veterans in workforce	7%	7%
Voluntary turnover rate	10%	8%
Professional development training hours per employee (average)	30	29

\* E&P only

\*\* Emissions estimate developed under the EPA's Greenhouse Gas Reporting Program (onshore production and gathering and boosting facilities)

Data and information included in this report were subject to internal review and are believed to be correct at the time of reporting. Data reflects year-end calculations and may include divested assets until divestitures' closing dates. For certain reporting elements, later changes in categorization could affect data after publication.



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Owner Relations 877-CHK-1427 contact@chk.com

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