



METHANE REDUCTION COMMITMENT

At Kinder Morgan, we recognize that operating thousands of miles of pipelines, 20 natural gas storage facilities and hundreds of terminals across North America is a huge responsibility. Throughout our organization, from the top down, we are committed to maintaining and operating our assets safely and in an environmentally responsible manner. To protect the public, our employees and the environment, we invest hundreds of millions of dollars each year on integrity management, maintenance and environmental programs to meet these goals.

We utilize state-of-the-art technology for pipeline and storage well integrity and maintenance. We also employ personnel who constantly monitor pipeline and storage facility operating conditions using computer systems located in control centers. We conduct internal pipeline inspections at prescribed intervals by sending sophisticated computerized equipment called “smart pigs” through most of our pipelines. We use our patented pipeline inspection protocol, the Kinder Morgan Assessment Protocol (KMAP) system, to interpret the data gathered by smart pigs. Additionally, we use cathodic protection, a technology designed to protect pipelines and storage wells from external corrosion through the use of an electrostatic current.

At each of our natural gas storage facilities, Kinder Morgan maintains risk management programs and monitoring systems for well and reservoir integrity and deliverability. In 2016, the U.S. Department of Transportation’s Pipeline and Hazardous Materials Safety Administration (PHMSA) issued rules to establish federal standards for underground natural gas storage facilities. These rules respond to Section 12 of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016, which was enacted following the serious natural gas leak at Southern California Gas Company’s Aliso Canyon facility in California in 2015. In 2017 PHMSA and additional subject matter experts conducted facility safety site assessments at a cross-section of natural gas storage operators. We volunteered a facility to participate as the first of the site assessments, and PHMSA assessed our facility with positive results.

In addition to our corporate and business segment Environmental, Health and Safety (EHS) leadership teams and departments, our Board of Directors has a standing EHS Committee, whose [charter](#) is available on our website at www.kindermorgan.com in the “Corporate Governance” sub-section of the “Media & Investor Relations” page. This committee assists our Board in overseeing management’s establishment and administration of our EHS policies, programs, procedures and initiatives, including those that promote the safety and health of our employees, contractors, customers, the public and the environment. The committee also periodically reviews with management our company’s reputation as a responsible corporate citizen and our efforts to employ sustainable business practices consistent with our company’s business purpose and values.

In 2015 and again in 2016, the U.S. Environmental Protection Agency finalized rules to regulate methane emissions from the production, gathering and processing, and transmission and storage sectors of the oil and natural gas industry. We strongly supported the implementation of voluntary methane emission reductions in the final regulatory regime. Currently, we are participating in several industry initiatives to reduce methane emissions.

Below are a few examples of how we have been actively engaged with various trade organizations and regulatory entities to share our data and experience with methane monitoring and management, and provide perspective on how methane emission reductions can best be achieved.



Over 20 years of voluntary participation in the U.S. Environmental Protection Agency (EPA) Natural Gas STAR program

Through voluntary efforts such as EPA's Natural Gas STAR program, Kinder Morgan has reduced methane emissions by over 86 billion cubic feet since 1993. The reductions contributed to reducing U.S. methane emissions by 6% from 1990 to 2014 while natural gas production has increased 46% over the same period.

We are committed to implementing and reporting voluntary methane emission reductions as part of EPA's Natural Gas STAR Methane Challenge Program, and the Our Nation's Energy Future (ONE Future) Coalition described below.

Leadership Role in the Interstate Natural Gas Association of America (INGAA) Greenhouse Gas (GHG) Task Force

We participate in, and chaired from late 2008 to 2011 and again from 2013 to early 2017, the INGAA GHG Task Force. As part of that leadership role we, along with INGAA, participated in the Quadrennial Energy Review by the U.S. Department of Energy (DOE), which included a joint effort by the industry, the Administration and other stakeholders to understand better the issues confronting the transportation sector and develop mutually beneficial solutions.

Leadership role in collaborating with the EPA and DOE methane emissions reductions

We have taken a leadership role in meeting with the EPA to identify the most effective means for reducing methane emissions from natural gas transmission and storage operations. In addition to our ONE Future Emissions Intensity commitment described below, we meet with the EPA routinely to share data and engage in discussions about numerous potential emissions management strategies.

Steve Kean, our President and Chief Executive Officer, has participated in the DOE's roundtable discussions with government, industry, non-profit, union and environmental leaders to help identify opportunities, share technical solutions and coordinate best practices to reduce methane emissions.

During 2016, we were an industry leader participating in the Joint Industry Task Force on the regulation of natural gas storage facilities. Our employees contributed to industry technical papers presented in joint hearings of the DOE and PHMSA as well as collaborative meetings with various non-governmental organizations developing an understanding of storage facilities, operations, and emissions and safety technologies. This work is ongoing in numerous federal, state and industry venues.

