



2019

Environmental, Social, and Governance Report

A Sustainability Accounting Standards Board and
Task Force on Climate-related Financial Disclosures Report

Posted October 22, 2020



A Message from Our CEO

We are in the energy transportation and storage business. Today, that means helping customers by providing safe, reliable natural gas, liquids products, and bulk commodity transportation and storage services, while creating long-term value for our stockholders. We are committed to serving our investors, our colleagues, our customers, and our neighbors to improve lives and create a better world.

Operating critical energy infrastructure is a great responsibility. That is why we invest heavily in asset integrity management, maintenance, and environmental programs to protect our assets, our employees, the public, and the environment.

Demonstrating our Resilience

2020 has been a year for the history books. We experienced an economic shock in oil markets and a global pandemic, while witnessing civil unrest. These events reminded us that, as with our collective response to the effects of climate change, we must all do our part to make things better. The effects of these events have also demonstrated on a large scale the importance of resilience, contingency planning, and community.

We have long viewed our disaster preparedness, business continuity planning, and focus on health and safety as competitive advantages. Since 2006, we have had a Pandemic Preparedness Committee and Pandemic Preparedness Guide to plan, prepare, reduce and mitigate risk, and minimize impacts to workers and critical business functions. During this pandemic, our priorities have been the health and safety of our workers and their families while maintaining the safe and reliable physical and commercial operation of our assets. While we have faced unprecedented challenges due to global events, our response has shown the best in our people and brought us closer as an organization.

Our performance during this difficult period reflects our ability to adapt to challenges and trends and is indicative of how we can perform over the long term as we adapt to other challenges, such as climate change, and societal trends. We are applying what we have learned to make us even stronger and more resilient.

Protecting the Environment

Being in the energy business means responding to environmental concerns and being actively involved in finding solutions to climate-related problems. Over the last year, we have continued to work to reduce our emissions footprint by making enhancements to our operations and business practices. We have also continued to improve our community relations and biodiversity programs. The Elizabeth River Project is a great example of one of our biodiversity initiatives. It was awarded the National Best Restored Shore Award by The American Shore and Beach Preservation Association.



The Elizabeth River Project before and after.

Land and habitat preservation is a key component of our construction plans, both when designing a new route for a pipeline project and when performing maintenance on facilities that have been in service for many years. To manage environmental matters across our assets, we maintain policies and procedures, continually evaluate the regulatory landscape, and look for opportunities to improve. Through our internal monthly regulatory update and verification program, we identify, assess, and manage compliance with changing regulatory requirements.

Engaging with Communities

Our neighbors, local governments, and communities in which we operate play an important role in how we conduct our business. Our project guidelines are designed to identify project stakeholders, determine their needs and expectations, and then work with them to meet those needs and expectations while advancing project objectives. We actively work to build trust and foster collaboration among our stakeholders.

Investing in Communities

To further reaffirm our commitment to making the places in which we live and work even better, we continue to seek opportunities for our employees to get involved in community programs. For example:

- We teamed up with five United Way COVID-19 Relief Funds and donated \$250,000 to help provide resources to areas heavily impacted by the pandemic.
- In 2019, Houston-area employees volunteered their time to a variety of organizations including Habitat for Humanity, Target Hunger, and the American Diabetes Association.
- The Kinder Morgan Foundation donated funds to the Greater Houston Community Foundation to support recovery efforts for our colleagues affected by Hurricane Florence in 2018 and Tropical Storm Imelda in 2019.

Investing in our People

We consider employee diversity an asset and have committed to creating a safe, respectful, inclusive workplace where our diverse, multi-generational workforce has the tools needed to succeed. Our compensation program is linked to long and short-term strategic financial and operational objectives, including environmental, safety, and compliance targets.

Making a Difference for the Future

We believe that natural gas will be part of the solution for reducing the world's greenhouse gas emissions, as it has in the U.S.. Natural gas is playing a significant role in providing cleaner, reliable, non-intermittent energy to the world. We are proud to be part of the effort to reduce greenhouse gas emissions by delivering natural gas - a lower-carbon fuel for electricity generation and an excellent complement to renewable energy sources. For more than 25 years,



we have been finding ways to reduce methane emissions from our natural gas transportation and storage assets. In 2016, we set a goal of achieving an intensity target of 0.31% of methane emissions per unit of throughput by 2025 for our natural gas transmission and storage assets. Over the last three years our analysis shows that we were able to achieve a methane emission intensity rate for these operations of 0.04%, 0.02%, and 0.03%, respectively, surpassing our 0.31% target years ahead of schedule, and have avoided more than six million metric tons of CO₂e emissions through our emissions reduction activities.

We have increased our focus on reducing GHG emissions from our operations, identifying and implementing multiple emission reduction projects. Some examples include:

- improving compressor reliability,
- upgrading or replacing equipment,
- limiting flaring by reducing downtime and improving metering,
- optimizing emission control devices, and
- increasing fugitive emission monitoring.

While we believe that natural gas will continue to be a significant contributor for the next several decades, we are investigating energy transition opportunities, such as lower carbon fuels and carbon sequestration technologies.

Thank you for taking the time to read our report.

Steve Kean
Chief Executive Officer

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE REPORT

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Cautionary Note and Forward-Looking Statements

References to policies and procedures in our Report do not represent guarantees or promises about their efficacy, or any assurance that such measures will apply in every case, as there may be exigent circumstances, factors, or considerations that may cause implementation of other measures or exceptions in specific instances. This report includes forward-looking statements within the meaning of applicable securities laws, including the U.S. Private Securities Litigation Reform Act of 1995 and Section 21E of the Securities and Exchange Act of 1934. Please see the “*Important Information about Policies, Procedures, Practices, and Forward-Looking Statements*” for additional information.

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE REPORT

Glossary

Company Abbreviations

KMI	= Kinder Morgan, Inc., its operated subsidiaries, and its operated investees	TMPL	= Trans Mountain pipeline system
KML	= Kinder Morgan Canada Limited, and its operated subsidiaries, and its operated investees		

Unless the context otherwise requires, references to “KMI,” “Kinder Morgan,” “we,” “us,” “our,” or “the Company” are intended to mean Kinder Morgan, Inc., and its operated subsidiaries, including its consolidated subsidiary, KML, and operated investees. All dollar amounts in U.S. dollars. Where applicable, values have been rounded to the nearest whole number.

Common Industry and Other Terms

°C	= degrees Celsius	CFR	= Code of Federal Regulations
ACC	= American Chemistry Council	CGA	= Common Ground Alliance
AED	= automated external defibrillator	CH ₄	= methane
AOPL	= Association of Oil Pipe Lines	CO ₂	= carbon dioxide
API	= American Petroleum Institute	CO ₂ e	= carbon dioxide equivalent
ARPA-E	= U.S. Advanced Research Projects Agency-Energy	COO	= Chief Operating Officer
ASEA	= National Agency for Safety, Energy and Environment of Mexico	COVID-19	= Coronavirus Disease 2019, a widespread contagious disease, or the related pandemic declared and resulting worldwide economic downturn
Bbl	= barrel	DOE	= U.S. Department of Energy
BBtu/d	= billion British thermal units per day	DOT	= U.S. Department of Transportation
Bcf/d	= billion cubic feet per day	DRA	= drag reducing agent
BLS	= U.S. Bureau of Labor Statistics	EBDA	= earnings before depreciation and amortization
Bn-bbl	= billion barrel	EBITDA	= earnings before interest, income taxes, depreciation, depletion and amortization expenses, including amortization of excess cost of equity investments
BOE	= barrel of oil equivalent	ECCC	= Environment and Climate Change Canada
CAO	= Chief Administrative Officer	EDGAR	= Electronic Data Gathering, Analysis, and Retrieval
CCATF	= Climate Change Adaption Task Force	EHS	= environmental, health, and safety
CCUS	= carbon capture, utilization, and storage	EIA	= U.S. Energy Information Administration
CEO	= Chief Executive Officer	EOR	= enhanced oil recovery
CER	= Canadian Energy Regulator	EPA	= U.S. Environmental Protection Agency
CFO	= Chief Financial Officer	ESG	= environmental, social, and governance

Common Industry and Other Terms (continued)

EV	= electric vehicle	MMBbl	= million barrels
FERC	= U.S. Federal Energy Regulatory Commission	MMBbl/d	= million barrels per day
FRA	= U.S. Federal Railroad Association	MMBtu	= million British thermal units
GAAP	= Generally accepted accounting principles	MMscf/d	= million standard cubic feet per day
GDP	= gross domestic product	MMton	= million tons
GHG	= Greenhouse Gas	MWh	= megawatt-hours
GHGRP	= Greenhouse Gas Reporting Program	N ₂ O	= nitrous oxide
GIS	= Geographical Information System	NETL	= U.S. National Energy Technology Laboratory
GRI	= Global Reporting Initiative	NGA	= U.S. Natural Gas Act
GW	= gigawatts	NGL	= natural gas liquids
GWh	= gigawatt-hours	NGOs	= non-government organizations
GWP	= global warming potential	NO _x	= nitrogen oxides
HR	= Human Resources	OGI	= optical gas imaging
IAB	= Industrial Advisory Board	OMS	= Operations Management System
ICA	= U.S. Interstate Commerce Act	ONE	= Our Nation's Energy
IEA	= International Energy Agency	OSHA	= U.S. Occupational Safety & Health Administration
ILI	= in-line inspection	PHMSA	= U.S. Pipeline and Hazardous Materials Safety Administration
IMP	= integrity management program	PM ₁₀	= particulate matter 10 micrometers or less in diameter
INGAA	= Interstate Natural Gas Association of America	PRCI	= Pipeline Research Council International, Inc.
IPCC	= United Nations Intergovernmental Panel on Climate Change	PV	= photovoltaic
ISAE	= International Standard of Assurance Engagements	RCP	= Representative Concentration Pathway
ISO	= International Organization for Standardization	RNG	= renewable natural gas
IT	= Information Technology	SASB	= Sustainability Accounting Standards Board
KMAP [™]	= Kinder Morgan Assessment Protocol [™]	SCADA	= Supervisory Control and Data Acquisition
LDAR	= leak detection and repair	Scf	= standard cubic feet
LED	= light-emitting diode	SDGs	= United Nations Sustainable Development Goals
LEED	= Leadership in Energy and Environmental Design	SEC	= U.S. Securities and Exchange Commission
LMS	= Learning Management System	SIM [®]	= Safety In Motion [®]
LNG	= liquefied natural gas	SO _x	= sulfur oxides
LTIR	= lost time incident rate	SUV	= sport utility vehicle
MBbl/d	= thousand barrels per day	TCFD	= Task Force on Climate-related Financial Disclosures

Common Industry and Other Terms (continued)

TRIR	= total recordable incident rate	VPP	= Voluntary Protection Program
U.S.	= United States of America	WDPA	= World Database on Protected Areas
USCG	= U.S. Coast Guard	WEM	= World Energy Model
USFWS	= U.S. Fish and Wildlife Service	WEO	= World Energy Outlook
VOCs	= volatile organic compounds		

Part 1 - Sustainability Report

1.0 Introduction

(SASB Midstream EM-MD-110a.2, SASB Exploration & Production EM-EP-110a.3, SASB Rail Transportation TR-RA-110a.2, SASB Marine Transportation TR-MT-110a.2, GRI 102-18, GRI 102-20, GRI 102-32, GRI 102-46, GRI 102-50, GRI 102-52, CDP C1.1b, CDP C1.2, CDP C1.2a)

Our ESG Strategy

Our overall vision is to deliver energy to improve lives and create a better world. We do this by pursuing our mission to provide energy transportation and storage services in a safe, efficient, and environmentally responsible manner for the benefit of people, communities, and businesses. Our ESG strategy is consistent with our vision and mission.

Environmental

While delivering the secure energy the world needs, we also pursue opportunities that benefit the global effort to address climate change. Specifically, we are expanding our natural gas transmission business, and in turn making access to consistently reliable, lower carbon energy more feasible, while continuing to focus on and lead our industry in reducing methane and GHG emissions from our operations. Additionally, we are actively seeking energy transition opportunities. We work to minimize environmental impacts from our operations and potential expansion projects. For example, we employ a variety of strategies to minimize our operating assets' impact on areas such as sensitive habitats and conservation areas for threatened or endangered species, water bodies, and wetlands.

Social

It is important that we build and maintain healthy relationships with our employees, contractors, suppliers, and other stakeholders throughout the communities in which we operate and have expansion projects. We work to attract, develop, and retain diverse talent and support our employees' career and development goals through workforce training, tuition reimbursement, and other development programs. We actively look for opportunities for our employees to get involved in community programs and strengthen their relationships with our stakeholders. Our consultants, contractors, suppliers, vendors and business partners are expected to adhere to standards of conduct consistent with our Code of Business Conduct and Ethics when conducting company-related business activities. We recognize that it is important to identify project stakeholders, determine their needs and expectations, and then monitor and work with them to meet those needs and/or expectations as appropriate before, during and after project completion.

Governance

Our Board of Directors (Board) oversees our risks and opportunities through the recurring meetings of the Board and its committees. Likewise, our management team convenes a series of regularly scheduled meetings to engage our CEO, President, COO, business segment presidents, corporate function heads, and subject matter personnel on day-to-day issues related to our business. We use these meetings to continually monitor our progress and performance and to identify, evaluate, and address risks and opportunities, including, where appropriate, climate-related risks and opportunities.

Oversight of ESG Reporting

We regularly report our performance against ESG-related environmental and safety metrics to our Board and to our investors. Certain ESG metrics are included in performance criteria used to determine incentive compensation for our employees, including executives. The environmental metrics include an incentive to minimize natural gas and CO₂ releases from our operations. Minimizing natural gas releases and the associated methane emissions helps us meet our GHG targets. Our GHG targets and performance against those targets are described in greater detail in *Section 3.4.3 GHG Targets* of the *Sustainability Report*.

In addition to our corporate and business segment EHS leadership teams and departments, our EHS leadership includes a standing EHS Committee of our Board. The EHS Committee's charter is available on our website at https://www.kindermorgan.com/WWK/Media/Documents/Governance/KMI_EHS_COMMITTEE-CHARTER.pdf. This committee assists our Board in overseeing management's establishment and administration of our EHS policies, programs, procedures, and initiatives. Each of these items helps promote the health and safety of our employees, contractors, customers, the public, and the environment.

Our Board has delegated the review and approval of our Report to its EHS Committee. Our Report has also been reviewed by and received input from each business segment and our ESG Disclosure Committee, which consists of our:

- CEO,
- President,
- COO
- CFO,
- CAO,
- Business Segment Presidents,
- General Counsel,
- Corporate Secretary,
- Treasurer and Vice President of Investor Relations, and
- Vice President of Corporate EHS.

Our Report

We refer to the SASB portion of our Report as our "Sustainability Report" and the TCFD portion as our "TCFD Report." We refer to our Sustainability Report together with our TCFD Report as our "Report." We have posted additional ESG disclosures, including case studies, policies, and a summary spreadsheet of sustainability policies and metrics on our ESG/Sustainability webpage at: <https://www.kindermorgan.com/Safety-Environment/ESG>. These additional disclosures are not part our Report and are not incorporated by reference herein.

In this Report, we use SASB's October 2018 final standards and primarily include metrics from the SASB Extractives & Minerals Processing Sector Oil & Gas - Midstream Standard (EM-MD, Version 2018-10) as well as from the TCFD. In 2019, there were no pronouncements for changes to the SASB standards used in this Report.

We chose the SASB framework and standards based on investor and lender feedback and because SASB focuses on material disclosures of industry-specific ESG topics. Our Sustainability Report also includes metrics from other SASB standards, including:

- Extractives & Minerals Processing Sector Oil & Gas - Exploration & Production Standard (EM-EP, Version 2018-10),

- Transportation Sector - Marine Transportation Standard (TR-MT, Version 2018-10), and
- Transportation Sector - Rail Transportation Standard (TR-RA, Version 2018-10).

We incorporate metrics from CDP, GRI, and other SASB sectors that are applicable to our business. We use third-party guidance in developing our Report including:

- *The Ceres Roadmap for Sustainability*, and
- Investor-published guidance on engagement priorities.

We reference the activities where our business contributes to SDGs. The United Nations General Assembly has adopted 17 SDGs to set a global agenda for equitable, socially inclusive, and environmentally sustainable economic development. Our mission contributes directly to:

- Goal 3: ensure healthy lives and promote well-being for all at all ages;
- Goal 7: ensure access to affordable, reliable, sustainable, and modern energy for all; and
- Goal 13: take urgent action to combat climate change and its impacts.

In addition, many of our business and community investment activities support other SDGs such as those relating to:

- Goal 8: decent work and economic growth;
- Goal 9: industry, infrastructure, and innovation;
- Goal 14: life below water; and
- Goal 15: life on land.

New to our Report

In our Report, we have added several new metrics, included more detailed discussion and analysis, increased cross-referencing, reduced repetitive text, and expanded the assessment of our business strategy to include both 1.5-2 °C and 4 °C scenarios.

Description of Appendices

In *Appendix A – ESG Disclosure Topics & Accounting Metrics*, we summarize the ESG metrics included throughout the Report.

In *Appendix B – Activity Metrics*, we include a set of metrics that quantify the scale of our business. These activity metrics are intended to allow users of our Report to normalize data and facilitate comparisons in conjunction with the sustainability accounting metrics.

In *Appendix C – ESG Content Index*, we include a cross-reference table of ESG topics covered within our Report and other Kinder Morgan published documents, including our Annual Report on Form 10-K for the year ended December 31, 2019 (2019 Form 10-K) and 2020 Proxy Statement per Section 14(a) to the Securities and Exchange Act of 1934, to the corresponding SASB Sustainable Industry Classification System™ code, GRI disclosure code, CDP question number, and SDGs target. This cross-reference table also includes the relevant page number of the Report and other Kinder Morgan published documents.

In *Appendix D – Third-Party Assurance Statement*, we include the PricewaterhouseCoopers LLP, an independent registered public accounting firm, Report of Independent Accountants for our Report, which provides limited assurance for specific metrics reported for 2019. This assurance follows the standards of the American Institute of Certified Public Accountants AT-C section 210 and the European ISAE 3000.

2.0 Overview of Business

(GRI 102-2, GRI 102-4, GRI 102-5, GRI 102-6, GRI 203-1)

We are one of the largest energy infrastructure companies in North America. We own an interest in or operate approximately 83,000 miles of pipelines, 23 natural gas storage facilities, and 147 terminals. We are committed to doing business the right way, every day. To meet this commitment, our employees and representatives must act in accordance with our core values of:

- integrity,
- accountability,
- safety, and
- excellence.

We have four business segments:

- Natural Gas Pipelines,
- Products Pipelines,
- Terminals, and
- CO₂.

Our pipelines transport:

- natural gas,
- refined petroleum products,
- crude oil,
- condensate,
- CO₂,
- biofuels, and
- other products.

Pipelines are the safest, most efficient, and least costly method of transporting natural gas and petroleum products compared to other modes of transportation such as rail, barge, and truck.^{1,2,3,4} The industry's safety performance in recent years has improved significantly and the total number of incidents and incidents impacting people or the environment are becoming less frequent.⁵

Our terminals store and handle commodities including:

- gasoline,
- distillate,
- crude oil,

¹ DOT-PHMSA. "General Pipeline FAQs." DOT-PHMSA. 23 Aug. 2019. 2020. <<https://www.phmsa.dot.gov/faqs/general-pipeline-faqs>>.

² Furchtgott-Roth, Diana. "Pipelines are Safest for Transportation of Oil and Gas." Manhattan Institute for Policy Research. June 2013. 2020. <https://www.manhattan-institute.org/pdf/ib_23.pdf>.

³ Hughes, Charles. "The Energy Bottleneck: Why America needs more pipelines." Manhattan Institute for Policy Research. July 2017: 9-12. 2020. <<https://www.manhattan-institute.org/download/10472/article.pdf>>.

⁴ INGAA. "Pipeline Safety & Reliability: Safety and Reliability Metrics." INGAA. 2020. <<https://www.ingaa.org/File.aspx?id=28478&v=6dac677e>>.

⁵ API-AOPL. "2019 Pipeline Safety Excellence Performance: Performance Report & 2020-2022 Strategic Plan." API-AOPL. 13 May 2020: 37-42. 2020. <<https://www.api.org/~media/APIWebsite/oil-and-natural-gas/primers/2019%20Pipeline%20Safety%20Excellence%20Performance%20Report%20an%202020-2022%20Strategic%20Plan.pdf>>.

- chemicals,
- petroleum coke, and
- other products.

We are also a leading provider of CO₂ for use by ourselves and others in EOR projects, primarily in the Permian Basin.

On August 31, 2018, KML, our then publicly traded Canadian subsidiary, completed the sale of the TMPL, the Trans Mountain expansion project, the Puget Sound pipeline system, and Kinder Morgan Canada Inc. to the Government of Canada. On December 16, 2019, we closed on two cross-conditional transactions resulting in the sale of the U.S. portion of the Cochin Pipeline and all the outstanding equity of KML, including our 70% equity interest, to Pembina Pipeline Corporation. The assets sold were part of our Natural Gas Pipelines and Terminals business segments. Although the Cochin and Jet Fuel Pipelines were owned by our Natural Gas Pipelines business segment, they were operated by our Products Pipelines business segment.

