### **Greenhouse Gas Management and Performance**



With global energy demands and the concern about climate change rising, the demand for low-carbon, accessible, reliable and affordable energy is as strong as ever. Chesapeake is a leader in an industry that day in and day out meets this need while improving the economy, environment and communities across the globe. We are fueling the lives of millions of people and so much of the future, opportunity and innovation for our planet. We are proud to produce the oil and natural gas that will continue to meet global demand and improve quality of life around the world while focusing on innovation and continuous improvement to ensure we are doing this efficiently and responsibly.

#### THE ROLE OF NATURAL GAS IN REDUCING EMISSIONS

As a domestic exploration and production company with a production mix weighted toward natural gas, we are proud to play a role in helping to reduce global greenhouse gas emissions. According to the International Energy Agency's World Energy Outlook 2017, natural gas is credited for helping to reduce global energy-related emissions since 2014, even as the world economy has grown.

Chesapeake's robust air program has regulatory compliance at its foundation — a minimum standard for our operations, and we also voluntarily implement proactive measures to reduce air emissions.

#### **Emissions Reduction and Management Practices**

- » Automatic tank gauging
- » Increased pipeline infrastructure
- » Leak detection and repair
- » Preventive maintenance practices
- » Solar and wind-powered equipment
- » Facility electrification via Electric Distribution Systems
- » Zero, low or intermittent-bleed pneumatic controllers
- » Remote facility monitoring and shut down
- » Vapor recovery
- » Use of diesel-alternative fuels
- » Green completions

Chesapeake production site in the Mid-Continent operating area.

#### **EXTERNAL ENGAGEMENT**

Chesapeake collaborates with government agencies and local and national industry peer groups to advance leak detection processes and knowledge. This includes both sharing with and learning from our peers. In 2017, we joined The Environmental Partnership, a coalition of U.S. natural gas and oil companies working together to improve the industry's environmental performance through knowledge sharing and collaboration. The Partnership's first initiative focuses on further reducing emissions, including methane.

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 of how companies manage environmental and other risks. For its 2017 scorecard, 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.

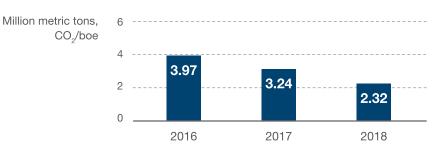
In December 2018, we released a Climate-Related Risk Analysis, studying the company's projected performance in a lower-carbon future and highlighting the company's actions to manage and reduce emissions that could impact climate change. This analysis, the result of conversations with shareholders, follows 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 will allow for continued efficient investment returns in a low-carbon economy.



#### **METRICS**

We study and report a number of air-related metrics on a consistent basis. For transparency with our stakeholders, we publish several of these numbers annually within our Corporate Responsibility Report and recently expanded our metrics to include more intensity rates and year-over-year comparison data. These numbers include Scope 1 emissions and are calculated under the EPA's Greenhouse Gas Reporting Program.





# GREENHOUSE GAS EMISSION INTENSITY RATES

2016 9.86 kg CO<sub>2</sub>/boe
2017 9.11 kg CO<sub>2</sub>/boe
2018 6.89 kg CO<sub>2</sub>/boe

Methane loss is the amount of methane emitted per amount of gas produced.

In 2018, Chesapeake emitted 0.0014 cubic feet methane for every one cubic foot gas produced, or 1 cubic foot of methane for every 714 cubic feet gas produced.

## CHESAPEAKE METHANE LOSS RATE®



Oil and Gas Climate Initiative methane intensity target of **below 0.25% by 2025** with ambition to achieve 0.20%

Chesapeake's strong culture of continuous improvement has led to its strong emissions management and reduction practices. We work every day to add new technological innovations and adopt leading environmental practices. We believe it is critical to maintain an affordable energy supply and to have clean air. In any scenario, our commitment remains — to be constantly improving stewards of our assets and the environment.

Corporate responsibility is embedded in the culture of Chesapeake. Our Corporate Responsibility Report communicates our high standards and highlights our operations' focus on safety, stewardship, and sustainability. To read our report, please visit: www.chk.com/responsibility.

<sup>(1)</sup> Based upon Subpart W reported values for tonne methane and tonne gas produced

<sup>(2)</sup> Peer companies include: APC, PXD, DVN, EQT, XEC, NFX, AR, APA, NBL, ECA, RRC