We have also worked closely with the DOE, academic institutions, environmental groups, and consultants on several independent technology evaluations and scientific studies as described further in the sections below.

Founding member of ONE Future

We are a founding member of ONE Future, a unique coalition made up of members across the natural gas industry, focused on identifying policy and technical solutions that result in improvements in the management of emissions associated with the production, gathering, processing, transmission, storage, and distribution of natural gas. Members of ONE Future are committed to continuously improving their emissions management to achieve voluntary reductions in emissions and to provide efficient, increased use of natural gas. ONE Future's goal is to enhance the energy delivery efficiency of natural gas by limiting energy waste and achieving a total methane emission rate of one percent or less of gross natural gas production across the natural gas value chain, the point at which the use of natural gas for any purpose provides obvious and immediate greenhouse gas reduction benefits. The ONE Future coalition represents



the entire natural gas value chain, with members from some of the largest natural gas production, gathering, processing, transmission, storage, and distribution companies in the United States.

The ONE Future Emissions Intensity Commitment Option has been accepted as part of the Natural Gas Star Methane Challenge Program. The option provides companies a flexible way to reduce methane emissions from their operations. The ONE Future Commitment is intended to drive action to achieve segment-specific intensity targets, established through the ONE Future Coalition. ONE Future's overall goal is to achieve a methane "leakage rate," defined as emissions per volume produced or volume of throughput, of 1 percent or less along the natural gas value chain by 2025. We are committed to implementing the ONE Future Emissions Intensity Commitment Option program for the Kinder Morgan transmission and storage sector as part of the Natural Gas STAR Methane Challenge program.

Participation in DOE's Advanced Research Projects Agency-Energy (ARPA-E) Project

We are a member of the Industry Advisory Board (IAB) advising ARPA-E and Colorado State University on the development of a methane emission test site to represent actual natural gas leaks that might occur at production, gathering, and underground pipelines facilities. This project is part of the ARPA-E Methane Observation Networks with Innovative Technology to Obtain Reductions (MONITOR) program. The MONITOR program's goal is to develop innovative and cost-effective methane leak detection technologies to more precisely and efficiently locate and measure methane emissions associated with natural gas operations. The next generation leak detection technologies should drive enhanced leak detection and repairs to further reduce methane emissions.

Kinder Morgan is actively engaged in the development of the test site, evaluation of the various leak detection technologies being developed, and providing guidance to the developers on industry expectations and steps for regulatory approval of their technologies.

Collaboration with DOE on Methane Emissions from Gathering Compressor Stations and Underground Natural Gas Storage Facilities

We are participating in two DOE-funded studies to develop improved national methane emission estimates and methane emission factors for natural gas gathering compressor stations. The current methane emission factors used for gathering compressor stations are more than twenty years old and based on a limited dataset. The studies are intended to establish improved methane emission factors more representative of the current state of gathering compressor station operations. Kinder Morgan participates on the Steering Committee and Technical Review Committee of each study. We also allowed the academic institutions and consultants to perform testing at more than thirty Kinder Morgan natural gas gathering compressor stations.

A third DOE-funded study involves estimation of methane emissions from underground natural gas storage field operations. Kinder Morgan is working with the consultant leading this study and allowing testing at some of our natural gas storage fields.

Collaboration with DOE's National Energy Technology Laboratory (NETL)

We are participating in a methane emissions life cycle analysis (LCA) being performed by NETL with input from ONE Future members representing all sectors of the natural gas industry value chain. This analysis is intended to inform ONE Future members and others interested in the overall methane LCA emissions. The study will also evaluate specific emission reduction opportunities in each sector and the impact on overall methane life cycle emissions.



Collaboration with the Environmental Defense Fund (EDF) on GHG emissions

We are one of seven natural gas transmission companies that worked with the EDF to develop a comprehensive GHG emissions inventory for the natural gas transmission and storage sector.

Importantly, the results of the EDF study demonstrated that due to actions taken in the gas transportation sector over the years to address methane emissions, the EPA has been overstating emissions from natural gas transmission and storage facilities. Since the release of this study, the EPA has used the results to improve their GHG emission estimates for natural gas transmission and storage facilities in their National GHG Emission Inventory report.

Strict adherence to existing reporting and compliance regulation

Certain of our facilities are subject to the EPA's GHG Mandatory Reporting Rule and federal and state leak detection and repair regulations. We have extensive emissions monitoring equipment and measurement programs. We report emissions to the EPA and fourteen state or local agencies on an annual basis in accordance with their reporting requirements.

Detailed information about our environmental, health and safety initiatives and performance, as well as our efforts to maintain pipeline integrity including through the use of our KMAP system, can be found on our website, <http://www.kindermorgan.com/pages/responsibility>. We publish our environmental, health and safety performance because we are committed to working openly and transparently with our stakeholders.

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