Our common stock trades on the New York Stock Exchange under the ticker symbol “KMI.” For more information about us, please see our 2019 Form 10-K, which can be found at: <https://www.sec.gov/ix?doc=/Archives/edgar/data/1506307/000150630720000022/kmi-2019x10k.htm>

2.1 Code of Business Conduct and Ethics

Our Code of Business Conduct and Ethics establishes the high standard of ethical conduct that our employees and representatives are expected to meet and outlines how everyday behavior should align with our core values. We train each of our employees, including management, annually on our Code of Business Conduct and Ethics, including training on anti-corruption and human rights. The training explicitly promotes an open feedback culture. We maintain programs to prevent and detect potential violations. We also distribute an annual Code of Business Conduct and Ethics questionnaire, to both employees and contractors, which provides an opportunity to report violations. Ultimately, our Board’s Audit Committee has responsibility for the:

- oversight of the implementation and administration of the Code of Business Conduct and Ethics;
- review and assessment, at least annually, of the effectiveness of the Code of Business Conduct and Ethics; and
- recommendation to the Board of suggested changes to the Code of Business Conduct and Ethics.

We encourage employees to speak up, seek guidance, and report issues or concerns through appropriate channels. In the event anyone witnesses or learns of an incident that may involve an ethics, compliance, or human rights violation, they can report it to the Kinder Morgan Ethics Hotline, a third-party platform. Our ethics hotline allows reports to be made confidentially and anonymously. Reported concerns are evaluated and investigated, as appropriate, by our Internal Audit, HR, EHS, and/or Legal Departments. For more information, see our Code of Business Conduct and Ethics at https://www.kindermorgan.com/WWKM/media/Documents/Governance/KM_Code_of_Business_Conduct_and_Ethics.pdf.

2.2 Management System

Managing our Operational Impacts

We maintain an operations audit program that monitors, among other things, our environmental and safety practices. Our operating facilities are audited every three to five years, depending upon the nature of the

facility. Audits are performed by qualified external or internal personnel not involved in the operations being audited. The audit results are used to develop and implement corrective measures where warranted.

We internally report incidents, including both accidents and near misses, and document incident investigation findings and corrective actions taken. Our incident management system provides us with the capability to:

- gather incident data,
- analyze causes,
- track actions and deadlines,
- identify trends, and
- identify and share preventive actions.

Our incident reporting system serves as an analysis and prevention tool. Our weekly senior management meetings include discussions of notable incidents including injuries, vehicle accidents, third-party encroachments onto our right-of-way, releases, and near misses that may have occurred during the previous week.

Management System Overview

We value the safety of our workforce and integrate a culture of safety, emergency preparedness, and environmental responsibility through our OMS. Our OMS conforms to *API Recommended Practice 1173 for Pipeline Safety Management Systems* and establishes a framework that helps us:

- provide employees and contractors with a safe work environment;
- comply with laws, rules, regulations, policies, and procedures; and
- identify opportunities to improve.

Specifically, our OMS provides a detailed road map to build and sustain a robust safety and environmentally sustainable culture based around:

- leadership and management commitment;
- risk and opportunity management;
- operational controls;
- incident investigation, evaluation, and lessons learned;
- safety assurance;
- emergency management;
- stakeholder engagement;
- management review; and
- continuous improvement.

The main components of our OMS include:

- setting forth goals and policies for our physical operations;
- describing our approach to sound operations;
- setting forth the roles and responsibilities for conducting sound operations;
- establishing a set of processes to be followed in our operations;
- incorporating our EHS requirements; and
- providing for audits, assessment, and periodic changes to improve and maintain compliance with the OMS.

Employees receive annual training on the OMS and we routinely evaluate and drive improvements in each business segment's implementation of the OMS.

We are constantly looking for opportunities to improve our business. Our employees are expected to help us meet our goals and expectations by:

- following and improving our policies and procedures,
- complying with laws and regulations,
- identifying opportunities for improvement,
- operating our assets safely, and
- identifying and addressing risks to people and the environment.

We strive to be a good neighbor and contribute to sustainable development through our systematic approach to EHS management. This approach supports our ability to:

- comply with laws and regulations;
- train employees to be aware of and meet their responsibilities for protection of the environment, health, and safety; and
- achieve continuous performance improvement.

As part of our OMS, our employees are encouraged to improve and build upon our established safety culture by sharing information on incidents, completing training, and participating in periodic safety culture surveys. Our employees are empowered to perform their work in a safe and effective manner, taking into account the safety-related components of each job. Our employees and contractors have the power to stop work if an activity is not well understood or could lead to potential harm, and we regularly communicate that they have that authority.

Incident Management

Our policies and procedures require the internal reporting of incidents and investigation of significant incidents. Incident reporting and investigation includes identifying incident details, impacts, causes, and corrective actions. We use the incident investigation process to identify immediate and/or root causes that contributed to the incident, determine the necessary corrective actions, and verify that corrective actions have been completed. We share lessons learned and evolving best practices within and across our business segments in regular operations meetings.

As a way to both monitor and maintain progress toward our safety goal, we have developed policies, procedures, and processes to record, report, and manage work-related injuries and illnesses. Our employees and contractors are required to report and document workplace incidents, including illnesses and injuries. These safety performance metrics are used across the organization to analyze causes, identify trends, establish preventative actions, and ultimately help keep our people and the public safe.

Our senior management plays a vital role in establishing a strong safety culture and they value the insights gained from our safety performance metrics relative to targets and our incident investigations. Weekly senior management meetings, chaired by our CEO, include reports and discussions of notable workplace incidents and near misses that may have occurred during the previous week. Our senior management has established detailed safety performance metrics at the business segment level to focus performance on factors related to both safety and operational reliability. We also have an employee committee of operations and EHS personnel who meet monthly to share information about incidents and related improvements. This committee reviews incidents and applies insights learned across our business segment operations. As needed, management has discussions with worker representatives about health and safety.

Lessons Learned

Sharing lessons learned is an integral part of our OMS and reinforces our commitment to performance improvement. We invest organizational effort into gathering the right information from incidents and applying that information to manage risk. The timeliness of sharing information and tracking corrections demonstrates that risk management is a top priority and complacency about risk is unacceptable. Sharing lessons learned helps our employees understand the importance of learning and continuous improvement. Equally important is that everyone understands that sharing and voicing concerns is not only encouraged, but is considered a responsibility. Lessons learned processes contribute to an environment in which employees and contractors are comfortable identifying and speaking up about risk. Our lessons learned processes help emphasize the urgency of communicating risk information up, down, and across the organization.

Asset Integrity Management

We use a robust IMP for most of our pipelines that incorporates integrity assessment measures including those to:

- identify, analyze, and prioritize potential threats to our pipelines, including incorporating actual and potential precursor events that can result in pipeline incidents;
- use a comprehensive and integrated means for examining, prioritizing, and comparing the spectrum of risks and risk reduction activities available;
- implement structured and easily communicated means for selecting and implementing risk reduction activities including integrity assessments, remediation, and preventive measures;
- track system performance with the goal of improving performance; and
- communicate emerging needs and new technology application opportunities to top management to provide timely resource allocation.

We conduct pipeline inspections using various methods including:

- ILIs,
- non-destructive testing,
- aboveground surveys,
- hydrostatic pressure tests, and
- direct assessments.

These inspections methods help us determine the physical condition of most of our pipelines and gather information to assist us in keeping our pipelines operational and safe. Most of our inspections utilize ILI technology referred to as smart pigs. We prefer to use ILI because it provides more detailed data about corrosion and other material defects.

In our ongoing pursuit of operational excellence, we developed KMAP™, a patented innovative pipeline integrity solution designed to search for flaws in longitudinal welds. KMAP™ is a unique analytical process that provides a more comprehensive and efficient analysis of pipelines than traditional ILI analytical methods. We developed KMAP™ as a proactive solution for conducting more thorough inspections of our pipelines. We have been successfully using this technology since 2011. We also provide KMAP™ as a service to other pipeline companies.

Health, Safety and Emergency Response Training

We use a LMS to provide and track training for our employees. Through the LMS, our employees can take online courses covering technical development, leadership, safety, and corporate policies, including our OMS and Code of Business Conduct and Ethics. In 2019, our employees completed over 192,500 hours of health, safety, and emergency response training through our LMS, with each employee taking an

average of 17 hours of training as described in greater detail in *Section 7.2 Employee and Contractor Safety Statistics and Average Hours of Health, Safety, and Emergency Response Training* of the *Sustainability Report*. This is equivalent to a roughly \$10 million dollar annual investment in training for health, safety, and emergency response.

Our employees receive initial health, safety, and emergency response training and subsequent recurring training, appropriate for their positions, at regular intervals. Our health, safety, and emergency response training program promotes performance improvement and helps us meet our objectives for an informed and knowledgeable workforce.

We provide emergency management training consistent with USCG, EPA, DOT, CER, and ASEA requirements. We also have an extensive pipeline safety operator qualification program.

Environmental Training

We strive to create a culture of excellence throughout our operations by seeking skilled employees and contractors with a high degree of competence in terms of education, training, knowledge, and experience. Through our OMS, employees across the organization are required to take environmental training at regular intervals to meet position-specific needs. Our training program promotes continuous improvement and helps us meet objectives for an informed and knowledgeable workforce.

Environmental training is delivered through a combination of:

- computer-based training through our LMS,
- instructor-led classroom training, and
- hands-on training.

Employees receive position-relevant training on environmental topics including:

- environmental awareness;
- waste management procedures;
- spill control procedures;
- environmental sampling procedures; and
- stormwater runoff handling procedures, such as water treatment.

For more information, see our OMS webpage at <https://www.kindermorgan.com/About-Us/OMS>.

2.2.1 Third-Party Certifications

ACC's Responsible Care[®] Program

Fifteen of our liquids terminals, including our largest, participate in the ACC's Responsible Care[®] Program. Responsible Care[®] is an EHS and security performance initiative that includes a management system framework that drives improvement in key EHS and security operational areas. The program elements include monitoring and reporting our measures for environmental, energy, safety, and accountability performance. As part of the Responsible Care[®] program, we undergo third-party audits of our headquarters and each of the participating facilities once every three years to certify our performance.

OSHA's Voluntary Protection Program (VPP)

Our dedication to workplace health and safety is illustrated at our Lomita Ethanol and Rail Terminal in Carson, California. The Lomita Terminal participates in OSHA's VPP and is a designated Cal/VPP Star site, the highest level in the program.

OSHA's VPP program promotes and recognizes effective workplace safety and health management by partnering with businesses and work sites that demonstrate a commitment to employee protection beyond the requirements of OSHA standards. As a participant, we have developed and implemented systems to effectively identify, evaluate, control, and prevent occupational hazards to avoid employee injuries and illnesses.

3.0 Greenhouse Gas Emissions

3.1 Gross Global Scope 1 and 2 Emissions

(SASB Midstream EM-MD-110a.1, SASB Exploration & Production EM-EP-110a.1, GRI 305-1, CDP C6.1, CDP C6.3, CDP C7.3, CDP C7.6, CDP C7.9, CDP C8.1-8.2f)

We anticipate publicly reporting our company-wide GHG Scope 1 and Scope 2 emissions beginning in 2021. In 2019, our U.S. GHG emissions reporting infrastructure was designed primarily to meet the requirements of the EPA GHGRP, Natural Gas STAR Program, and Methane Challenge Program.

We are developing the additional processes, procedures, information technology systems, personnel, and controls necessary to expand our emissions reporting infrastructure to meet the SASB Midstream Standard. Over the past year, we have made progress in expanding our GHG emissions reporting infrastructure to address additional sources, including:

- implementing systems to calculate emissions from our Scope 1 emission sources,
- completing emission calculations for our fleet vehicle and electricity usage databases, and
- developing procedures for ongoing data collection and compilation.

Before reporting our company-wide GHG emissions publicly in 2021, we plan to conduct pre-assurance readiness testing and assurance using the standards of the American Institute of Certified Public Accountants and the European ISAE 3000 standard.

3.2 KML Gross Global Scope 1 and 2 Emissions, Percentage Methane, Percentage Covered under Emissions-Limiting Regulations

(SASB Midstream EM-MD-110a.1, SASB Exploration & Production EM-EP-110a.1, GRI 305-1, CDP C6.1, CDP C6.3, CDP C7.3, CDP C7.6, CDP C7.9, CDP C8.1-8.2f)

Prior to the December 16, 2019 sale, KMI's Canadian subsidiary, KML had two business segments - Pipelines and Terminals. On August 31, 2018, KML sold its interests in the TMPL and Puget Sound pipeline system.

KML's significantly smaller scale, relative to KMI, made its GHG emissions more readily measurable. KML had the processes, procedures, personnel, and necessary controls to report GHG Scope 1 and Scope 2 emissions, which is why KML's GHG emissions are available to be included in our Report when KMI's are not. KML generated Scope 1 direct GHG emissions from various sources related to its Pipelines and Terminals operations and Scope 2 indirect GHG emissions from electricity consumption. GHG emissions, including methane, are calculated using the methodologies outlined in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*.⁶

⁶ World Resources Institute and World Business Council for Sustainable Development. "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard." [World Resources Institute and World Business Council for Sustainable Development](https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf). Mar. 2004. 2020. <<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>>.

KML's gross global Scope 1 and Scope 2 GHG emissions are provided below and include emissions for the periods prior to the respective sales of TMPL and the Puget Sound pipeline system, and KML.

	Year Ended December 31		
	2017	2018	2019
	(In thousand metric tons of CO ₂ e, except percentages and emission intensity)		
KML gross global Scope 1 emissions(a) (by business segment)			
Pipelines	0	0	0
Terminals	16	16	10
TMPL and Puget Sound pipeline system	6	6	—
Total KML gross global Scope 1 emissions	<u>22</u>	<u>22</u>	<u>10</u>
KML gross global Scope 1 emissions(a) (by type of emission)			
Flared Hydrocarbons	0	0	0
Other Combustion(b)	21	21	10
Process Emissions	0	0	0
Other Vented Emissions	1	1	0
Fugitive Emissions from Operations	0	0	0
Percentage covered under emissions-limiting regulations	0%	0%	0%
Percentage methane	4%	3%	1%
KML gross global Scope 2 emissions(a)(c) (by business segment)			
Pipelines	70	59	60
Terminals	10	9	11
TMPL and Puget Sound pipeline system	115	90	0
Total KML gross global Scope 2 emissions	<u>195</u>	<u>158</u>	<u>71</u>
KML combined gross global Scope 1 and 2 emissions(c)	<u>217</u>	<u>180</u>	<u>81</u>
KML Scope 1 emission intensity per BOE throughput (metric tons CO ₂ e per BOE throughput)(d)	<u>0.0001</u>	<u>0.0001</u>	<u>0.0001</u>

- (a) GHG emissions were quantified per the SASB Midstream Standard and the ISO 14064-1:2006, Greenhouse gases - Part 1: Specification with guidance at the organization level for the quantification and reporting of greenhouse gas emissions and removals. Annual emissions are reported for CO₂, CH₄, and N₂O from direct and indirect sources. The IPCC Fifth Assessment Report (2013) GWPs were used to convert CH₄ and N₂O emissions to equivalent emissions of CO₂ (CO₂e). A GWP of 28 was used for CH₄. A GWP of 265 was used for N₂O. Gross emissions are GHGs emitted to the atmosphere before accounting for GHG reduction activities, offsets, or other adjustments for activities in the reporting period that have reduced or compensated for emissions.
- (b) Emission source types included combustion from equipment, such as stationary and fleet vehicle engines, generators, process heaters, and other industrial equipment; combustion from assist gas from vapor control units for vapor displaced from tankers and rail cars during loading; venting from storage tanks and pipeline pigging operations; and fugitive emissions.
- (c) Scope 2 emissions were calculated using a location-based method.
- (d) The Scope 1 emission intensity metric normalizes total Scope 1 methane emissions to annual throughput. Annual throughput information was converted to BOE using product heat content to provide a common denominator. Heat content used are in MMBtu per barrel: natural gasoline/condensate - 4.62, propane - 3.836, diesel fuel - 5.838, jet fuel - 5.67, and ethanol - 3.259. The conversion calculation to BOE is barrels of product multiplied by the product heat content in MMBtu per barrel of product divided by 5.8 MMBtu per barrel of oil.

A third party provided limited assurance of KML's 2018 and 2019 emissions inventory. The third-party assurance statement for 2019 is included in *Appendix D – Third-Party Assurance Statement*. A third party

verified the 2017 KML emissions inventory following the ISO 14064-3: Greenhouse Gases - Specification with guidance for the validation and verification of greenhouse gas assertions standard. Prior years' assurance and verification statements are included in prior ESG Reports posted on our ESG/Sustainability webpage at: <https://www.kindermorgan.com/Safety-Environment/ESG-Reports>.

3.3 Strategy to Manage Cross Global Scope 1 and 2 Emissions

(SASB Midstream EM-MD-110a.2, SASB Exploration & Production EM-EP-110a.3, SASB Rail Transportation TR-RA-110a.2, SASB Marine Transportation TR-MT-110a.2, GRI 102-26, GRI 305-2, GRI 305-5, CDP C1.1b, CDP C3.1)

We own or operate an interest in approximately 70,000 miles of natural gas pipelines that transport approximately 40% of the natural gas consumed domestically. Accordingly, we have been an important part of the transition from coal-fired to natural gas-fired electricity generation; a transition that has benefited the environment. When burned, natural gas emits virtually no SO_x, particulate matter, or mercury; approximately half as much CO₂; and one-fifth as much carbon monoxide and NO_x as compared to coal.^{7,8} These lowered emissions from natural gas-fired plants have contributed to the recent significant drop in U.S. CO₂ emissions. Lower SO_x emissions also significantly reduce acid rain formation.

Natural gas-fired power plants are also an important component of the continued expansion of renewable energy. They provide a reliable source of electricity to back up intermittent renewable sources such as solar and wind. This interconnected electricity generation network helps to further reduce CO₂ emissions.

A recent Environmental Defense Fund report presented its analysis of methods for assessing methane emissions from the U.S. oil and gas supply chain.⁹ This report recognized both the long-term climate advantages of using natural gas in electricity generation and the feasibility of achieving significant emission reductions by addressing fugitive emissions. Significant fugitive emission reductions are possible through broader adoption of emission measurement and reduction best practices and technologies. While several energy companies have made recent headlines for publicly pledging to slash methane emissions from their operations, we have been focused on and committed to methane emission reductions in our operations for several decades. Our commitment and the actions we have taken are described in greater detail in *Section 3.3.1 GHG Emission Reduction Efforts* of the *Sustainability Report*.

3.3.1 GHG Emission Reduction Efforts *(GRI 102-12)*

We support domestic and international efforts to mitigate climate change. Some of our efforts to reduce methane and other GHG emissions are described below.

3.3.1.1 Methane Emission Reduction Commitment *(GRI 102-13)*

We recognize that methane emissions associated with the production, transportation, storage, and distribution of natural gas should be minimized so that those emissions do not diminish the climate advantage of natural gas over other fuels. We have an economic incentive to minimize methane emissions

⁷ EIA. "How much carbon dioxide is produced when different fuels are burned?" EIA. 4 June 2019. 2020. <<https://www.eia.gov/tools/faqs/faq.php?id=73&t=11>>.

⁸ EIA. "Natural Gas Issues and Trends: Table 2." EIA. 1998: 58.

⁹ R. A. Alvarez et al. "Assessment of methane emissions from the U.S. oil and gas supply chain." Science. 361 (2018): 186-188.

because pipeline quality natural gas has a methane content of approximately 95%. Minimizing our methane emissions maximizes the amount of natural gas kept in our pipelines and delivered to our customers. We support performance-based federal regulations and intend to continue to manage and minimize methane emissions in our operations as we have for more than 25 years. Since 1993, we have implemented initiatives that have resulted in over 120 Bcf of methane reductions.

We continue to apply methane emission reduction strategies and report voluntary methane emission reductions as part of EPA's Natural Gas STAR and Methane Challenge programs and through the ONE Future Coalition.

EPA's Natural Gas STAR Program

For over a quarter of a century, we have voluntarily participated in the EPA's Natural Gas STAR Program to implement initiatives to reduce our methane emissions. Our reductions have contributed to the overall U.S. methane emission reductions from natural gas systems of approximately 24% from 1990 to 2018, while natural gas production has increased 71% over the same period.^{10,11} These results reflect both the environmental benefit of minimizing and preventing methane emissions, and the economic incentive to keep natural gas in our pipelines and storage facilities.

EPA's Natural Gas STAR Methane Challenge Program

We are a partner in the EPA Natural Gas STAR Methane Challenge Program. This program builds upon the Natural Gas STAR Program and provides U.S. oil and gas companies with a flexible way to make specific and transparent commitments to implement methane emission reductions from their operations. We are participating in the Methane Challenge Program under the ONE Future Emission Intensity Commitment Option for our natural gas transmission and storage assets.

ONE Future - Founding Member

ONE Future is a coalition of members across the natural gas value chain focused on identifying policy and technical solutions for reducing the methane emissions associated with natural gas:

- production,
- gathering,
- processing,
- transmission,
- storage, and
- distribution.

ONE Future's members include some of the largest natural gas companies in the U.S. These ONE Future companies account for approximately 13% of total natural gas production, 39% of natural gas transmission miles, and 15% of the total U.S. natural gas delivered by local natural gas distribution companies.¹²

ONE Future members aspire to enhance the energy delivery efficiency of natural gas by:

- limiting energy waste, and
- achieving a cumulative methane emission intensity target (i.e. "leakage" rate) for member

¹⁰ EPA. "Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2018." EPA. 13 Apr. 2020: 43. 2020. <<https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf>>.

¹¹ EIA. "U.S. Dry Natural Gas Production." EIA. 2020. Apr. 2020. <<https://www.eia.gov/dnav/ng/hist/n9070us2A.htm>>.

¹² "ONE Future 2018 Methane Emission Intensities: Progress Report." 4 Nov. 2019. ONE Future Coalition. May 2020. <<https://onefuture.us/wp-content/uploads/2019/11/ONE-Future-2018-Final-Report-LN.pdf>>.

companies of 1% or less of total natural gas production across the natural gas value chain by 2025.

To put the 1% methane emission intensity target in context, the natural gas supply chain's actual methane emission intensity is estimated to range from 1.6% to 2.3% of total natural gas production.^{13,14} In order to meet the ONE Future 1% target, the natural gas industry would require an additional 38% to 57% reduction in methane emissions across the supply chain.

In November 2018, the first ONE Future Methane Emission Intensity Report was released. The results showed a methane intensity rate across member companies of 0.6% for 2017. In November 2019, the 2018 Methane Emission Intensity Report was released and showed a methane intensity rate of 0.326% for year 2018. These results surpassed the methane intensity goal of 1.0% by year 2025.¹⁵

The ONE Future Emission Intensity Commitment is intended to drive actions to achieve segment-specific methane emission reduction targets established by the ONE Future Coalition. To meet these targets, we have committed to reduce methane emissions while maintaining pipeline integrity and safety and minimizing customer impacts. Our targets and performance can be found in *Section 3.4.3 GHG Targets of the Sustainability Report*.

As a founding member of ONE Future, we have taken a leadership role working with the EPA to identify the most effective means of implementing methane emission reductions at natural gas transmission and storage operations.

Methane Reduction Strategies

We intend to continue meeting our emission reduction targets by implementing a variety of methane reducing strategies including:

- improving our methane management approach by providing training to our operations personnel and communicating policies and procedures detailing program requirements;
- performing maintenance and repairs on component leaks, where feasible, found through annual methane leak surveys;
- continuing to consider voluntary increases in the number of leak surveys;
- replacing gas engines and turbines as well as electric motor installations, where practical;
- minimizing methane emissions from transmission pipeline blowdowns, where feasible, by using pipeline pump downs and using sleeves and composite wraps to avoid pipeline blowdowns;
- implementing advanced methane emission reduction technologies and work practices such as satellite and aerial methane detection as well as laser absorption monitoring;
- collaborating with customers, peers, and regulators to assess new methods to reduce emissions; and
- looking for new ways to reduce emissions.

For an example of how we implement our methane reduction strategies, see our *Our Commitment to Reducing Methane Emissions* case study video and fact sheet at https://www.kindermorgan.com/Safety-Environment/ESG#tabs-case_studies.

¹³ NETL. "Industry Partnerships and Their Role in Reducing Natural Gas Supply Chain Greenhouse Gas Emissions." *DOE NETL*. 1 May 2018: 58. 2019. <<https://www.netl.doe.gov/projects/files/NETL-ONE-Future-LCA-Report-01MAY18.pdf>>.

¹⁴ R. A. Alvarez et al. "Assessment of methane emissions from the U.S. oil and gas supply chain." *Science* 361 (2018): 186-188.

¹⁵ ONE Future Coalition. "ONE Future 2018 Methane Emission Intensities: Progress Report." 4 Nov. 2019. *ONE Future Coalition*. May 2020. <<http://onefuture.us/wp-content/uploads/2019/11/ONE-Future-2018-Final-Report-LN.pdf>>.

We engage with peer companies and customers to share experiences and strategies concerning methane detection technologies and best practices. Methane detection technologies and the methodologies for applying those technologies are evolving rapidly. To evaluate the application of emerging and innovative methane detection technologies and approaches for our assets, we have tested different configurations of infrared and laser absorption sensors. We have worked with multiple service providers who use sensors mounted on helicopters and fixed-wing aircraft. Since 2011, we have conducted aerial methane detection surveys on over 6,000 miles of pipeline. We have also tested a fixed laser absorption methane monitor at one of our facilities. In 2019, we began discussions with service providers to test and evaluate satellite-based methane detection and continuous methane detection technology. NGOs and regulatory agencies may use vehicle, aircraft, or satellite-mounted methane detection equipment to monitor our assets. When we become aware of a suspected leak from our assets, we utilize OGI cameras or other EPA-approved technologies to verify and, if warranted, address the leak.

In addition, since the inception of the EPA GHGRP, our annual methane leak surveys have included natural gas processing plants and transmission and storage compressor stations subject to the EPA GHGRP. At these facilities, we conduct methane leak surveys using OGI cameras or other EPA-approved technologies. We use EPA-approved methods, such as direct flow measurement, to estimate methane leak rates from compressors and other components. For compressor leaks, we use the direct flow measurements to develop entity-specific emission factors.

When replacing or installing new natural gas pneumatic devices at our gathering, transmission, processing, and storage facilities, we use pneumatic devices with low or zero natural gas bleed rates, unless there is a safety or functional need for a high-bleed device.

We anticipate evaluating and potentially implementing other methane emission reduction technologies or methane reduction work practices at our natural gas operations on a case-by-case basis. We report our use of specific technologies and work practices annually to the EPA.

3.3.1.2 Other GHG Emissions Reduction Efforts

In addition to methane emission reductions, we also have initiatives in place to reduce our GHG footprint by enhancing processes that improve efficiency and reduce fuel use. We reduce our Scope 1 emissions by implementing the following practices on a case-by-case basis:

- installing electric compressors in lieu of gas compressors;
- implementing procedures to shut down our equipment and reduce idle time;
- optimizing temperature controls to reduce fuel consumption;
- replacing existing engines with newer, more efficient equipment; and
- reducing flaring by:
 - improving compressor reliability,
 - automating gas control,
 - improving flaring metering, and
 - optimizing downtime.

Efficient equipment uses less energy to maintain equivalent output. We continue to evaluate new ways to reduce our emissions by increasing the efficiency of our equipment. For example, we have projects in place to evaluate the operational possibilities of:

- dispatching the most efficient compressors first,
- replacing lower efficiency valves, and

- performing life-cycle cost analysis on equipment.

Employees in our corporate Houston office are offered a 100% transportation subsidy to encourage the use of local public transportation networks, which helps reduce reliance on individual personal vehicles and related GHG emissions.

3.3.2 Research and Development

Methane Emission Reduction Industry Initiatives and Studies

We participate in several industry initiatives to implement methane emission reductions. Below are a few examples of how we actively engage with various trade associations and regulatory entities to share data, our experience with methane monitoring and management, and best practices for achieving methane emission reductions.

- *IAB for DOE's ARPA-E Project*

As a participant in the IAB for DOE's ARPA-E Project, we advised ARPA-E and Colorado State University on the development of a methane emission test site. This test site simulated actual natural gas leaks that might occur at production, gathering, and underground pipeline facilities. This test site project is part of the ARPA-E Methane Observation Networks with Innovative Technology to Obtain Reduction program. The goal of the program 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 and oil production wells with associated gas production. The next generation leak detection technologies should drive enhanced leak detection and repairs to further reduce methane emissions. We were actively engaged in multiple aspects of the project including:

- development of the test site,
- evaluation of the various leak detection technologies being developed, and
- providing guidance to the test site developers on industry expectations and steps for regulatory approval of these technologies.

The results of the ARPA-E Project show that several of the leak detection technologies can detect leaks and locate the leak to within two meters of its location. Some technologies are able to differentiate between large and small leaks and minimize false positive detections. Further development and testing of the technologies in the field are needed to enhance their successful deployment.

- *DOE National Methane Emission Estimates and Methane Emission Factors Studies*

We collaborated with the DOE on three additional DOE-funded studies to develop improved national methane emission estimates and methane emission factors; two studies for natural gas gathering compressor stations and one study for underground natural gas storage wells and fields.^{16,17} The current methane emission factors used for gathering compressor stations are more than 20 years old and based on a limited dataset. In October 2018 and April 2019, the final reports

¹⁶ Zimmerle, Daniel, et al. "Characterization of Methane Emissions from Gathering Compressor Stations: Final Report October 2019 Revision." Energy Institute Colorado State University. Oct. 2019. 2020. <<https://mountainscholar.org/bitstream/handle/10217/194544/Final%20Report.pdf?sequence=5&isAllowed=y>>.

¹⁷ GSI Environmental Inc. "Integrated Component-Specific Measurements to Develop Emission Factors for Compressors and Gas Gathering Lines." GSI Environmental Inc. 1 Oct. 2018. 2020. <https://www.netl.doe.gov/sites/default/files/2019-01/FE0029084_Final.pdf>.

for the natural gas gathering compressor station studies were issued, and in May 2019, the study for underground natural gas storage wells and fields was completed.¹⁸ These studies establish recommendations for improved and more representative methane emission factors. Our employees participated on the Steering Committee and Technical Review Committee for each study. We also permitted academic institutions and consultants to perform testing at more than 30 of our natural gas gathering compressor stations.

- *DOE NETL Methane Emission Life Cycle Analysis*

We also collaborated with DOE’s NETL on a methane emission life cycle analysis. This analysis, performed by NETL, included input from ONE Future members representing each sector of the natural gas industry value chain. The study evaluated specific emission reduction opportunities in each part of the value chain. The study results indicated that the average life cycle methane emission rate for ONE Future members was below the methane emission rate for the U.S., at 0.67% and 1.6% respectively.¹⁹ Results from the study have helped inform ONE Future members and others interested in the impact of ONE Future members’ emission reduction activities on overall methane life cycle emissions.

- *PRCI GHGRP Methane Emission Factors Study*

We also worked with PRCI on a study of the EPA’s GHGRP methane emission data, resulting in two reports with recommendations for more up to date and accurate emission factors. The first report evaluated emissions from compressor seals, isolation valves, and blowdown valves based on direct measurements as required by GHGRP. The second report evaluated other facility leaks, pneumatic controller venting, condensate tank dump valve leakage, and station blowdown emissions. The project evaluated and analyzed the dataset and compared methane emission estimates from these sources to historical data used by EPA in its annual GHG inventory report. The historical data used by EPA are primarily the emission factors from the June 1996 EPA and Gas Research Institute Report, *Methane Emissions from the Natural Gas Industry*.²⁰ The results of both these reports can be used to provide more current emission factors, estimate the relative contribution of different methane emission sources, and support more efficient methane emission reduction activities for natural gas transmission and storage operations.

The dollar amount we have invested in research and development projects related to GHG emissions and climate change, including the work hours our employees spent on these projects, are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In thousands)		
Research and development investments in GHG emissions and other climate change-related projects	\$229	\$257	\$226

¹⁸ GSI Environmental Inc. “Long-Term Methane Emissions Rate Quantification and Alert System for Natural Gas Storage Wells and Fields.” GSI Environmental Inc. 29 Jan. 2020. 2020. <<https://netl.doe.gov/sites/default/files/2020-01/FE0029085-Final-Report.pdf>>.

¹⁹ NETL. “Industry Partnerships and Their Role in Reducing Natural Gas Supply Chain Greenhouse Gas Emissions.” DOE NETL. 1 May 2018: 1-3. 2020. <<https://www.netl.doe.gov/energy-analysis/details?id=2637>>.

²⁰ EPA. “Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2018.” EPA. 13 Apr. 2020: 3-72. 2020. <<https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf>>.

CCUS

We participated in the National Petroleum Council study to define potential pathways for integrating CCUS into the energy and industrial marketplace, as requested by the U.S. Secretary of Energy. We participated on the CCUS Technology Task Group and one of our employees co-authored the CO₂ transportation chapter.

The draft National Petroleum Council report, *Meeting the Dual Challenge: A Roadmap to At-Scale Deployment of Carbon Capture, Use, and Storage*, was published in December 2019.²¹ The report concludes that at-scale deployment requires:

- strong collaboration between industry and government;
- improved policies, financial incentives, and regulations;
- broad-based innovation and technology development; and
- increased understanding and confidence in CCUS.

3.3.3 Industry and Agency Participation

Our employees have undertaken leadership roles in the INGAA GHG Task Force, serving as co-chairs from late 2008 to 2011, and from 2013 through 2019. As part of that leadership role, we, along with INGAA, participated in the DOE's Quadrennial Energy Review. The Quadrennial Energy Review included a joint effort by the natural gas industry, several federal agencies, and other stakeholders to better understand the issues confronting the natural gas transportation sector and to develop mutually beneficial solutions. Our employees have also served as co-chair for the INGAA EHS Air Strategies Task Force.

We collaborate with the EPA and DOE on methane emission reductions. We work with the EPA to share data and engage in discussions about potential emissions management strategies. This joint effort aims to identify the most effective means of implementing methane emission reductions at natural gas transmission and storage operations.

We participate in collaborative meetings with various NGOs to improve understanding of natural gas storage facilities, operations, emissions, and safety technologies. Our work is ongoing in numerous federal, state, and industry venues.

We participate in the New York City Mayor's Office of Resiliency CCATF. The CCATF was established in January 2008 and helped with New York City's Hurricane Sandy recovery efforts. The CCATF's objectives are to:

- identify critical infrastructure in New York City that could be at risk from the effects of climate change,
- facilitate knowledge sharing and develop coordinated adaptation strategies to secure these assets, and
- develop findings and recommendations.

We also support Arizona's Climate Change Action Plan through our participation in an afforestation program called "Trees for Tucson" in Tucson, Arizona. Since 2017, we have contributed to planting approximately 950 trees in the Tucson metropolitan area. These trees sequester CO₂, helping to offset

²¹ National Petroleum Council. "Meeting the Dual Challenge A Roadmap to At-Scale Deployment of Carbon Capture, Use, and Storage." National Petroleum Council. Dec. 2019. 2020. <<https://dualchallenge.npc.org/downloads.php>>.

CO₂ in the atmosphere. Our work is described in greater detail in *Section 6.1 Environmental Management Policies and Practices for Active Operations* of the *Sustainability Report*.

3.3.4 Reporting and Compliance Regulation

Facilities in each of our business segments are subject to GHGRPs with the EPA or ECCC, as applicable, and to federal and state leak detection and repair regulations. We measure, monitor, and quantify GHG emissions to satisfy the requirements of these rules using our extensive emissions monitoring equipment and measurement programs. We use these tools to conduct leak surveys for both regulatory and voluntary programs. In 2019, we reported emissions to the EPA, ECCC, and 14 state or local agencies. We also paid carbon taxes on electricity purchases in Canada.

The EPA's GHGRP requires annual leak detection surveys at subject facilities. The EPA's New Source Performance Standards for natural gas processing plants and oil and gas production, transmission, and distribution facilities, and several state specific regulations also require LDAR inspections to identify and fix equipment leaks. Monitoring frequency and methods vary depending on facility type, and surveys may be conducted monthly, quarterly, or annually. We conduct LDAR inspections and identify leaks using OGI, flame ionization detectors, and other technologies. If we identify a leak during our LDAR surveys, we repair it and then resurvey to confirm that the repair addressed the leak.

3.3.5 Energy Management

(GRI 102-5, GRI 302-1, GRI 302-4, CDP C8.2, CDP C8.2a)

One of the most impactful ways we reduce our overall emissions is by managing our energy consumption.

Our business segment annual budgets may include targets for reduced energy consumption, resulting in fewer Scope 2 emissions. Per our OMS, which is described in greater detail in *Section 2.2 Management System* of the *Sustainability Report*, we strive for continuous improvement in our energy efficiency and the implementation of several energy management initiatives. We employ energy management personnel who oversee multiple programs and strategies to both minimize energy costs and monetize our reductions in energy usage.

Demand Response

We participate in curtailment and demand response programs. By analyzing our operations and energy consumption at a detailed level, we are able to quickly reduce the amount of energy we are pulling from local electric grids when requested by local electric grid operators. Some of the largest demand response, load management, and utility reliability programs we participate in include the Base Interruptible Program in California and the Electric Reliability Council of Texas Emergency Response Service and the 4 Coincident Peak Program in Texas.

Engineering Design

We also have reduced energy consumption by optimizing our pipeline and facility design to utilize devices that use less energy while maximizing output. For example, we use variable frequency drives on many of our pumps to improve pipeline flow control and increase energy efficiency. Variable frequency drives also allow us to monitor the efficiency of our pumps, control pump speed, and reduce surges to nearby power suppliers.

DRA

One of the methods we use to reduce energy consumption in our Products Pipelines and CO₂ business segments is the use of DRA. DRA is a long-chain polymer chemical that disrupts the molecular activity at the fluid boundary layer near the inside pipe wall, thereby reducing friction. DRA decreases the amount of energy lost due to turbulence formation and allows us to move more product through our pipelines using less energy.

Our deployment of DRA in key locations has reduced the electricity needed to move products within our Products Pipelines and CO₂ business segments. The use of DRA has also allowed us to reduce the use of, or completely shut down unneeded pump stations, and avoid construction of new pump station infrastructure.

Our Products Pipelines business segment has seen a significant reduction in energy consumption from the use of DRA. In 2019, the deployment of DRA reduced our energy consumption by approximately 550 GWh.²² This energy savings is roughly equivalent to 389,000 metric tons of CO₂e emissions avoided, which is comparable to the energy used by approximately 45,000 homes for one year or the carbon sequestered by 508,000 acres of U.S. forests in one year.²³

Offices and Buildings

We continue to seek ways to improve our energy efficiency in the office buildings we own. Our Houston headquarters building is LEED Gold certified. At many of our other facilities, we have ongoing initiatives to replace compact florescent light bulbs with LED lighting to reduce energy consumption.

Renewable Energy

We have programs to make energy efficiency improvements in our operations and explore new low-carbon technologies where it is economically feasible. In some cases, we have found renewable energy optimal for powering our operations. For example, some of the equipment at our facilities is powered through solar panels installed on-site. As these locations are often very remote and far from an existing electric grid, these installations have been successful from both a cost-savings and energy-efficiency perspective. In 2019, we consumed approximately 1,018 MWh of renewable energy from the solar panels we operate, equivalent to approximately 720 metric tons of CO₂ avoided.²⁴

²² To calculate the avoided energy consumption in each pipeline, actual hourly operational performance data is compared to estimated energy usage with untreated friction loss.

²³ The equivalent number of homes and tree acreage is calculated using EPA's Greenhouse Gas Equivalencies Calculator. EPA. "Greenhouse Gas Equivalencies Calculator." EPA, 15 Oct. 2018. Web. 2020. <<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>>.

²⁴ Estimated renewable energy consumed is equal to the amount generated. Solar panel energy generation is calculated using the National Renewable Energy Laboratory's PVWatts[®] Calculator. Dobos, Aron P. "PVWatts[®] Calculator." *PVWatts[®] Calculator*. National Renewable Energy Laboratory, 2020. Web. 2020. <<https://pvwatts.nrel.gov/index.php>>.

The amount of renewable energy consumed from the solar panels we operate are provided below.

	Year End December 31 2019
	(In MWh)
Renewable energy consumed from the solar panels we operate(a)	
Natural Gas Pipelines	742
Products Pipelines	80
Terminals	7
CO ₂	189
Total	<u>1,018</u>

- (a) The renewable energy we consumed from the solar panels we operate is estimated using the National Renewable Energy Laboratory's PVWatts[®] Calculator. The renewable energy we consumed from solar panels prior to January 1, 2019 is not included in this table.

In 2018, EnterSolar completed construction of a 2.6 megawatt ground-mounted solar panel array on land leased from us at our Staten Island Terminal. EnterSolar's array consists of 9,000 panels and provides power to commercial and residential properties on Staten Island. At the time of completion, the solar array was the largest in New York City. We are considering similar arrangements at other locations where we may also be able to take advantage of this renewable resource to power our equipment.

Our electricity consumption is provided below.

	Year End December 31	
	2018	2019
	(In GWh)	
Total electricity consumption(a)		
Natural Gas Pipelines	2,570	2,684
Products Pipelines	1,337	1,346
Terminals	216	216
CO ₂	3,330	3,421
Kinder Morgan Canada(b)	278	—
Corporate Shared Services	24	25
Total	<u>7,755</u>	<u>7,692</u>

- (a) Total electricity consumption is from purchased power for the assets we operate.
 (b) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.

3.4 GHG Offsets, Reductions, and Targets

3.4.1 GHG Offsets

(CDP C4.3, CDP C11.2, CDP C11.3)

Our Natural Gas Pipelines business segment operates the Ruby Pipeline, L.L.C. (Ruby). Ruby is a 680 mile 42-inch natural gas transmission pipeline that crosses four states: Wyoming, Utah, Nevada, and Oregon. Prior to the construction of the pipeline, Ruby committed to make the pipeline carbon-neutral. Since 2011, we have accomplished this by using emission reduction credits or renewable energy credits to offset Scope 1 and 2 GHG emissions from construction and ongoing operations.

In most cases, the credits' purchase takes place within one year from the date emissions have undergone review and are considered final. Credit purchases can span multiple years and are not necessarily created during the same year the emission offset is applied. Credits are purchased using a brokerage clearing house and are transferred to our account in an emission offset registry. Over purchases of credits, if any, are held and applied to future emissions.

The GHG emission offsets we purchased, and the average, minimum, and maximum price per metric ton paid for each offset, are provided below.

	Year Ended December 31		
	2017	2018	2019
GHG emission offsets purchased(a)(b)			
Purchased offsets (metric tons CO ₂ e)(c)	105,609	40,923	95,799
Average price per metric ton CO ₂ e	\$0.83	\$1.15	\$1.75
Maximum price paid per metric ton of CO ₂ e	\$0.89	\$1.15	\$1.75
Minimum price paid per metric ton of CO ₂ e	\$0.80	\$1.15	\$1.75

- (a) Actual emissions offset for 2017, 2018 and 2019 were 75,427, 66,581, and 89,989 metric tons of CO₂e, respectively.
 (b) Represents the offsets purchased during the calendar year.
 (c) We are updating the number of offsets purchased for 2017 and 2018, from our 2018 ESG Report, to show the offsets purchased during the calendar year.

These offsets establish an internal price of carbon to offset Scope 1 and 2 emissions from our Ruby Pipeline. The price is determined by the carbon offset market, which is an external source of pricing.

3.4.2 GHG Reductions (GRI 305-5, CDP C4.3)

Our methane emission reductions, estimated value of natural gas saved, and voluntary GHG emission reductions are provided below.

	Year Ended December 31		
	2017	2018	2019
Voluntary GHG emission reductions (million metric tons CO₂e)(a)	2.2	1.9	2.0
Volume of voluntary methane emission reductions (Bcf)(b)(c)	4.6	4.0	4.3
Estimated value of natural gas saved (millions)(d)	\$14	\$12	\$13

- (a) Emission reductions are emissions mitigated or avoided that would otherwise have been emitted. The reported CO₂e is based on a GWP of 25 if the methane were directly emitted to the atmosphere (GHGRP Subpart W, IPCC 2007). Calculation is from 40 CFR Part 98.233, Equation W-36: methane (scf) multiplied by 0.0192 kg/ft³ (methane density) multiplied by 0.001 metrics tons/kg (kg to metric tons conversion) multiplied by 25 metric ton CO₂e/metric ton methane (GWP).
 (b) Methane content of pipeline quality natural gas is estimated at 95% per Methane Challenge Program Guidance.
 (c) Methane emission reductions include reductions from compressor station leak repairs, pipeline drawdowns, gas turbine installations, electric motor installations, and alternative pipeline maintenance technologies that reduce the need for pipeline blowdowns.
 (d) The estimated value of natural gas saved is based on an assumed price of \$3.00 per thousand cubic feet for the periods presented.

3.4.3 GHG Targets (CDP C4.1)

Methane Emission Intensity

Through ONE Future, we have committed to achieving a methane emission intensity target for our natural gas transmission and storage operations by 2025 compared to a baseline year of 2012. Methane emission intensity is a measure of emissions as a percentage of total volumes of throughput. The transmission and storage industry allocation of the ONE Future target is 0.31%, representing an approximate 31% reduction from the 2012 transmission and storage industry segment methane emission intensity of 0.45%.²⁵

Our methane emission intensity targets and progress toward achieving those targets are provided below.

	Year Ended December 31		
	2017	2018	2019
Methane emission intensity rate target(a)	0.31%	0.31%	0.31%
Methane emission intensity rate(a)	0.04%	0.02%	0.03%

(a) The emission intensity rate is calculated by dividing our natural gas transmission and storage total methane emissions by our natural gas transmission and storage throughput. Methane emissions are calculated using 40 CFR 98 Subpart W procedures.

In 2017, 2018, and 2019 we performed better than our transmission and storage methane emission intensity target of 0.31%. In 2019, our methane emission intensity rate represented an additional 90% reduction from our target and a 93% reduction from the 2012 transmission and storage industry segment rate.

Compressor Station Leak Surveys

In 2017, we voluntarily began increasing the number of leak surveys conducted at natural gas transmission and storage compressor stations not subject to the EPA GHGRP. Our target is to increase the number of leak surveys conducted at these facilities by 20% each year from 2017 to 2021, starting with a baseline year of 2016. We committed to these additional leak surveys as part of our implementation plan to meet the ONE Future emission intensity commitment under EPA’s Natural Gas STAR Methane Challenge Program. We successfully exceeded our leak surveys target in each of the past three years.

The number of leak surveys conducted at our natural gas transmission and storage compressor stations and our leak survey targets are provided below.

	Year Ended December 31		
	2017	2018	2019
Targeted number of natural gas transmission and storage compressor stations to survey(a)	182	217	252
Actual number of natural gas transmission and storage compressor stations surveyed	242	279	306

(a) Targets were established by adding an incremental 20% of the transmission and storage facilities that were not required to perform a leak survey under a regulatory program to the 147 facilities required to conduct a leak survey in 2016.

²⁵ ONE Future Coalition. “Methane Emission Estimation Protocol.” 27 Aug. 2020. ONE Future Coalition. 2020. <https://onefuture.us/wp-content/uploads/2020/02/ONE-Future-Methane-Intensity-Protocol_V2.3_27Aug18.pdf#page=19>.

In 2017, 2018, and 2019 we performed better than our target number of leak surveys at natural gas transmission and storage compressor stations. In addition, we completed annual leak surveys at 18 of our natural gas processing plants in 2019.

GHG reductions

Our 2019 GHG reduction target for methane was 2 Bcf, which is equivalent to 1.1 million metric tons CO₂e. In 2019, we had methane reductions of approximately 4.1 Bcf, surpassing our target. For 2020, we have increased our GHG reduction target to 2.25 Bcf of methane, which is equivalent to 1.2 million metric tons CO₂e.

Our GHG reduction target and our progress toward achieving that target are provided below.

	Year Ended December 31
	2019
	(In million metric tons of CO₂e)
Target - GHG reductions	1.1
Actual GHG reductions(a)	2.3

(a) The CO₂e is based on a GWP of 28 if the methane were directly emitted to the atmosphere (IPCC 2013). Calculation is from 40 CFR Part 98.233, Equation W-36: methane (scf) multiplied by 0.0192 kg/ft³ (methane density) multiplied by 0.001 metrics tons/kg (kg to metric tons conversion) multiplied by 28 metric ton CO₂e/metric ton methane (GWP).

4.0 Air Quality

4.1 Air Emissions

We are committed to minimizing emissions by operating our facilities in a manner consistent with good air quality control standards. To manage our air permitting and compliance program in each of our business segments, we conduct the following activities:

- monitor, record, report, and pay emission and permit fees;
- identify, record, and maintain a list of stationary air emission sources;
- quantify facility annual emissions per federal, state, provincial, or local requirements and document the basis of the quantification and estimation;
- quantify emissions when changes and/or modifications occur at a facility to determine if the facility permitting status is affected (e.g., exempt, minor, synthetic minor or major under Title V);
- deconstruct and manage permit requirements in our compliance tracking system along with required actions, deadlines, and designated responsible persons; and
- provide regular training for our operations, engineering and maintenance employees’ understanding of permit requirements.

4.2 Air Emissions for the Following Pollutants: NO_x (excluding N₂O), SO_x, VOCs, and PM₁₀
(SASB Midstream EM-MD-120a.1, SASB Exploration & Production EM-EP-120a.1, GRI 305-7)

The criteria air pollutant emissions reported to a regulatory agency are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In metric tons)		
Air emissions(a)(b)(c)			
NO _x (excluding N ₂ O)			
Natural Gas Pipelines	50,725	57,678	56,902
Products Pipelines	94	90	104
Terminals	151	134	143
CO ₂	882	834	789
Kinder Morgan Canada(d)	0	0	—
NO _x Total	<u>51,852</u>	<u>58,736</u>	<u>57,938</u>
SO _x			
Natural Gas Pipelines	201	192	284
Products Pipelines	2	2	9
Terminals	7	6	1
CO ₂	99	55	64
Kinder Morgan Canada(d)	0	0	—
SO _x Total	<u>309</u>	<u>255</u>	<u>358</u>
VOCs			
Natural Gas Pipelines	6,947	7,469	8,369
Products Pipelines	4,295	3,906	3,622
Terminals	2,248	2,283	2,280
CO ₂	156	124	126
Kinder Morgan Canada(d)	118	83	—
VOCs Total	<u>13,764</u>	<u>13,865</u>	<u>14,397</u>
PM ₁₀			
Natural Gas Pipelines	1,055	1,149	1,187
Products Pipelines	5	8	14
Terminals	130	122	106
CO ₂	93	91	88
Kinder Morgan Canada(d)	2	30	—
PM ₁₀ Total	<u>1,285</u>	<u>1,400</u>	<u>1,395</u>

- (a) Emissions are reported for facilities where we have operational control.
(b) For locations that report emissions less frequently than annually, emissions are included from emission fee estimates or from the most recent agency submittal.
(c) Emissions are as of August 7, 2020.
(d) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.

5.0 Water Management

(CDP W1.1, CDP W1.2, CDP W6.1)

Water resources are important to the ecosystems and communities in which we operate. We are committed to responsibly managing our water consumption and disposal of the water we use. We have policies and procedures to meet or exceed water and wastewater effluent monitoring, measurement, recordkeeping, and reporting requirements. While certain sectors of the energy industry can be relatively water intensive, our primary business is in the energy infrastructure sector where water usage is less intensive. Because of this, we can readily build and operate pipelines and terminals without creating an undue burden on the environment, even in water-stressed areas. Produced water management is important for our CO₂ business segment's EOR projects. Although the risks to our operations associated with water usage are low, we are nevertheless committed to responsibly managing the consumption and disposal of the water we do use.

We use water for:

- hydrostatic testing of the integrity of new and existing pipelines and related equipment prior to operation,
- dust control,
- cooling and processing in natural gas processing facilities, and
- cleaning our equipment.

We are committed to efficient operations, including the management of water and reduction of water usage and wastewater effluent. For example, when performing hydrostatic testing on large segments of pipe, we often test in smaller sections and reuse the same water from one section to the next. This approach minimizes the amount of wastewater effluent from hydrostatic testing and the amount requiring subsequent disposal. This approach also minimizes risk associated with storing and transporting larger volumes of water. As another example, we collect condensation from the air conditioning units at our corporate headquarters in Houston, Texas, and reuse it to irrigate the flowerbeds around our building.

We monitor our stormwater and wastewater discharges, where warranted, to determine whether water treatment is necessary before the water is safely released back into the environment or publicly owned treatment works. Some of our facilities require on-site treatment systems to process stormwater and wastewater discharges to meet water quality standards that protect humans and aquatic life. In addition, our operations follow procedures to minimize the risk of accidental discharges. If we do experience a non-permitted wastewater discharge, we have detailed response and incident management procedures and reporting processes. Significant discharge incidents are investigated, and corrective actions are developed to address incident causes.

5.1 Water Usage

(SASB Exploration & Production EM-EP-140a.1, GRI 303-5, CDP W1.1, CDP W1.2, CP W6)

Hydrostatic Integrity Testing

As part of our integrity management program, described in greater detail in *Section 12.1 Asset Integrity Management* of the *Sustainability Report*, we conduct regular testing of new and existing pipelines and tanks. For some of these tests, we use hydrostatic integrity testing, a process where water is injected into a pipeline or tank and is pressurized to a certain level to test the integrity of the pipeline or tank. Often a portion of the hydrostatic integrity test water used is returned to the source and is available to be used

again. In some hydrostatic integrity tests, we use alternative sources of water from non-fresh water sources.

The water we use for hydrostatic integrity testing our PHMSA regulated pipelines that have previously been placed in service is provided below. We are developing the processes to report the water we use for hydrostatic integrity testing our newly constructed PHMSA regulated pipelines as they are placed in service as well as our tanks.

	Year Ended December 31		
	2017	2018	2019
	(In thousand cubic meters)		
Water use for hydrostatic integrity testing of existing PHMSA regulated pipelines(a)			
Natural Gas Pipelines	236	72	22
Products Pipelines	1	1	1
Terminals	1	1	1
CO ₂	0	0	0
Total	<u>238</u>	<u>74</u>	<u>24</u>

(a) Water volumes are calculated using the dimensions of the pipeline tested. Volumes may not account for water reuse or water loss. Water volumes from pipeline segments tested off-site are excluded.

From 2017 to 2019, there was a decline in the water usage from hydrostatic integrity testing of our PHMSA regulated pipelines. Water usage can vary year-over-year depending on the pipeline reassessment intervals in the integrity program. The Natural Gas Pipelines business segment has reduced its water usage since 2017 by utilizing ILI technology in lieu of hydrostatic integrity tests.

6.0 Ecological Impacts

6.1 Environmental Management Policies and Practices for Active Operations

(SASB Midstream EM-MD-160a.1, SASB Exploration & Production EM-EP-160a.1, GRI 102-12, GRI 102-43, GRI 304-2, GRI 304-3)

We continually evaluate the regulatory landscape for our operations and new projects and look for opportunities to improve. To manage environmental matters across our assets, we maintain corporate policies and business segment-specific procedures. Through our internal monthly regulatory update and verification program, we identify, assess, and manage compliance with changing regulatory requirements. We review, approve, and implement policy and procedural changes through our management of change process or similar established processes.

Our Biodiversity Policy outlines the approaches we implement to minimize impacts on biodiversity in areas where we operate. This includes evaluating design options and, where warranted, making adjustments to the location, scope, and/or timing of a new project to minimize or avoid impacts to vulnerable species or sensitive ecosystems.

Project Development

Prior to beginning new construction or an expansion project, we develop plans and procedures that consider a number of important factors that help:

- maintain operational efficiency,

- minimize our impact on biodiversity, and
- take into consideration our stakeholders' concerns.

Our project development plans look at the overall impact of the project and include:

- surveying,
- environmental and cultural impact avoidance,
- mitigation,
- construction,
- revegetation, and
- operation.

Pre-construction

To evaluate a proposed route for a new pipeline project, we conduct surveys in the following areas:

- civil surveys that provide information on soil, topography, and land use;
- cultural surveys that provide cultural significance and archaeological information; and
- environmental surveys that provide information about water, vegetation, wildlife, and other important biodiversity considerations.

In addition to the information collected in these surveys, our teams also consult with local stakeholders about project-specific considerations, including environmental issues. We consider and use this information to help develop a pipeline route that avoids or minimizes impacts on people, critical habitats, and land.

We follow construction and mitigation procedures that take into account several biodiversity issues by employing:

- mitigation measures to minimize erosion and enhance revegetation;
- plans to maintain existing drainage and water flow near our projects, including drain tiles;
- project-specific spill prevention and response procedures;
- plans to minimize impacts to nearby residents; and
- traffic plans to keep affected roadway crossings safe and accessible.

We work to minimize impacts on biodiversity in the areas where we work and operate. Land and habitat preservation is a key component of our construction efforts, both when designing a new route for a pipeline project and when performing maintenance on facilities that have been in service for many years.

We coordinate with regulatory agencies and landowners, as appropriate, to minimize our impacts to the local environment by developing plans to:

- prevent the introduction or spread of invasive species during construction or restoration, and
- allow for the movement and protection of wildlife and livestock during construction.

Mitigation in High Conservation Value Areas

We employ a variety of strategies to minimize our operating assets' impact on high value conservation or biodiversity areas, such as sensitive habitats and conservation areas with threatened or endangered species, water bodies, and wetlands.²⁶ Business segment integrity management teams assess whether our pipelines

²⁶ Threatened or endangered species defined by federal, state, provincial, and local regulatory agencies.

and facilities could affect commercially navigable waterways, populated areas, or environmentally sensitive areas.²⁷ We work to meet or exceed the regulatory standards that protect these important areas.

When our internal analysis determines that our asset is located within an environmentally sensitive area, the asset is subjected to more stringent and frequent integrity management measures to improve the asset's resilience and help protect the surrounding environment. Read more about our integrity management program described in greater detail in *Section 12.1 Asset Integrity Management* of the *Sustainability Report*.

Where warranted, based on the nature of the project and project areas, our project framework requirements include:

- presence of an environmental inspector with wetlands or water body knowledge to verify that environmental conditions are met during construction;
- establishing baseline characteristics for high conservation areas to help develop mitigation measures during a project;
- routing to avoid construction through or minimize disturbances to wetlands and water body crossings;
- establishing spill prevention and response procedures that provide for prompt and effective cleanup in the event of a spill;
- delineating wetlands; and
- developing detailed mitigation and avoidance plans for project areas identified as a habitat for a threatened or endangered species and fisheries.

Restoration

Post-construction actions for new projects include restoring the right-of-way, including landowner agreed upon specifications, and restoring the land within our facility fence lines where appropriate. In some instances, our restoration improves a habitat compared to the condition in which we found it. For example, we plant indigenous vegetation seed mixes to promote a healthy ecosystem that adapts quickly to the local conditions. In other projects, we have also constructed new habitats, including wetlands, or improved existing conservation or reservation areas.

Our restoration and revegetation efforts include:

- grading construction right-of-way to restore pre-construction contours and leave the soil in the proper condition for planting;
- stabilizing streambeds and banks, natural drainage ways, and steep grades to meet permit requirements;
- establishing successful revegetation of soils disturbed by project-related activities; and
- working with affected landowners to restore structures, fences, hedges, buildings, and/or other property displaced or damaged during construction.

After completing construction on a new or existing project, we strive to meet the biodiversity targets and deadlines established in our project plans.

²⁷ Environmentally sensitive areas in the U.S. are defined by the 49 CFR 195.6 designation of unusually sensitive areas. Canada's CER rules define environmentally sensitive areas in the GeoGratis database published by Natural Resources Canada.

Biodiversity Enhancement Initiatives

We are actively involved in a number of projects designed to enhance biodiversity within our operating areas. We have made longterm commitments to managing biodiversity and participate in conservation education and community outreach initiatives as described below.

- *Permian Highway Project Initiatives*

In April 2019, we committed to purchase over 1,300 acres in Travis County, Texas for donation to Balcones Canyonlands National Wildlife Refuge. This donation of land expands the current refuge for the Golden-Cheeked Warbler, an endangered species of bird that breeds in central Texas. In 2020, the donation was finalized and the land was transferred to the refuge.

During the Permian Highway Project's pre-construction environmental surveys, we identified Tobusch Fishhook cactus plants on portions of the planned right-of-way. In 2019, we agreed to relocate the plants to a state university's greenhouse to be used to support research, improve knowledge of the species, and increase its population.

- *Mojave Habitat Management Land Acquisition and Restoration*

In August 2019, we transferred a 10-acre parcel of high-quality habitat property to the Center of Natural Lands Management. We worked with The Conservation Fund to find and acquire the property. The purchase and transfer of this land was used to mitigate project-related impacts to the San Joaquin Kit Fox, a federally listed endangered species, and the San Joaquin Antelope Squirrel, a California state listed threatened species. The Center of Natural Lands Management manages the land to maintain an ecologically sustainable conservation area for these species.

- *Trees for Tucson*

We are a designated Tree Champion by the Tucson Clean and Beautiful organization for our ongoing commitment to the Trees for Tucson program. The program provides tree plantings for neighborhoods and community sites, such as schoolyards, to mitigate extreme heat, improve the environment, and increase shading and absorb CO₂ in support of the City of Tucson's Climate Change Mitigation and Adaptation Plan. In 2019, we contributed to planting 574 new shade trees in 12 low-canopy neighborhoods in the Tucson metro area.

Over 1,800 volunteers, including high school students, helped plant the new trees through event weekends. Our representative was a keynote speaker at the Meeting of the Mayors Tree Celebration in November of 2019. We have been a key partner for tree planting in Tucson, frequently participating with the community and speaking with attendees about the importance of civic engagement and respecting the environment.

- *Elizabeth River Project*

In October 2019, the Elizabeth River Project, an organization we partnered with to restore a wetland habitat, was awarded the National Best Restored Shore Award by The American Shore and Beach Preservation Association.

As part of the Elizabeth River Project, in 2003, we set aside about 16 acres for the purpose of conservation near our Elizabeth River Terminal. By the summer of 2008, the area had been transformed, with about seven acres of tidal wetlands created and planted, a twenty-foot tall riparian berm, and upland improvements. Since then, the area had grown into a lush sanctuary for birds, animals, and fish. The National Oceanic and Atmospheric Administration, USFWS, Virginia Institute of Marine Science, and Duke University regularly visit this site to tabulate the wildlife

populations and water quality improvements. Our employees continue to help by removing storm debris, mowing for limited access and weed control, and maintaining an Osprey nest platform that has been occupied for ten years. We also worked with the Learning Barge, an educational barge managed by the Elizabeth River Project, to have students come to this area of the terminal to plant native grasses and learn about the environment and the importance of biodiversity and restoration.

For more information, see our EHS Policy Statement, Biodiversity Policy, and an example of how we operationalize our Biodiversity Policy, *Protecting Threatened Plant Species in Texas* case study video and fact sheet, on our ESG/Sustainability webpage at <https://www.kindermorgan.com/Safety-Environment/ESG>.

For more information about how we manage our biodiversity impacts, see *Section 2.2 Management System* of the *Sustainability Report*.

6.2 Percentage of Land Owned, Leased, and/or Operated within Areas of Protected Conservation Status or Endangered Species Habitat

(SASB Midstream EM-MD-160a.2, GRI 304-1)

Areas of Protected Conservation Status or Endangered Species Habitats

The percentage of land operated within or near areas of protected conservation status or endangered species habitat is provided below.

	Year End December 31	
	2018	2019
Percentage of Land Operated within or near Areas of Protected Conservation Status or Endangered Species Habitat(a)		
Near Designated Areas(b)		
Natural Gas Pipelines	28%	26%
Products Pipelines	33%	33%
Terminals(c)	84%	80%
CO ₂	8%	7%
Total	29%	27%
Inside Designated Areas(d)		
Natural Gas Pipelines	4%	4%
Products Pipelines	8%	2%
Terminals(c)	0%	1%
CO ₂	0%	0%
Total	4%	3%
Inside or Near Designated Areas		
Natural Gas Pipelines	32%	30%
Products Pipelines	41%	35%
Terminals(c)	84%	81%
CO ₂	8%	7%
Total	33%	30%

(a) Acreage of land used in this analysis is based on acreage where we have active operations. There may be additional land that is owned and leased, but not operated, which is not included in this analysis. The acreage operated for pipelines includes land within the 50-foot corridor of a pipeline's centerline and excludes production facilities and non-PHMSA jurisdictional gathering lines in the CO₂ business segment. Acreage operated for a facility includes land within the

facility's security fence line for the Natural Gas Pipelines, Terminals, and CO₂ business segments and acreage we own, in and outside the security fence line, for the Products Pipelines business segment. The areas characterized as protected conservation areas are determined by the WDPA. The areas characterized as endangered species habitats are determined by the International Union for Conservation of Nature designations of "critically endangered" and "endangered" species for our Mexico operations. This analysis deviated from the SASB standard for our U.S. operations and used the USFWS designated areas for "endangered species" as this dataset better reflects the biodiversity risk for our operations. The WDPA and USFWS datasets were acquired in the first quarter of 2020. Analysis was completed using our asset GIS datasets as of the first quarter 2020.

- (b) Defined as operated land within five kilometers of the boundary of a protected conservation area or endangered species habitat.
- (c) Our Terminals business segment assets are often located in coastal areas for marine transportation access; these coastal areas have a higher concentration of conservation areas.
- (d) Defined as operated land within the boundary of protected conservation area or endangered species habitat.

Acreage Disturbed and Restored

In 2019, most of the acreage disturbed by our expansion projects was a result of the Gulf Coast Express pipeline project. During the project, we used approximately 9,500 acres for permanent right-of-way, temporary construction right-of-way, facility sites, road access, and construction laydown yards. The construction right-of-way acreage and permanent right-of-way totaled approximately 8,300 acres and has been restored. Where possible, we used existing roads and construction laydown yards during this project and this acreage is not included in the total acreage restored. The long-term use surfaces of facility sites are not restored. Our restoration includes replacing topsoil that was conserved during construction and seeding the appropriate plant species for the area. In 2018, we made a \$100,000 donation to The Conservation Fund to purchase wildlife corridors in south Texas for the improvement and preservation of wildlife habitats.

6.3 Hydrocarbon Spills

(SASB Midstream EM-MD-160a.4, SASB Exploration & Production EM-EP-160a.2, GRI 306-3)

According to data from PHMSA and FERC, 99.999% of crude oil, petroleum products and natural gas transported by pipelines reach their destinations safely and uneventfully.²⁸

We strive to prevent hydrocarbon releases from our operations, but sometimes such releases do occur. They usually are:

- minimal,
- below reportable quantities,
- contained in secondary containment facilities, and
- promptly remediated.

In most cases, releases of liquids are confined to our property. Our emergency response procedures are designed to promptly limit the impact to the environment if a release occurs or migrates outside of containment. Although measures are in place to prevent environmental contact, there are infrequent cases where some volume of hydrocarbon migrates outside containment.

The number, volume, volume in Unusually Sensitive Areas, and recovered volume of hydrocarbon spills are provided below.

²⁸ API-AOPL. "Pipeline Safety Excellence Performance: 2019 Annual Liquids Report." API-AOPL. 2020: 5. 2020. <<https://aopl.org/documents/en-us/d904059a-c130-41f9-b8da-3ca7e100ad4a/1>>.

	Year Ended December 31		
	2017	2018	2019
(In barrels, except percentages and number of spills)			
Number of hydrocarbon spills(a)(b)			
Natural Gas Pipelines	13	9	17
Products Pipelines	6	7	7
Terminals	6	9	10
CO ₂	13	11	9
Kinder Morgan Canada(c)	1	1	—
Total	39	37	43
Aggregate volume of hydrocarbon spills(a)			
Natural Gas Pipelines	141	23	407
Products Pipelines	254	11,180	423
Terminals	90	70	46
CO ₂	90	229	99
Kinder Morgan Canada(c)	3	28	—
Total	578	11,530	975
Aggregate volume of hydrocarbon spills in Unusually Sensitive Areas(a)(d)			
Natural Gas Pipelines	0	1	0
Products Pipelines	240	162	32
Terminals	2	17	20
CO ₂	0	0	0
Kinder Morgan Canada(c)	0	0	—
Total	242	180	52
Volume recovered(e)			
Natural Gas Pipelines	45	23	329
Products Pipelines	234	7,047	402
Terminals	10	32	33
CO ₂	63	211	27
Kinder Morgan Canada(c)	0	19	—
Total	352	7,332	791
Percentage recovered			
Total	61%	64%	81%

- (a) A spill is defined as greater than one barrel released to surface water, soil, or groundwater, excluding spills contained within impermeable secondary containment.
- (b) We do not have any operations in the Arctic.
- (c) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.
- (d) Includes spills, as defined in note (a), in Unusually Sensitive Areas in the U.S. as identified in the National Pipeline Mapping System by PHMSA. Unusually Sensitive Areas in Canada are identified by the Canadian Council on Ecological Areas Conservation Areas Reporting and Tracking System; the National Hydro Network - 2016, Government of Canada; Natural Resources Canada; Earth Sciences Sector; and Canada Centre for Mapping and Earth Observation. If the National Pipeline Mapping System data was unavailable for a spill location, we used the protected conservation areas by the WDPA and the areas characterized as endangered species habitats by the USFWS, as the basis for whether the spill occurred in an Unusually Sensitive Area.
- (e) The volume of spills recovered is the amount of spilled hydrocarbons (in bbls) removed from the environment through short-term spill response activities, excluding amounts that were recovered during longer-term remediation at spill sites and amounts that evaporated, burned, or were dispersed. The volume recovered is reported for the year the associated spill occurred.

The data for 2018 includes a 10,910 barrel release from our Products Pipelines business segment, of which 6,779 barrels have been recovered. Installation of a remediation system is pending, following regulatory agency approval, to remediate the remainder.

6.4 Marine Spills and Releases to the Environment
(SASB Marine Transportation TR-MT-160a.3, GRI 306-3)

We own a fleet of 16 medium range Jones Act-qualified product tankers, each with 330,000 barrels of cargo capacity. Our fleet is the largest and most modern fleet in the industry.²⁹ Our fleet transports crude oil, condensate, and refined products under long-term contracts. Our vessels are operated by Intrepid Ship Management, a subsidiary of Crowley Maritime Corporation, a leading operator and technical manager in the U.S. maritime industry.

Intrepid’s management system is designed to fulfill the requirements of:

- International Safety Management Code for the Safe Operation of Ships and for Pollution Prevention,
- ISO 9001:2008 Quality management system, and
- ISO 14001:2004 Environmental management systems.

Consistent with our own philosophy, one of Intrepid’s goals is to continually operate with no harm to people, property, or the environment.

The number and aggregate volume of marine spills and releases are provided below.

	Year Ended December 31		
	2017	2018	2019
Number of marine spills and releases to the environment	1	1	0
Aggregate volume of marine spills and releases to the environment (cubic meters)	<0.0001	0.0002	0

Results for 2017 includes a release of approximately four ounces of hydraulic fluid from a ballast pump bleeder plug. 2018 includes a release of approximately six ounces from a ballast valve. There were zero releases to the environment in 2019.

7.0 Employee and Contractor Health and Safety

7.1 Discussion of Safety Management Systems to Integrate Culture of Safety and Emergency Preparedness

(SASB Midstream EM-MD-540a.4, SASB Exploration & Production EM-EP-320a.2, GRI 403-1, GRI 403-4, GRI 403-6, GRI 403-8, GRI 403-9)

Our employee and contractor safety management systems are integrated into our OMS. An overview of our OMS, including our health and safety training, are described in greater detail in *Section 2.2*

²⁹ Based on average ship age and number of latest generation vessels operated. Fleet age assessment based on Wilson Gillette December 2019 report of operational Jones Act product tankers and large oceangoing barges.

Management System of the Sustainability Report. Additional details about our contractor safety policies are also provided in *Section 8.0 Supply Chain Management of the Sustainability Report.*

Safety Initiatives

So that are our safety programs are tailored to our operations, our safety initiatives are managed at the business segment level.

- *Automated External Defibrillator Initiative*
In 2019 we enhanced our AED policies for our corporate office buildings and warehouses. We provided training in AED operation and maintenance to designated employees and verified we have a sufficient number of employees trained in the use of AEDs. To better track our maintenance performance, we implemented internal action items to routinely verify that AEDs are being maintained per the manufacturer's recommendations.
- *Safety In Motion[®]*
In 2019, the Natural Gas Pipelines business segment began implementing the SIM[®] program which offers a multifaceted approach to eliminating sprain and strain injuries. SIM[®] involves the prevention, reduction, and management of common musculoskeletal injuries. The SIM[®] process utilizes an action and education process that has a track record of reducing strain, pain, and musculoskeletal injuries. The process includes a training program that, through physical demonstrations during training, allows employees to experience how small changes in physical techniques significantly reduce the risk factors that lead to unnecessary stress and strain. The SIM[®] system encompasses:
 - ergonomics;
 - body mechanics;
 - fitness, and;
 - auditing, observation, coaching, and medical management.
- *Hazard Recognition Training*
The ability to recognize and mitigate hazards in the workplace prior to and during work reduces the likelihood of an employee injury. Our business segments developed training programs designed to provide employees with real world scenarios to help improve their hazard identification skills.
- *Incident Investigation Training*
The training module is designed to help employees who conduct investigations understand the importance of evaluating the processes and systems linked to the work or task being conducted at the time of the incident. By identifying where there may be opportunities for improvement within our processes and systems, we are better able to provide our employees with the training and knowledge that they need to perform their job successfully and without harm.
- *Safety Culture Surveys*
Periodically, our full-time business segment employees participate in confidential safety culture surveys. These surveys are designed to engage with our employees and collect information about of our safety culture. The results of these surveys are communicated to employees and used to develop safety action plans.

7.2 Employee and Contractor Safety Statistics and Average Hours of Health, Safety, and Emergency Response Training

(SASB Exploration & Production EM-EP-320a.1, SASB Marine Transportation TR-MT-320.a.1, GRI 403-2, GRI 403-5, GRI 403-7, GRI 403-9)

We strive for continuous improvement in our safety performance. Although our ultimate target is zero incidents, we also have two non-zero employee safety performance targets. The first is to outperform the annual industry average TRIR. The second is to outperform our own three-year TRIR average. Our 2020 company-wide TRIR target is 1.0, which is the average of the baseline years 2017, 2018, and 2019. Our performance against our previous targets are specified in the table below.

Employee Safety Metrics

Employee incident rates, employee incident rate targets, and the number of employee work-related fatalities are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In number of recordable incidents per 100 full-time workers, except fatalities)		
Employee total recordable incident rate(a)(b)(c)			
Natural Gas Pipelines	1.2	1.2	1.2
Products Pipelines	0.6	0.8	0.8
Terminals	0.9	1.1	1.0
CO ₂	0.7	0.9	0.6
Kinder Morgan Canada(d)	0.5	0.4	—
Corporate Shared Services	0.7	0.1	0.4
Total	1.0	1.0	1.0
Target - employee TRIR industry average(e)	2.8	2.3	2.0
Target - employee TRIR three-year average(f)	1.2	1.2	1.1
Short-service employee total recordable incident rate(a)(c)(g)			
Natural Gas Pipelines	1.6	2.2	1.6
Products Pipelines	0.0	3.0	1.3
Terminals	1.2	0.3	1.4
CO ₂	0.0	0.0	0.0
Corporate Shared Services	0.0	0.0	0.0
Total	1.0	1.1	1.2
Number of employee fatalities(c)	0	0	0

- (a) TRIR calculation: total number of incidents multiplied by 200,000 divided by the number of employee hours actually worked. The 200,000 represents the hours 100 employees worked per year. 100 employees working 40 hours per week, 50 weeks per year is a standard base for calculating incident rates.
- (b) Employee TRIR includes regular full-time, regular part-time, and temporary employees. Also includes Natural Gas Pipelines and Terminals business segment contractors we supervise on a day-to-day basis.
- (c) 2019, 2018, and 2017 rates and fatalities are calculated using incident classifications as of January 15, 2020, February 27, 2019, and January 15, 2018, respectively. Injuries or illnesses may later be reclassified.
- (d) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.
- (e) The BLS typically publishes incident rate data for a given year in the fourth quarter of the following calendar year. We use the most recent BLS data available at the beginning of each year. We calculate the industry average using the weighted average of BLS industry rates based on codes from the North American Industry Classification System. For 2019, these include 4862 pipeline transportation of natural gas, 49319 other warehousing and storage, 4883 support activities for water

transportation, and others. To calculate our 2019 target industry TRIR, we weighted the 2017 BLS industry rates using our 2018 employee hours.

- (f) Kinder Morgan three-year target is based on the average TRIR for previous three-year period. The 2018 and 2019 Kinder Morgan three-year averages exclude the Kinder Morgan Canada business segment.
- (g) Short-service employees include full-time, part-time, or temporary employees that have been in their position for six months or less from their hire or rehire date. 2019 rates exclude Canadian employees.

Health, Safety, and Emergency Response Training Hours

Our health, safety, and emergency response training programs are described in greater detail in *Section 2.2 Management System of the Sustainability Report*.

The average number of employee hours spent on health, safety, emergency response, and other safety training topics not required under OSHA 1910 are provided below.

	Year Ended December 31		
	2017	2018	2019
Average hours per employee of health, safety, and emergency response training(a)(b)(c)			
Natural Gas Pipelines	20	21	19
Products Pipelines	28	22	26
Terminals	14	11	13
CO ₂	30	27	24
Kinder Morgan Canada(d)	12	12	—
Corporate Shared Services	3	4	4
Total	17	17	17

- (a) Training time is assigned to the business segment the employee was active under at the end of the calendar year.
- (b) Includes the U.S. portion of the Cochin Pipeline and KML data up to the date of the sale on December 16, 2019.
- (c) Our health, safety, and emergency response training covers topics required under the U.S. 29 CFR Part 1910 OSHA standards; Canada Labour Code; and Mexican, state, and provincial equivalent programs, including training on: confined spaces, crane safety, electrical safety, emergency response, fall protection, fire protection, hazard communication, lockout/tagout, personal protective equipment, process safety management, and respiratory protection. This metric also includes position-relevant training in other safety topics that are not explicitly required under OSHA 1910, such as: safe driving, which addresses hazards such as distractions while driving and adverse weather conditions; back safety, which explores the factors that lead to back injuries such as physical activity, posture, and load positioning; and ergonomics, which explains how various postures and movements affect the body and how to mitigate ergonomic hazards.
- (d) Represents Kinder Morgan Canada employee average training time up to the date of the TMPL sale on August 31, 2018.

Contractor Safety

We seek to constantly improve our contractor TRIR performance through initiatives to address recent incident trends and new best practices. The following initiatives were undertaken in 2019:

- streamlined contractor orientation and core training into one module;
- interventions to reduce days away, restricted, and lost time rates; and
- revised contractor evaluation criteria to include greater safety and environmental emphasis.

The annual contractor incident rates and the number of contractor fatalities are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In number of recordable incidents per 100 full-time workers, except fatalities)		
Contractor total recordable incident rate(a)			
Natural Gas Pipelines	1.0	0.7	0.7
Products Pipelines	0.9	0.9	0.9
Terminals	0.8	0.4	0.0
CO ₂	0.8	0.9	0.4
Kinder Morgan Canada(b)	0.0	0.4	—
Corporate Shared Services	0.0	0.0	0.0
Total	0.8	0.7	0.6
Number of contractor fatalities	1	0	0

- (a) Contractor rates are based on incidents contractors incurred while doing work for us on a defined major project. Major projects are capital expansion projects that meet a minimum total estimated project cost. If hours for a major project were not available, hours were estimated based on major project spend. Incidents for the contractor's employees operating our marine tankers are not included in the contractor hours here, but are included in the marine LTIR in *Section 7.3 Marine Lost Time Incident Rate* of the *Sustainability Report*.
- (b) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.

We experienced one contractor fatality in 2017. For any fatality, we conduct a root cause investigation. We may establish committees to study similar incidents and near misses, and, where warranted, develop and implement improvements to our policies and procedures. Irrespective of fault, we make adjustments to plans and procedures where appropriate, with the goal of eliminating or reducing the chance that a similar incident will happen in the future.

7.3 Marine Lost Time Incident Rate

(SASB Marine Transportation TR-MT-320a.1, GRI 403-9)

As described in *Section 6.4 Marine Spills and Releases to the Environment* of the *Sustainability Report*, Intrepid Ship Management operates our Jones Act marine transportation vessels. Intrepid's management is actively engaged in monitoring each injury or illness case. Intrepid maintains processes and procedures for reporting, investigating, and recordkeeping and determines the classification for each case. In the event of a marine injury or illness, Intrepid engages contracted medical services, including:

- physician advice at sea,
- maritime telemedicine,
- physician and nurse case management, and
- arrangement and management of shore side medical services.

Intrepid has initiatives and programs for fleet safety officers and quality training focused on the following topics:

- safety leadership,
- sharing best practices, and
- increasing crew training on
 - job safety,
 - work permits, and
 - housekeeping.

Intrepid has also initiated job safety training programs to improve hazard recognition and incident prevention, and to prevent common musculoskeletal injuries.

We do not include Intrepid’s incidents or hours worked in our contractor TRIR in *Section 7.2 Employee and Contractor Safety Statistics and Average Hours of Health, Safety, and Emergency Response Training of the Sustainability Report*.

Intrepid’s LTIR on our marine transportation vessels are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In number of lost time incidents per 1,000,000 hours worked)		
Marine lost time incident rate(a)	1.1	0.6	0.3

(a) Marine lost time incident rate calculation: total number of lost time injuries multiplied by 1,000,000 divided by number of employee hours on-board per Oil Companies International Marine Forum Marine Injury Reporting Guidelines.

8.0 Supply Chain Management

(GRI 407-1)

Supplier Due Diligence

We conduct due diligence on potential new suppliers and regularly check our existing suppliers to monitor supplier compliance with our Code of Business Conduct and Ethics, including steps to prevent corruption, and other social standards. Potential and existing suppliers are checked to verify whether they are excluded from receiving federal contracts, certain subcontracts, and certain types of federal financial and non-financial assistance and benefits. Suppliers can be excluded for the following reasons:

- fraud,
- bribery,
- corruption,
- failure to pay minimum wage,
- violating federal criminal laws, and
- unfair trade practices.

This list of exclusions is maintained in the U.S. Government’s System for Award Management. We do not issue new contracts with suppliers that have an active company-wide exclusion in the System for Award Management. If we identify an active exclusion for an existing supplier, we contact the supplier to inquire about the nature of the exclusion and to initiate reductions in our business with them. We find that our inquiry is sometimes the first notification a supplier has of its active exclusion. In response to our inquiries, a supplier can resolve its active exclusion with the U.S. Government and may continue to serve as our supplier.

We screen service suppliers during our selection process using ISNetworld, a nationally recognized contractor management firm. We require service suppliers to provide documentation including:

- safety performance,
- environmental performance,
- operator qualifications,
- insurance,
- drug and alcohol tests, and

- a management system questionnaire.

We manage service supplier compliance with our requirements using a risk-ranking scorecard to grade each supplier as recommended, acceptable, or at-risk. Suppliers considered at-risk must go through a variance process and improve their grade, or the suppliers are not approved for work.

Supplier Demographics

We strive to build relationships with diverse suppliers including Indigenous Peoples, minority-owned, women-owned, veteran-owned, service-disabled veteran-owned, and small businesses. We promote economic inclusion by meeting or exceeding requirements of the Small Business Act.

We have initiated improvements to our supplier diversity program, including vetting and reviewing diversity status in our supplier database and encouraging diverse suppliers to bid on our projects. We expect these improvements to our supplier diversity program will increase awareness of the diversity status of our suppliers among our employees who initiate purchases of goods and services.

Contractor Safety

We use a multi-faceted approach to foster a culture of safety among our service suppliers. Our approach begins with our due diligence processes, described above. Additional actions we undertake to integrate a culture of safety with our service suppliers include:

- facility safety orientations;
- field, project, and desktop audits;
- job evaluations;
- training;
- benchmarking and safety statistical analysis; and
- safety inspector placement and training.

Our contractor safety statistics are shown in *Section 7.2 Employee and Contractor Safety Statistics and Average Hours of Health, Safety, and Emergency Response Training* of the *Sustainability Report*.

For more information, see our Contractor Environmental/Safety Manual at <https://www.kindermorgan.com/WWKM/media/Documents/Contractor%20Safety%20Manual/KMContractorSafetyManual.pdf>.

Supplier Audits

We monitor our service suppliers' environmental and safety performance through multiple audit programs. We conduct both random and prioritized audits based on a supplier's past performance and the amount of risk the project presents. Our field audits follow our Field Audit Network process, which describes the steps for preparing for the audit, conducting the audit, and uploading the findings and recommendations to our internal tracking systems. Audits are completed by our internal auditors or by third-party auditors.

In addition to our regular service supplier audits, we maintain other risk-specific supplier audits such as audits for asbestos remediation contractors and waste treatment, storage, disposal, and recycling facilities.

Our supplier monitoring statistics are provided below.

	Year Ended December 31		
	2017	2018	2019
Service Supplier Monitoring(a)			
Percentage of service suppliers subject to performance audits	100%	100%	100%
Number of service suppliers audited(b)	180	172	248
Percentage of service suppliers audited(b)	6%	5%	7%

(a) Audits include field and desktop audits.

(b) Includes active medium and high-risk service suppliers. Audits are generally not performed for inactive, low-risk, or minimal-risk service suppliers.

9.0 Waste Management

(SASB Refining & Marketing EM-RM-150a.1, GRI 306-2)

We are committed to managing our hazardous and non-hazardous waste through multiple strategies for both environmental and economic benefits. Our routine business operations generate various types of waste including:

- municipal waste (i.e., rubbish),
- non-hazardous industrial waste,
- construction and demolition debris,
- exempt oil and gas exploration and production waste, and
- hazardous liquid and solid waste.

Our employees receive position-relevant training about:

- safe practices for working with hazardous waste;
- information about products we handle and use;
- site-specific emergency plans;
- spill prevention, control, and countermeasure plans; and
- documentation methods.

We seek to reduce the amount of waste generated throughout our operations by:

- reducing sources of waste,
- substituting less-hazardous or non-hazardous products, and
- reusing materials.

Hazardous Materials Management

Hazardous waste that cannot be reduced or reused is shipped to permitted facilities for recycling, energy recovery, treatment to remove the hazardous constituents, or, as a final option, disposal.

We use software to track and internally report:

- the amount of hazardous waste generated;
- third-party transportation, treatment, and disposal details; and
- the amount recycled.

We profile, manage, and track our hazardous waste. By tracking hazardous waste from generation to disposal, we reduce the likelihood of environmental impacts and potential long-term liabilities.

The amount of hazardous waste generated and the percentage recycled are provided below.

	Year Ended December 31		
	2017	2018	2019
(In metric tons, except percentages)			
Amount of Hazardous Waste Generated(a)			
Natural Gas Pipelines	207	123	461
CO ₂ (b)	0	0	0
Terminals	2,524	2,324	4,334
Products Pipelines	2,561	2,742	5,047
Corporate Shared Services	10	14	46
Total	<u>5,302</u>	<u>5,203</u>	<u>9,888</u>
Percentage Recycled(c)			
Natural Gas Pipelines	1%	3%	29%
CO ₂	—	—	0%
Terminals	29%	37%	45%
Products Pipelines	83%	77%	67%
Corporate Shared Services	82%	87%	36%
Total	<u>54%</u>	<u>57%</u>	<u>55%</u>

- (a) These values are as of September 11, 2020. They exclude universal hazardous waste and hazardous waste generated within Canada and Mexico. Hazardous waste weights are reported in the year the waste was shipped.
- (b) The 2019 hazardous waste generated for the CO₂ business segment is not zero, but instead rounds to zero. 2017 and 2018 hazardous waste values are zero.
- (c) Hazardous waste recycled from U.S. operations includes shipments with the reclamation and recovery handling type and the handling codes H010, H020, H039, H050, and H061.

Due to the uneven nature of hazardous waste generation in our operations, there can be large changes in the amount of hazardous waste generated and recycled year-over-year. The primary factors that can affect waste generation during a given year include the amount of construction, remediation, and maintenance activities.

Non-Hazardous Waste Management - Business Waste Recycling

We reduce our non-hazardous waste impact through business waste recycling programs in our Houston headquarters building and by engaging with employees throughout our operations. The recycling program at our Houston headquarters is a single-stream program that includes office paper, cardboard, glass, plastic, and aluminum. We also send our retired or unused IT equipment, company-wide, to third-party companies who break down the equipment into materials that can be recycled.

The amount of recycled business waste from our Houston headquarters is provided below.

	Year Ended December 31		
	2017	2018	2019
Aluminum, cardboard, glass, paper, and plastic (tons)	105	155	119

Chemical Management

As part of Emergency Planning and Community Right-to-Know Act Tier II reporting, we maintain an inventory of hazardous chemicals stored at our facilities. Many of our facilities submit reports annually documenting the quantity and type of hazardous material on site that exceed reporting thresholds. These

reports help local agencies such as fire departments, local emergency planning committees, and state emergency response commissions prepare to respond to chemical emergencies. More information about how we work with first responders to prepare for emergencies are described in detail in *Section 12.3 Business Continuity Planning and Emergency Preparedness* of the *Sustainability Report*.

10.0 Competitive Behavior

(SASB Midstream EM-MD-520a.1)

Our policies prohibit improper conduct that is intended to impede competition, eliminate a competitor, or control prices or services in a market. We strive to compete fairly and honestly in each phase of our business and to conduct our operations in compliance with federal, state, provincial, and foreign antitrust laws.

Some of our U.S. natural gas, refined petroleum products, and crude oil transmission pipelines are subject to regulation by the FERC under the NGA or ICA. Both the NGA and ICA require that we maintain our tariffs on file with the FERC. Those tariffs set forth the rates we charge for providing transportation and storage services on our FERC regulated pipelines, as well as the rules and regulations governing these services.

Our Mexico assets are regulated by the Mexico Energy Regulatory Commission and operate under a permit that establishes certain conditions and specifications, including for maintenance, safety, and economics.

For more information, see our Code of Business Conduct and Ethics at https://www.kindermorgan.com/WWWKM/media/Documents/Governance/KM_Code_of_Business_Conduct_and_Ethics.pdf.

Our monetary losses as a result of legal proceedings associated with federal pipeline and storage, rate, access, and pricing regulations are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In millions)		
Total amount of monetary losses as a result of legal proceedings associated with federal pipeline and storage rate, access, and pricing regulations(a)			
Natural Gas Pipelines	\$10	\$0	\$19.5
Products Pipelines	0	0	0
Terminals	0	0	0
CO ₂	0	0	0
Kinder Morgan Canada(b)	0	0	—
Total	\$10	\$0	\$19.5

(a) Disclosure includes the amount, excluding legal fees, of fines or settlements associated with the enforcement of federal pipeline and storage regulations, including those related to rates, pipeline access, price gouging, or price fixing by the FERC, U.S. Commodity Futures Trading Commission, U.S. Federal Trade Commission, CER, Mexico Energy Regulatory Commission, or civil actions (e.g., civil judgment, settlements, or regulatory penalties), or criminal actions (e.g., criminal judgment, penalties, or restitutions) asserted by an entity, whether a regulatory agency, business, or individual. Disclosure excludes FERC rate settlements.

(b) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.

The settlements paid in 2017 and 2019 were for matters that were alleged to have occurred more than a decade prior to our ownership and control of El Paso Corporation and El Paso Marketing L.P. Beginning in 2003, several lawsuits were filed by purchasers of natural gas against El Paso Corporation, El Paso Marketing L.P., and numerous other energy companies. The purchasers claimed the energy companies conspired to manipulate the price of natural gas by providing false price information to industry trade publications that published gas indices. All of the cases have been settled or dismissed, including the settlement of the final Wisconsin class action which was approved by the U.S. District Court in Nevada on August 5, 2019.

11.0 Prevention of Corruption and Bribery throughout the Value Chain

(SASB Exploration & Production EM-EP-510a.2, GRI 205-2, GRI 206-1)

Our policies prohibit us and our employees from engaging in corrupt practices and provide guidelines on acceptable behavior. Our employees, directors, agents, contractors, business partners, and third-party representatives are prohibited from giving or accepting bribes, kickbacks, or other improper payments in conjunction with our business. While the U.S. Foreign Corrupt Practices Act contains a narrow exception that allows for small-dollar facilitation payments to be made to a foreign official in order to expedite routine governmental actions that are non-discretionary in nature, our policies do not allow facilitation payments of any kind.

As part of our management system for preventing corruption and bribery, our internal controls require that transactions be:

- accurately described with an explanation of the purpose of the transaction,
- sufficiently supported by documentation, and
- appropriately approved by the required level of management, based on the dollar value of the transaction, prior to entering into a commitment and again before processing for payment.

Additionally, we have internal controls for adding payees to our accounting system and for approving payments to vendors. Our controls require review and approval by one or more individual(s) a level higher in our accounting system reporting chain than the person requesting the new payee or payment.

The amount of legal or regulatory fines, settlements, or penalties associated with bribery and corruption is provided below.

	Year Ended December 31		
	2017	2018	2019
Legal or regulatory fines, settlements, or penalties associated with bribery and corruption	\$0	\$0	\$0

For more information, see our Code of Business Conduct and Ethics at https://www.kindermorgan.com/WWWKM/media/Documents/Governance/KM_Code_of_Business_Conduct_and_Ethics.pdf.

12.0 Operational Safety

12.1 Asset Integrity Management

We work to provide safe, reliable, and efficient system operations. Through our OMS, our employees comprehensively assess operational risks related to our assets. We develop programs, policies, and procedures to address those risks. Our primary tools for maintaining safe operations include our asset integrity management programs.

Pipelines and Liquid Terminals

We use state-of-the-art technology for maintenance and integrity testing at our transmission pipelines and facilities and liquids terminals facilities. We conduct activities to monitor the integrity of our transmission pipelines and facilities and liquids terminals, including:

- monitoring transmission pipelines and liquids terminals 24 hours a day, seven days a week by trained personnel using SCADA computer systems;
- visually inspecting pipeline rights-of-way by air and/or ground on a regular basis;
- performing internal transmission pipeline inspections periodically using smart pigs;
- using cathodic protection to protect our pipelines, storage tanks, and storage wells from external corrosion;
- using our public awareness program, described in greater detail in *Section 16.1.1.1 Public Awareness Program* of the *Sustainability Report*, to communicate with stakeholders in an effort to prevent third-party damage to our pipelines;
- participating in the Pipeline Safety Management Systems Group to share best practices for safe operations;
- working to develop and improve our business processes, operations procedures, and risk and opportunity assessments;
- maintaining well-defined roles and responsibilities;
- providing employee training; and
- executing quality assurance programs such as third-party audits and application of performance metrics.

More information on how we use smart pigs as part of our integrity management program can be found on our *Maintaining our pipelines' integrity through in-line inspections* case study video and fact sheet at https://www.kindermorgan.com/Safety-Environment/ESG#tabs-case_studies.

Underground Natural Gas Storage Facilities

We maintain risk management programs and monitoring systems for well and reservoir integrity and deliverability at each of our underground natural gas storage facilities. Our operations and maintenance procedures are subject to periodic inspections and audits by regulators and our own internal auditors that are independent of the business segments. We have procedures in place to meet or exceed regulations to maintain the safety and reliability of our underground natural gas storage facilities over the long term.

12.2 Damage Prevention

Because one of our greatest operational risks is third-party line strikes, we actively support organizations whose mission is to promote safe digging, including:

- *CGA* - we are a platinum-level sponsor and regularly promote *CGA's* message to “call 811 before you dig” on our website and social media channels;

- *Pipeline Ag Safety Alliance* - a member-driven organization whose mission is to prevent damage to buried pipelines through education and improved communication with agricultural communities;
- *Gold Shovel Standard* - a nonprofit organization committed to improving workplace safety, public safety, and buried infrastructure integrity through greater transparency among buried-asset operators, locators, and excavators to drive continuous improvement in damage prevention;
- *Drain Tile Safety Coalition* - a nonprofit coalition sponsored by pipeline and utility operators and One Call Centers committed to improving drain tile safety and preventing accidents involving underground infrastructure; and
- Area Damage Prevention Councils, State One Call Centers, and One Call Boards in the states where we operate.

12.3 Business Continuity Planning and Emergency Preparedness

Our ability to respond quickly in an emergency is part of our commitment to the safety of the communities in which we operate and the commercial obligations to our customers. Our business continuity plans cover preparation and the recovery of functions for addressing potential business or supply chain disruptions. To manage the associated risk, we work to continuously improve:

- our planning prior to events;
- procedures for safely responding to, and managing unfolding disruptions;
- our ability to quickly recover and assume normal operations; and
- engineering controls to prevent or limit business interruptions.

We maintain site-specific emergency response plans and protocols for communicating with external stakeholders that include agency notifications and actions to respond quickly and efficiently in an emergency. Our corporate Crisis Support Team augments our business segments' existing emergency response procedures and capabilities with additional resources as needed. We continuously monitor events that present risks to our assets utilizing GIS platforms and other tools to identify potential operational disruptions. We provide our employees and contractors with emergency response training. Our emergency response personnel are trained to use the National Incident Management System Incident Command System. We train our emergency response personnel to respond to emergencies by:

- securing the safety of the public and employees,
- promptly notifying governmental response organizations and agencies,
- isolating the emergency,
- containment and control,
- coordinating response activities, and
- restoring service.

Pandemic Preparedness

Since 2006, we have had a Pandemic Preparedness Committee and Pandemic Preparedness Guide to mitigate, plan, reduce risk, and minimize impacts to workers and critical business functions. The Pandemic Preparedness Committee, which consists of leaders across our business segments, is charged with determining the appropriate planning and response measures should a pandemic occur. The Pandemic Preparedness Committee has a standing January meeting to evaluate conditions at the height of flu season. During a pandemic, our priorities are to protect our workers and their families, and to keep our critical infrastructure businesses running.

Pandemic planning assumptions and recommendations are included as part of our business continuity and business segment asset planning and preparedness. Our Pandemic Preparedness Plan follows guidance set forth by the following organizations:

- World Health Organization,
- Centers for Disease Control and Prevention,
- U.S. Food and Drug Administration,
- OSHA,
- state and local health agencies, and
- other governmental regulatory agencies.

We incorporate the guidelines, planning, and response actions from API Guidance Document 1180 Pandemic Planning Guide. We also engage with peer companies to consider their pandemic preparedness activities.

The Pandemic Preparedness Plan has been designed to enhance existing business continuity planning and to be scalable with various phases of a pandemic event. Using the corporate plan as a baseline, each business segment develops and maintains plans addressing operational risk associated with their specific assets during a pandemic.

Based on the size and scope of an event, our Crisis Support Team works with our business segments and corporate functions to implement a standardized pandemic tracking process. Functional areas report back to the Crisis Support Team, giving us the ability to detect abnormal clusters of pandemic-like illness to better identify potential risk areas and take corrective actions.

In order to prevent the spread of a disease during a pandemic, certain non-medical interventions are implemented, such as:

- education and communication;
- proper hygiene etiquette, including hand washing;
- enhanced workplace cleaning;
- social distancing;
- isolating critical facilities; and
- use of personal protective equipment.

We also raise employee awareness through communications prepared by our Crisis Support Team and approved by our Pandemic Preparedness Committee.

First Responder Joint Exercises

To practice our emergency response and better prepare personnel, we regularly conduct joint mock emergency exercises with first responders. By conducting these exercises, employees and emergency responders are not only able to test their equipment, personnel, and procedures, but also to meet and work together face-to-face prior to an actual emergency. The more familiar we are with one another and each other's procedures, the more effective our integrated response can be in the event of a real emergency.

Example drill scenarios include, among others, the following:

- pipeline releases;
- line strikes;
- tank failures;
- well blowouts;
- loss of communications;
- severe weather events (e.g. hurricanes, floods, tornadoes, and blizzards);
- wildfires;
- security incidents, including physical or cyber-attacks;

- pipeline explosions;
- third-party train derailments; and
- events that test our ability to maintain business continuity with our corporate functions.

Natural Disaster Preparedness and Response

As part of our commitment to emergency preparedness, we plan for and have established procedures for responding to a wide variety of natural disasters. We maintain hazard identification and risk assessments for our transmission pipelines. The purpose of these risk assessments is to identify potential risks and natural disaster scenarios, and to develop response plans. This planning involves local response officials, other operators and their facilities, and land and right-of-way personnel.

We utilize a variety of tools to forecast and monitor weather-related events, including:

- weather event and tide level monitoring through:
 - third-party meteorological services,
 - local and national weather and news feeds, and
 - internal and external situational reports specific to impacted areas;
- GIS mapping of real-time situational data overlaid on our asset maps;
- internal communication processes to provide situational updates to affected personnel, management, and executives as events unfold;
- annual testing of backup work locations that support critical business functions in the event of natural disasters by checking:
 - day-to-day communications capabilities,
 - infrastructure readiness,
 - awareness of the potential for natural events and risks,
 - understanding and accuracy of the disaster response and business continuity plans, and
 - training completions.

When our assets are threatened by a potential hazard, such as a hurricane, we monitor the event and location based on the threat level and projected storm paths in relation to our assets. Situation-specific communications are sent to key personnel at potentially affected facilities and in related corporate functions. These communications provide daily event updates for assets that may be impacted and include notifications tied to our disaster preparedness and response procedures. Using GIS technology, we monitor forecasted paths and impact areas. Our internal GIS platform also allows us to analyze location-specific data, including local supply chain resources that are useful in supporting effective responses.

Emergency Response

To promptly resolve issues and problems created by incidents, we maintain an emergency response notification system to inform internal support personnel. Our process is designed to facilitate real-time communication of emergency events to our personnel with incident response or reporting responsibilities. Our process allows for more timely, effective, and efficient responses in emergency situations and reporting to regulatory agencies.

During an emergency, we seek to respond effectively, contain the situation, and restore customer services as soon as possible. We seek to provide for the well-being and safety of our employees, the public, and the environment. We practice a disciplined, competent, and proactive approach when an event occurs. We maintain backup control centers in different parts of the country so we can relocate our critical control room personnel and maintain operations during emergencies.

Once the event has passed, a final notification is sent to the distribution list of personnel notifying them to begin the demobilization process and to gather information for the lessons learned phase. We have procedures to determine and document lessons learned so that risk assessments are updated and performance improvements are tracked and completed.

Emergency Response Support

To support our ability to operate under various conditions, we have developed and maintain a reliable supply chain. For planning prior to an emergency, we maintain response and support capabilities to provide significant additional resources to supplement those of our potentially affected local operations. Our supply chain management personnel maintain lists of emergency response contractors, materials and supplies vendors, and transportation and fuel sources. We also maintain a database of our emergency response equipment. We have procedures in place to raise spending limits for affected personnel, to assist affected employees, and to increase security resources.

12.4 Reportable Pipeline Incidents

(SASB Midstream EM-MD-540a.1)

One of our primary goals is to prevent pipeline incidents. Should an incident occur, we investigate the causes and contributing factors in an effort to prevent similar incidents going forward. Despite our prevention efforts, incidents did occur over the reporting period.

The number of reportable pipeline incidents, number of significant reportable pipeline incidents, and percentage of significant reportable pipeline incidents are provided below.

	Year Ended December 31		
	2017	2018	2019
Number of reportable pipeline incidents(a)(b)(c)			
Natural Gas Pipelines	27	22	27
Products Pipelines	10	13	12
Terminals	11	13	16
CO ₂	2	5	5
Kinder Morgan Canada(d)	0	0	—
Total	<u>50</u>	<u>53</u>	<u>60</u>
Number of significant reportable pipeline incidents(c)(e)			
Natural Gas Pipelines	14	9	14
Products Pipelines	4	7	4
Terminals	5	5	5
CO ₂	0	2	1
Kinder Morgan Canada(d)	0	0	—
Total	<u>23</u>	<u>23</u>	<u>24</u>
Percentage significant of reportable pipeline incidents			
Natural Gas Pipelines	52%	41%	52%
Products Pipelines	40%	54%	33%
Terminals	45%	38%	31%
CO ₂	0%	40%	20%
Kinder Morgan Canada(d)	0%	0%	—
Total	<u>46%</u>	<u>43%</u>	<u>40%</u>

- (a) Reportable hazardous liquid pipeline incidents include explosions or fires, release of five gallons or more (excluding releases less than five bbls associated with pipeline maintenance activities), a fatality, an injury necessitating hospitalization, or estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000.
- (b) Reportable gas gathering, transmission, storage, and distribution incidents include: i) an event that involves a release of gas from a pipeline or of LNG, liquefied petroleum gas, refrigerant gas, or gas from an LNG facility, and that results in one or more of the following consequences: death or personal injury necessitating in-patient hospitalization; estimated property damage of \$50,000 or more, including loss to the operator and others, or both, but excluding cost of gas lost; or unintentional estimated gas loss of three million cubic feet or more; ii) an event that results in an emergency shutdown of an LNG facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident; iii) an event that is significant in the judgment of the operator, even though it did not meet the criteria of the above paragraphs of this definition.
- (c) The number of pipeline incidents and significant incidents reported for 2017 and 2018 uses data as of July 2019. The number of pipeline incidents and significant incidents reported for 2019 uses data as of February 2020.
- (d) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.
- (e) Significant reportable pipeline incidents are defined as an incident that includes one of the following conditions: a liquid release volume greater than or equal to 50 bbls, a highly volatile liquid release greater than five bbls, a fatality, an injury necessitating hospitalization, liquid releases resulting in a fire or explosion, or total cost that exceeds \$50,000 in 1984 dollars. For 2017, 2018, and 2019, the thresholds in 1984 dollars are \$102,674, \$104,659, and \$106,762, respectively. For highly volatile liquid and CO₂ releases, PHMSA combines the unintentional and intentional release volumes to determine if the incident meets the significant liquid release threshold.

In each year presented above, the most frequent reason the incidents reported were categorized as significant was due to total incident costs exceeding the monetary threshold of \$50,000 in 1984 dollars.

12.5 Natural Gas and Hazardous Liquid Pipelines Inspection *(SASB Midstream EM-MD-540a.2)*

We aim for safe operations and zero pipeline incidents. As described in greater detail in *Sections 2.2 Management System* and *12.1 Asset Integrity Management* of the *Sustainability Report*, we use risk management programs and state-of-the-art technology for maintenance and integrity testing at our transmission pipelines and facilities and liquids terminal facilities. We work to meet or exceed the regulatory requirements for testing and inspecting our pipelines, find opportunities to improve, and apply sound integrity management principles and technologies.

The number of inspections we make varies from year to year depending on our annual integrity program requirements.

The percentage of natural gas pipelines and hazardous liquid pipelines inspected through ILIs, pressure tests, direct assessments, or other technologies are provided below.

	Year Ended December 31		
	2017	2018	2019
Percentage of natural gas pipelines inspected(a)	14%	14%	19%
Percentage of hazardous liquid pipelines inspected(a)(b)	19%	18%	27%

- (a) For segments of pipe that are inspected more than once for the same types of anomalies during the same calendar year, the mileage inspected used in this calculation is counted once. In some limited instances where multiple inspections for different types of anomalies are conducted on the same segment in the same year, the mileage for each inspection may be counted separately.
- (b) Includes pipeline inspection data from TMPL, Puget Sound pipeline system, and Kinder Morgan Canada Inc. up to the date of its sale on August 31, 2018 and the Cochin Pipeline and KML up to the date of its sale on December 16, 2019.

From 2017 through 2019, over 28,000 miles of our natural gas pipelines and 8,000 miles of hazardous liquid pipelines were assessed using ILIs, hydrostatic testing, or direct assessments.

12.6 Rail Transportation Operational Safety

We operate liquids and bulk products rail loading and unloading facilities across our Natural Gas Pipelines, Products Pipelines, and Terminals business segments. As operator of these facilities, we are regulated and regularly inspected by the FRA. We maintain business segment and site-specific procedures for the safe, efficient, and compliant operation of the facilities and loading and/or unloading of rail cars.

12.6.1 Number of Accident Releases and Non-Accident Releases (SASB Midstream EM-MD-540a.3, SASB Rail Transportation TR-RA-540a.2)

Unintentional releases of hazardous material can occur from rail tank cars for many reasons, such as faulty, defective, or improperly installed equipment. These accident and non-accident releases usually occur at rail yards not owned or operated by us, many of which are several hundred miles from our facility where a rail car was loaded or unloaded. We may be listed as the shipper or carrier on the required reporting form, depending on our involvement in the shipping process. In most cases we do not own or transport the rail car, and we do not own the product contained within the rail cars.

If there is a release while we are in possession of the rail car, we employ the emergency response procedures discussed in *Section 6.3 Hydrocarbon Spills* of the *Sustainability Report*.

Release events from rail cars fall into two categories. Accident releases are releases that result from derailment, collision, or other rail-related accidents. Non-accident releases are those that occur when there is no derailment, collision, or other rail-related accidents.

The number of accident releases and non-accident releases from rail transportation, where we were listed as the shipper or carrier on the required reporting form, are provided below.

	Year Ended December 31		
	2017	2018	2019
Number of accident releases from rail transportation(a)(b)			
Natural Gas Pipelines	0	0	0
Products Pipelines	0	0	0
Terminals	0	0	0
CO ₂	0	0	0
Total	0	0	0
Number of non-accident releases from rail transportation(a)(b)			
Natural Gas Pipelines	0	0	0
Products Pipelines	0	0	0
Terminals	6	1	1
CO ₂	0	0	0
Total	6	1	1

(a) Non-accident and accident releases are defined using the reporting criteria in U.S. 49 CFR 171.16.

(b) Includes releases where a Kinder Morgan entity is listed as a Shipper or Carrier on the DOT PHMSA Incident Report Form 5800.1.

As shown in *Appendix B – Activity Metrics*, we loaded and unloaded approximately 492,000 rail cars over the past three years. The number of accident releases and non-accident releases reported during that time period involved less than 0.002% of rail cars processed.

12.6.2 Number of FRA Recommended Violation Defects (SASB Rail Transportation TR-RA-540a.3)

The majority of the FRA recommended violation defects we received followed FRA inspections of rail cars at rail yards not owned or operated by us, many of which are several hundred miles from our facility where a rail car was loaded or unloaded. The FRA recommended violation defects included such matters as loose bolts, valves, or plugs; defective safety equipment, such as gasket or pins; rail car weight; and in some cases, vapor releases from loose equipment. Vapor releases were promptly mitigated by personnel at the rail yards where the releases were detected. Any defective or loose equipment was promptly corrected upon identification.

The number of FRA recommended violation defects we received are provided below.

	Year Ended December 31		
	2017	2018	2019
Number of FRA recommended violation defects(a)			
Natural Gas Pipelines	0	0	0
Products Pipelines	0	0	0
Terminals	12	5	32
Total	12	5	32

(a) We have updated the number of FRA recommended violation defects for 2017 from our 2017 and 2018 Reports to better align with the SASB standard.

Although the violations in 2019 involved less than 0.02% of the total rail cars we processed, we instituted additional cross-check procedures in an effort to eliminate the problems identified in these violations.

13.0 Management of Changes to the Legal & Regulatory Environment
(SASB Exploration & Production EM-EP-530a.1)

Multiple government agencies regulate our business activities, including the EPA, PHMSA, CER, ASEA, OSHA, USCG, and other federal, state, provincial, and local agencies. To identify, assess, and manage new ESG regulatory risks and opportunities, we maintain a process for identifying, communicating, and verifying compliance with changes in applicable regulatory requirements. Dedicated internal regulatory personnel work with internal and third-party subject matter specialists, industry trade groups, and agency personnel to identify changes in the following topics that may affect our operations:

- environmental, personal safety, process safety, and pipeline safety regulatory requirements, interpretations, and guidance;
- industry codes and standards; and
- external incident reports, including:
 - U.S. National Transportation Safety Board, Transportation Safety Board of Canada, and Chemical Safety Board incident investigations;
 - CER and PHMSA advisory bulletins and failure reports; and
 - ASEA reports.

We distribute a monthly regulatory update internally to personnel with compliance roles and responsibilities. The monthly regulatory update includes both proposed and final publications. Our compliance personnel assess the potential impacts of proposed rules across our business segments. Personnel from our business segments discuss and coordinate potential compliance approaches and evaluate which proposed requirements warrant providing our feedback to a proposing agency.

We comment on the formulation of legislative and regulatory policies at the federal, state, provincial, and local levels both as an individual company and, more often, through trade associations. These trade associations primarily include INGAA, AOPL, and the International Liquids Terminals Association. We prefer that the trade groups and other business organizations we work with take positions, such as those related to climate change, that are consistent with our own. We recognize that this may not always be possible due to the variety of companies and other stakeholders that work with these organizations. We work with these groups to develop solutions and find common ground on issues that are relevant to our industry.

In 2019, our trade associations with due payments in excess of \$50,000 included:

- INGAA,
- PRCI,
- AOPL,
- American Gas Association,
- CGA, and
- National Excavator Initiative.

The Board oversees our participation in national trade associations through regular reports to the EHS Committee. We brief the Board's EHS Committee on the most significant proposed regulatory changes. Other proposed regulations on which we have provided feedback are also reported to the EHS Committee.

It has generally been our experience that it is most effective to take a collaborative approach to identify the most effective means of addressing proposed regulatory changes for our types of assets and operations. We often share data with industry groups and regulatory agencies and engage in discussions with both about potential regulatory and compliance strategies. When we have confidence in the likely final form of a proposed regulation and determine that our compliance with the proposed regulation may require substantial upfront work, we may start making preparations for compliance prior to a regulation being finalized.

We track final publications identified in our monthly regulatory update in an internal application and database. Through the application, business segment and corporate compliance professionals verify that they have reviewed the updated requirements that may impact their business and completed the necessary compliance activities. The Vice President of Corporate EHS and business segment COOs review progress quarterly. We brief the EHS Committee on the most significant of these regulatory changes and compliance activities.

The number of new regulations, interpretations, and guidance for proposed and final regulations impacting our business segments are provided below.

	Year Ended December 31		
	2017	2018	2019
Number of new regulations, interpretations, and guidance			
Proposed	1,335	1,301	1,296
Final	480	501	505
Total	1,815	1,802	1,801

13.1 Political Contributions and Lobbying Expenses (GRI 415-1)

We do not have corporate-sponsored political action committees and we do not contribute to political parties or candidates for public office. We encourage employees, contractors, and others affiliated with us to vote and keep informed on political matters and to support, with their own funds and on their own time, the candidates or parties of their choice. We also encourage and support employees who take a role in community affairs in accordance with our Code of Business Conduct and Ethics.

While we made no contributions to political campaigns or political organizations, the payments we made to lobbyists or lobbying organizations, our trade associations dues, and the portion of our trade association dues attributed to lobbying are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In thousands)		
Contributions to political campaigns, individuals, parties, and organizations	\$0	\$0	\$0
Payments to lobbying groups or organizations(a)	\$578	\$575	\$265
Trade association dues(b)	\$2,427	\$2,502	\$2,523
Portion of trade association dues attributed to lobbying(b)	\$169	\$180	\$225

(a) Excludes payments to lobbying groups made through TMPL, Puget Sound pipeline system, and Kinder Morgan Canada business segment sold on August 31, 2018.

(b) Includes trade associations where our dues were greater than \$25,000 for the calendar year. Excludes Canadian trade associations related to our divested assets.

13.2 Tax Transparency (GRI 201-1, GRI 201-4)

Driven by large depreciation expenses, partially created by bonus depreciation for capital expenditures, we have generated taxable losses for the past several years. We now have a large federal net operating loss balance which can be used to offset future taxable income. Additionally, in 2017 and 2018, we took advantage of a federal tax law to monetize certain minimum tax credits which resulted in refunds paid to us.

Income taxes refunded and paid by country and royalties and duties paid are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In millions)		
Income Taxes (Refunded) Paid(a)			
U.S. Federal	\$(144)	\$(149)	\$(1)
U.S. State	(3)	26	4
Canada	0	11	360
Mexico	7	3	8
Brazil	0	0	1
Total Income Taxes (Refunded) Paid, Net	<u>\$(140)</u>	<u>\$(109)</u>	<u>\$372</u>
Royalties and Duties Paid(b)			
Natural Gas Pipelines	\$0	\$1	\$0
Products Pipelines	0	0	0
Terminals	0	0	0
CO ₂	64	71	70
Total	<u>\$64</u>	<u>\$72</u>	<u>\$70</u>

(a) We do not have current operations in Brazil, the Cayman Islands, Scotland, or the Netherlands. There were no taxes paid in the Cayman Islands, Scotland, or the Netherlands in 2017, 2018, and 2019. The entities in Brazil and the Cayman Islands are from legacy acquisitions and we are working to close these entities.

(b) Royalties and duties paid do not include property taxes paid to government agencies.

We do not have a presence in countries that are considered as partially compliant or non-compliant according to the Organisation for Economic Co-operation and Development tax transparency report.

14.0 Data Security

(SASB Services SV-PS-230a.1)

We employ a comprehensive strategy for identifying and addressing data security risks that is aligned with the U.S. Commerce Department's National Institute of Standards and Technology *Framework for Improving Critical Infrastructure Cybersecurity*. This framework outlines standards and practices to promote the protection of critical infrastructure. The framework is overseen by third-party experts who provide guidelines on how to manage supply chain cybersecurity. Our strategy includes both short- and long-term initiatives to increase the security surrounding our assets and is supplemented using third-party threat monitoring, rigorous security protocols, and government partnerships.

We are committed to protecting sensitive information through a dedicated cybersecurity group within our IT department. This group:

- reports quarterly to senior management including the CEO, President, CFO, Chief Information Officer, General Counsel, business segment Presidents, and Corporate Security;
- prepares management briefings that include company-wide cybersecurity status and initiatives; and
- provides a forum for discussing data security risk solutions and formulating action plans.

The Board's Audit Committee is briefed quarterly on cybersecurity risk and our cybersecurity management program and initiatives.

We have made investments in addressing data security risks through:

- continuous third-party security monitoring of our network perimeters,
- advanced persistent threat group monitoring to keep informed of emerging serious threats,

- standardization of network security architecture which separates business and SCADA networks, and
- Security Information and Event Management software systems.

Separate business and SCADA networks allow for isolation of potential threats and enhances the security of these systems. The Security Information and Event Management software systems correlate security events and aggregate security-related incident data, such as malware activity and other possible malicious activities. This program sends alerts if the data analysis shows that an activity could be a potential security issue.

On an annual basis, we hire an independent third party to perform penetration testing. The third party checks for vulnerabilities on our external and internal network perimeters, such as our website and our internal network and sites. If vulnerabilities are found, corrective actions and patches are implemented to remediate any issues.

We engage with a wide variety of government and industry groups to enable cross-sharing and to identify opportunities to improve our security, including:

- active participation in IT Sector Coordinating Councils;
- attendance at classified briefings hosted by the
 - DOE,
 - Federal Bureau of Investigation, and
 - Department of Homeland Security;
- membership in the DOE's Oil and Natural Gas pilot group helps organizations evaluate, prioritize, and improve cybersecurity capabilities and provides near real-time review of and feedback on internal data through the U.S. intelligence community; and
- partnering with the Kansas Intelligence Fusion Center for review of network traffic using U.S. government classified tools to generate intelligence analysis critical for homeland security policy and relevant threat warnings.

Partnership with these security agencies provides us with intelligence on a wide range of critical infrastructure protection and cybersecurity activities and issues.

Security functionality is continuously monitored by our network operations center, which:

- monitors critical SCADA systems and telecommunications circuits,
- communicates directly with control centers,
- assigns support staff and management, and
- monitors environmental systems.

We maintain a dedicated SCADA group within our IT department to evaluate and respond to significant events and incidents that may impact our operations and deploy anti-virus solutions on SCADA devices. The SCADA systems and workstations within our data centers and control centers have anti-virus coverage.

Employees are required to take annual cyber and physical security training. This training is designed to help employees guard our cyber and physical data. The key objectives of the training are to teach employees how to:

- recognize the difference between phishing and spear phishing,
- spot the common types of phishing emails,

- understand the key concepts for safely browsing the internet, and
- identify physical risks to the security of our data.

In the unlikely event that data and network defenses are bypassed, we have the ability to immediately sever communication between business networks and the internet and between SCADA and business networks.

15.0 Employee Relations

15.1 Employees

(SASB Investment Banking & Brokerage FN-IB-330a.1, Professional & Commercial Services SV-PS-330a.2, GRI 401-1, GRI 405-1)

We use a strategic approach to building a diverse, inclusive, and respectful workplace. Our HR department provides expertise and tools to attract, develop, and retain diverse talent and support our employees' career and development goals. We value our employees' opinions and encourage them to engage with management and ask questions on topics such as our goals, challenges, and employee concerns. For example, employees are encouraged to submit questions to our CEO and President during our semi-annual employee meetings, either before or during the meeting.

We link total compensation to our financial performance and to the attainment of our short-term and long-term strategic, operational, and financial objectives. We believe that an effective compensation program should reward individuals for:

- advancing our business strategies;
- advancing the interests of our investors and other stakeholders;
- upholding and complying with our policies, which require the individual to maintain a discrimination-free workplace;
- incentivizing compliance with our ESG policies, including our Code of Business Conduct and Ethics and our EHS policies; and
- meeting our environmental, safety, and compliance targets.

Compensation includes competitive base salaries in the markets in which we operate and competitive benefits, including retirement plans, opportunities for annual bonuses, and, for eligible employees, long-term incentives and an employee stock purchase plan. In 2019, over 95% of our employees were eligible for the employee stock purchase plan.

Our Annual Incentive Plan is designed to foster our executive officers' and our employees' personal stake in our continued success through the possible payment of annual cash bonuses that are dependent on a combination of individual and company performance. Under the Annual Incentive Plan, a pool of bonus dollars is budgeted at the beginning of each year for annual cash bonuses that may be paid to our executive officers and other employees, depending on the extent to which we meet certain financial performance objectives. The Compensation Committee then establishes the final bonus pool based primarily on the extent to which the financial performance objectives are met. The Compensation Committee may also adjust the budgeted pool of bonus dollars upward or downward based on our overall performance in other areas, including targets for safety and environmental incident rates, regulatory compliance, and financial measurements.

The composition of our employees' age, gender, disability, and minority workforce representation, and our employee turnover statistics are provided below.

	2018	2019
Full-time employees(a)	11,165	11,086
Part-time employees(a)	9	6
Temporary employees(a)	6	5
Age representation(b)		
Average age	46	45
Percentage under 18 years old	0%	0%
Percentage from 18 through 29 years old	11%	11%
Percentage from 30 through 50 years old	51%	52%
Percentage over 50 years old	39%	38%
Female employee representation(b)(c)		
Percentage of workforce(d)	16%	16%
Percentage of management	18%	19%
Percentage of Board of Directors	13%	13%
Minority employee representation(b)(e)		
Percentage of workforce(d)	28%	29%
Percentage of management	19%	19%
Percentage of Board of Directors(f)	6%	6%
Percent of workforce with disabilities(d)(g)	4%	4%
Employee Turnover - Total	9%	10%
Involuntary employee turnover(h)(i)	2%	4%
Voluntary employee turnover(i)(j)	7%	6%

- (a) 2018 and 2019 employee counts are as of December 2018 and December 2019, respectively.
- (b) 2018 U.S. data was queried in November 2018. 2018 Canadian and Mexico data was queried in December 2018. 2019 U.S. data were queried in November 2019. 2019 Mexico data were queried in December 2019. 2019 employee data for KML was not included. The total number of employees used to calculate these percentages for 2018 and 2019 were 11,171 and 11,115, respectively. Full-time and part-time employees are included.
- (c) In 2018 and 2019, 0.5% and 0.7% of employees, respectively, selected "I prefer not to answer" for gender.
- (d) Workforce includes positions in management, professional positions, and remaining positions.
- (e) U.S. and Canada diversity data are categorized per the Equal Employment Opportunity Commission's Employer Information Report EEO-1 and the Employment Equity Workforce Survey, respectively. Mexico is excluded, as there is no requirement to collect diversity data. Minority includes the number of U.S. employees who classify themselves as Asian, Black or African American, Hispanic or Latino, Native American or Alaska Native, Native Hawaiian or Pacific Islander, and "Two or more races" and the Canada employees who identified themselves as a visible minority (other than Aboriginal peoples) who are non-white in color or non-Caucasian in race, regardless of their place of birth or citizenship.
- (f) We previously classified one Coptic Egyptian-American director as minority and are now reporting board minority representation consistent with the EEO-1 categories.
- (g) Data is captured by using an Office of Federal Contract Compliance voluntary self-identification survey.
- (h) Includes count of involuntary terminations from full-time and part-time positions. Excludes divestitures.
- (i) Percentage based on count of terminations divided by average number of full and part-time employees. Excludes employees in Mexico.
- (j) Includes count of employee-initiated voluntary terminations from full and part-time employees. Excludes retirees.

15.2 Diversity and Inclusion

We consider employee diversity an asset and support equal opportunity employment. We take affirmative action to employ and advance in employment all persons without regard to their race/ethnicity; sex; sexual orientation; gender, including gender identity and expression; veteran status; disability; or other protected categories, and base employment decisions solely on valid job requirements.

We prohibit discrimination or harassment against any employee or applicant on the basis of race/ethnicity, sex, or other protected categories listed within our Code of Business Conduct and Ethics. We are committed to a harassment free workplace, supported with online and face-to-face workplace harassment and discrimination prevention training for our employees. In 2019, renewal training on our Harassment and Discrimination Prevention Policy was provided to our supervisors. This renewal training highlights supervisor's responsibilities for maintaining a workplace free of harassment.

Diversity Initiatives

We seek to engage with a broad range of candidates for open positions and undertake initiatives such as active participation in veteran and other jobs fairs aimed at increasing diversity and fostering inclusion.

- *Board Oversight*
As part of the 2020 annual succession planning efforts, we focused on identifying minority and female candidates for senior positions. We reviewed our succession plan, including a discussion on development opportunities for potential successors, with the Nominating and Governance Committee of our Board of Directors at its meeting in July 2020.
- *Executive Leadership*
In July 2020, our CEO added a leadership expectation for our President, COO, business segment presidents, General Counsel, CFO, VP of Government Relations and Communications, CAO, and VP of Corporate Development to establish a plan for enhancing diversity and equality of opportunity in hiring, development, and promotion decisions. These expectations are discussed in the annual performance review process.
- *Diverse, Multi-Generational Workforce*
We are committed to fostering an inclusive work environment where our diverse, multi-generational workforce can succeed. For example, we offer family-friendly, flexible work schedules for many job functions, where we can do so without interfering with business requirements, including a 9/80 schedule, half-day Fridays, and flexible time to begin and end the workday. These flexible work schedules help to manage work commutes and address the needs of four generations in the workplace by balancing work and life commitments.
- *Seeking Diverse Applicants*
We use the services of a major job posting board with over 1,000 diversity partners including companies and organizations that specifically target and attract women, minorities, veterans, and individuals with disabilities.

We also partner with a job-delivery company as part of our commitment to post job openings with local employment offices and community-based organizations that focus on women, minorities, veterans, and individuals with disabilities. Some of the websites for these organizations include:

- Hire a Hero,

- Job Opportunities for Disabled American Veterans,
- RecruitABILITY, and
- U.S. Diversity.

To increase our opportunities to recruit minority and female job candidates, we have identified job-posting sites for broadening our applicant pool, such as:

- Society of Women Engineers,
- National Society of Black Engineers,
- Women in Technology, and
- Society of Hispanic Professional Engineers.

We have also identified contingency firms to assist us in developing diverse job applicant pools.

We attend job fairs focused on diversity including Recruit Military, Warrior for Life Luncheon, and the Office of Federal Contract Compliance Program’s annual veteran and individuals with disabilities hiring event.

Military veterans have tools and skills that translate into what we do every day. We value the leadership, drive, discipline, and strong work ethic that is developed in the military. We are committed to providing opportunities to veterans and do so by building partnerships with military-focused recruiting companies and attending job fairs that focus on placing veterans. Further, we value our employees who are uniformed service members and want them to feel supported when called to active military duty. When actively deployed, we provide employees the difference between their Kinder Morgan pay and their active military pay for up to two years.

- *Internship and Work Study Programs*

We are a partner with the Genesys Works program in Houston, Texas. Genesys Works is a non-profit organization that provides meaningful corporate internships to local high school students from underserved communities, primarily serving minority students. In 2019, we had eight motivated and high-potential students from the Genesys Works program engaged in an internship with us. During their internships, students are able to develop their business skills, gain professional work experience, and create a plan for a successful future.

We are a partner with the Cristo Rey Jesuit Work-Study Program. Cristo Rey Jesuit is a private high school offering a rigorous college preparatory education to young people of limited economic resources who live in Houston. 95% of Cristo Rey students are racial minorities. The program places students in Houston businesses where they earn up to 50% of the cost of their education and develop and hone social and technical skills in the workplace. In 2019, we had eight students participating in this work-study program.

Building Opportunities and Learning Together is a successful paid internship program for college students. This 11 to 12-week program provides our interns with an opportunity to use their newly-gained skills on a challenging project. Each student is assigned a KMI mentor and supervisor who guides them throughout their internship. Supervisors are responsible for determining project scope and conducting periodic evaluations of their intern’s progress. At the end of the program, interns make presentations to their business segment management, peers, and HR.

For our upcoming summer internship program we are partnering with INROADS to increase minority and female representation in the program. Additionally, we expect to partner with the Energy Education Center to mentor and educate diverse rising high school seniors about our

industry. We expect to draw from such Energy Education Center students for future internship opportunities at Kinder Morgan once they have completed their freshman year of college.

- *Leadership Training*

We have initiated updates to our internal leadership training programs, described below, to incorporate more diversity and inclusion content.

15.3 Human Capital Development Programs

(GRI 102-12, GRI 401-2, GRI 404-1, GRI 404-2)

Our employees are an integral part of our success and we value their career development. We encourage and support professional development and learning for our employees by offering workforce training, tuition reimbursement, and other development programs. These programs help improve recruitment, development, and retention.

In an effort to promote an open feedback culture, we engage with our employees through cross business segment teams, focus groups, and a third-party administered confidential survey. Results from this feedback give us insight into employee satisfaction and help us develop strategies to more effectively engage with our team members. As an example, the results led us to develop updated vision and mission statements in 2019 to reaffirm our direction as a company and what we want to accomplish.

We support our employees' ongoing career goals and development through several programs. These programs help maximize our employees' potential and give them the skills they need to further enhance their careers.

New Employee On-boarding Orientation Program

We understand that developing our employees' skills starts from day one. New employees participate in an orientation program designed to help them:

- learn more about our company,
- understand processes and goals for their new positions, and
- locate the internal resources available to help them succeed.

Performance Review Program

Employee performance reviews are conducted to maximize employee productivity and provide development feedback. Our performance review program allows employees to receive a timely and objective review of their job performance at least once a year.

New Supervisor Training - CORE Leadership

Our CORE Leadership Training program is for newly promoted or hired leaders to successfully make the transition from an individual contributor to a first-time leader. In 2019, 167 leaders successfully completed the program. This leadership development course takes a blended approach to learning, including:

- online learning activities,
- monthly virtual conference call roundtables to reinforce desired behaviors, and
- follow-up by participants' leaders.

The program focuses on the knowledge and skills we believe are core to being an effective leader and takes approximately six months to complete, with a time commitment of two to four hours per month.

High-Potential Employee Training - Emerging Leaders Institute

Our Emerging Leaders Institute is an internal two-year leadership-development training program designed to develop leadership bench strength. Employees who are nominated to participate in this program develop leadership skills, business acumen, and advanced presentation skills. In 2019, we had 74 employees complete the program.

The Next Level Training Program

Our Next Level program is based on the concept of leaders developing leaders and is provided to employees transitioning from director-level roles to vice presidents. This program focuses on the skills needed to transition between these roles and its content includes:

- discussions with senior leadership,
- self-assessments, and
- development planning.

Tuition Reimbursement

We offer our full-time employees a tuition reimbursement program that provides employees with the opportunity to complete college level courses that encourage and support career growth.

Relocation Assistance

We provide relocation assistance to eligible employees to provide career development opportunities that may become available at our other locations.

16.0 Community Relations

16.1 Processes to Manage Risks and Opportunities Associated with Community Rights and Interests (SASB Exploration & Production EM-EP-210b.1, GRI 413-1)

Our neighbors, communities, and local governments play an important role in how we conduct our business. We live, work, and play in these communities. Our policies are designed to facilitate our building trust and fostering collaboration within the communities in which we operate, including our commitment to:

- community engagement,
- respect,
- transparency and responsiveness,
- negotiate in good faith,
- training,
- fairness, and
- responsible construction.

We continually engage our leadership and resources to effectively fulfill these requirements. Our internal Corporate Communications and Public Affairs employees help develop and implement our community relations strategies to reach a variety of stakeholders identified through our stakeholder mapping. In addition, project-specific team members help fulfill our commitment to communicate and work with communities in an effort to build trust and foster collaboration.

Our internal community consultation guidelines recognize that it is important to identify project stakeholders, determine their needs and expectations, and then monitor and work with them on meeting those needs and/or expectations as appropriate.

As described in greater detail in *Section 6.1 Environmental Management Policies and Practices for Active Operations* of the *Sustainability Report*, we take our local stakeholders' concerns and feedback into consideration during the development of our growth projects. This process helps address potential issues prior to the start of construction. During construction we also consult with stakeholders directly affected by our operations. This dialogue is intended to help us resolve issues as they arise or, better still, prevent issues from arising in the first place. The following *Section 16.1.1 Stakeholder Engagement and Consultation Mechanisms* of the *Sustainability Report* describes additional ways we engage with stakeholders.

We participate in industry trade associations to further communicate the benefits of our customers' products and our services. We serve on communications committees where we assist in the development of communication materials that address topics such as:

- safety,
- construction,
- restoration activities,
- environmental considerations, and
- the social and economic benefits of the industry.

For more information, see our Community Relations Policy at https://www.kindermorgan.com/WWKM/media/Documents/Community_Relations_Policy.pdf.

16.1.1 Stakeholder Engagement and Consultation Mechanisms (GRI 102-21, GRI 102-43)

We strive to build and maintain healthy relationships throughout the areas where we operate. Many of our Community Relations Policy commitments are accomplished through ongoing stakeholder engagement and consultation.

We have helped develop, establish, and promote industry best practices for stakeholder engagement. We are committed to making stakeholder engagement a priority on our projects.

For certain new projects, our Public Affairs department develops a project-specific outreach and stakeholder engagement plan and timeline to notify stakeholders early about the project and to open and establish lines of communication. We respond to stakeholder feedback on each project and incorporate that feedback into the project planning process, including community engagement and community development planning.

We offer stakeholders a variety of ways to contact us about major growth projects, such as project specific:

- toll-free phone numbers,
- email addresses,
- websites,
- public meetings, and
- in-person meetings.

Throughout a project's timeline, our personnel may interact with a wide array of stakeholders, including:

- elected officials,
- media outlets,

- landowners,
- local citizens groups,
- protesters, and
- other members of the public.

We have systems in place for communicating with these different interests and training in place for project employees and contractors to prepare them for interactions with varying audiences. Initial project briefings and training sessions educate employees and contractors on communication procedures and resources. This training also provides:

- an overview of our company,
- an overview of the project, and
- the project’s purpose and benefits.

The training reiterates the importance of being a good neighbor in the communities where the project is located. We also provide instructions for accessing relevant project personnel when needed to respond to specific stakeholder questions.

A summary of ways we regularly engage and consult with stakeholders is provided below, including in the early stages before, during, and after the construction of projects.

Landowners	Community Members	Emergency Responders	Government and Regulators
Town halls and open houses	Town halls and open houses	In-person meetings	Regulatory filings
In-person meetings	In-person meetings	On-line emergency responder training	Public policy and legislative issue engagement
Home and site visits	Project websites	Facility tours	Industry group involvement
Project websites	Social media	Emergency response tabletops and exercises	Facility tours
Social media	Community investment programs	The Responder E-newsletter	In-person meetings
Public awareness communications	Employee volunteer projects	Emergency Response Plans	
	Partnerships with local and regional organizations	Public awareness communications	

For our largest projects, we often also create project-specific websites. We provide contact information on our webpage where stakeholders can obtain further information if they have a question or concern about a projects’ development or operation.

16.1.1.1 Public Awareness Program

Keeping our communities safe is of utmost importance and we keep local stakeholders informed about pipeline safety through our Public Awareness Program.

Our Public Awareness Program is designed to:

- create public awareness about pipelines in the areas where we operate,
- provide important safety information to people living and working near our pipelines,
- increase knowledge of the regulations for working around pipelines,
- prevent damage to our pipelines,
- educate first responders and the public on our emergency preparedness response activities, and
- enhance public safety.

Our program was developed under federal pipeline safety regulation consultation guidelines.³⁰ Our program is an example of our ongoing stakeholder consultations in which we engage with, provide information to, and receive feedback from our stakeholders.

We target communications with the following stakeholder groups as part of our outreach plans:

- residents,
- business owners,
- farmers and ranchers,
- schools,
- contractors, and
- government officials.

Our program advocates pipeline safety and safe digging practices to the public through multiple avenues, including:

- brochures;
- newsletters;
- newspaper, magazine, radio, and television advertisements;
- direct contact; and
- our website at <https://www.kindermorgan.com/Safety-Environment/Public-Awareness/Index>.

The type, language, and formatting of our communications are selected based on the target audience and message to be delivered.

To manage our program's engagement strategy, we maintain a Public Awareness Program evaluation plan that includes measures for evaluating effectiveness. For example, we track our stakeholder engagement interactions and our responses to requests for information. On average, we receive over 300 requests per year for information about our assets. We also receive requests from emergency responders for training and safety information.

To evaluate the effectiveness of our program, we conduct public awareness surveys. We assess progress on the following measures to evaluate whether our public awareness actions are achieving the following intended goals and objectives:

- information is reaching the intended stakeholder audiences;
- recipient audiences understand the messages being delivered;
- recipients are motivated to respond appropriately in alignment with the information provided; and
- the program is impacting the underlying intended results, such as reduction in the number of incidents caused by third-party damage.

We also conduct audits to assess the program and identify program improvements and changes.

We place a high value on public safety and seek to educate the public to increase their:

- awareness of pipeline locations,
- understanding of potential hazards from an unintentional release, and
- ability to identify and respond to a potential release.

³⁰ DOT-PHMSA. "Public Awareness Programs: API RP 1162." DOT-PHMSA. Dec. 2003. 2019. <<https://primis.phmsa.dot.gov/comm/PublicAwareness/PARPI1162.htm>>.

In addition to our Public Awareness Program, our project-specific emergency response plans detail how to communicate with external stakeholders to more effectively resolve potential concerns quickly and safely.

For more information about our Public Awareness Program, see our website at <https://www.kindermorgan.com/Safety-Environment/Public-Awareness/Index>.

For more information about our Responder E-newsletter, see our website at <https://www.kindermorgan.com/Safety-Environment/Public-Awareness/The-Responder>.

16.2 Social Investment Programs

(GRI 102-12, GRI 201-1, GRI 203-1, GRI 203-2)

We are committed to giving back to the communities in which we operate. We actively look for opportunities for our employees to get involved in community programs and strengthen their relationships with our stakeholders.

Connect. Inspire. Give

We launched a redesigned volunteer program in 2018 that includes additional volunteer opportunities in the local community, including drives for school supplies, toys, pet food, and other community needs.

Our volunteer program schedule includes many diverse events such as:

- fun runs benefiting non-profits,
- repairing homes for the elderly and disadvantaged,
- working at a food pantry,
- restoring parks and trails,
- feeding the homeless community, and
- working with Special Olympics athletes.

The goal of our program is to enable employees to connect with each other and the community while working toward a common goal. We hope that the organizations we support through these efforts inspire employees to give their time, talent, and donations. The program provides our employees an opportunity to connect with other employees in various departments and learn more about their community, improve morale, and develop new skills while improving peoples' lives.

In 2019, Houston-area employees volunteered over 725 hours of their time to a variety of organizations including, but not limited to, Habitat for Humanity, Target Hunger, and the American Diabetes Association.

Business Segment Community Investments

We are committed to investing in the communities in which we operate. We budget funds annually to distribute to community organizations and initiatives across our business segments and operating regions. The community organizations receiving these contributions typically fit into one of the following categories:

- public safety and emergency response,
- children's educational or athletic programs, or
- environmental sustainability and education.

We also have made contributions to local organizations supporting recovery efforts from natural disasters.

Below are some of the local organizations to which we contributed in 2019:

- Tucson Clean and Beautiful in Tucson, Arizona - Trees for Tucson Campaign
- Sacramento Tree Foundation in Sacramento, California - tree planting program
- Red Cross of the Permian Basin in Midland, Texas - home fire safety campaign
- Border Youth Athletic Association in Anthony, New Mexico - youth baseball program sponsorship

Project Community Investments

In addition to the community investments made on behalf of the business segments, we also make community investments in areas where major growth projects are proposed or under construction. These contributions are targeted toward local organizations that focus on children's programs, either in academics or athletics, local public safety and emergency response, or environmental sustainability. Recipient organizations are identified in coordination with local stakeholders in the project area including elected officials and local NGOs.

Some examples of project-related community investments that we made in the last three years include:

- Lockhart Independent School District in Lockhart, Texas - athletic sponsorship
- Honor Flight Austin - Austin, Texas - sponsorship of Veteran's Honor Flight
- Madison Parish Sheriff's Department in Tallulah, Louisiana - bulletproof vest program
- The Lake Pontchartrain Basin Foundation in Metairie, Louisiana - "Save our Lake" Campaign
- Caldwell County Junior Livestock Show in Lockhart, Texas - supporting youth education

Kinder Morgan Foundation

The Kinder Morgan Foundation's mission is to provide today's youth with opportunities to learn and grow in order to become tomorrow's leaders. The Kinder Morgan Foundation's goal is to help today's science, math and music students become the engineers, educators, and musicians who will support our diverse communities for many years to come. To accomplish this goal, the Kinder Morgan Foundation focuses exclusively on academic education and the arts. The Foundation supports programs that benefit under-served youth, including minorities and girls, with a majority of contributions directed to science, technology, engineering, and math programs. The Kinder Morgan Foundation's target is to donate more than \$1 million to qualifying 501(c)(3) organizations in the U.S. each year.

In 2019, the Kinder Morgan Foundation's activities donated to 214 organizations that provide educational, arts, and cultural programs serving approximately 1.9 million students. The Kinder Morgan Foundation requires that organizations submit applications for consideration and, once accepted, provide reports detailing both the results of the program throughout the year and the level of community development achieved as a result of the funding they received. In 2019, we made a strategic change to the giving criteria for organizations interested in receiving grants from the Kinder Morgan Foundation. Instead of providing donations to a high number of communities at a lower level of support, the Foundation's new goals were to target communities in select locations across the U.S. that were densely populated, included high concentrations of our employees and customers, and were in close proximity to our main offices. In 2019, the grants were increased from \$1,000 to \$5,000 per qualifying organization to \$5,000 to \$20,000 per qualifying organization.

The Kinder Morgan Foundation has provided disaster relief assistance to organizations when natural disasters significantly impacted our operations or employees. These funds were awarded based on the size and scale of the disaster and determined based on needs assessed by local operations. In 2018 and 2019, the Foundation donated to the Greater Houston Community Foundation for recovery efforts related to Hurricane Florence and Tropical Storm Imelda, respectively.

The Kinder Morgan Foundation also funds our Employee Matching Gift Program. This program matches gifts made to university foundations, K through 12 education foundations, and non-profits that support arts and culture. Our full-time employees are each eligible to receive an employee matching grant of up to \$2,000 per calendar year to a qualifying organization.

The donations we made through the Kinder Morgan Foundation, and corporate and project-related community investments, are provided below.

	Year Ended December 31		
	2017	2018	2019
	(In thousands)		
Donations			
Employee Matching	\$101	\$105	\$103
United Way	157	135	111
Disaster Relief	1,050	87	83
Kinder Morgan Foundation	1,044	1,030	1,084
Subtotal	<u>\$2,352</u>	<u>\$1,357</u>	<u>\$1,381</u>
Community investments			
Donations made to Native American tribes(a)	\$251	\$255	\$262
Other community investments	408	337	254
Subtotal	<u>\$659</u>	<u>\$592</u>	<u>\$516</u>
Total	<u><u>\$3,011</u></u>	<u><u>\$1,949</u></u>	<u><u>\$1,897</u></u>

(a) Scholarships made to Native American tribes are for the calendar year applicable, per the grant agreement.

17.0 Human Rights and Rights of Indigenous Peoples

17.1 Human Rights

(SASB Exploration & Production EM-EP-210a.3, GRI 408-1, GRI 409-1)

We believe supporting fundamental human rights to be a basic responsibility in conducting our business. We support the United Nations Global Compact Human Rights Principles, derived from the United Nations Universal Declaration of Human Rights, which are:

- Principle 1: businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: business should make sure they are not complicit in human rights abuses.

We prohibit the use of child labor or forced labor in our operations in the U.S., Canada, and Mexico. Our employees and contractors, with the exception of some interns, must be at least 18 years of age.

We also recognize and respect our employees' and suppliers' rights to join associations for the purpose of collective bargaining in a manner that is consistent with laws, rules, regulations, and customs.

Our employees, consultants, contractors, suppliers, vendors, and business partners are expected to:

- treat people with dignity with respect to human rights,
- adhere to standards of conduct consistent with our Code of Business Conduct and Ethics when conducting company-related business activities, and
- adhere to our Human Rights Statement.

Within the areas of our activity and influence, we are committed to:

- being attentive to concerns raised by stakeholders,
- working with stakeholders to support human rights, and
- providing remedies to correct negative human rights impacts.

For more information, see our Human Rights Statement at https://www.kindermorgan.com/WWWKM/media/Documents/Human_Rights_Statement.pdf.

17.2 Rights of Indigenous Peoples

(SASB Exploration & Production EM-EP-210a.3)

We respect the diversity of culture and unique history of Indigenous Peoples. We strive to build long-term relationships and commercial partnerships with Indigenous Peoples through meaningful engagement based on mutual respect. In the course of our projects and operations, we conduct business with Indigenous Peoples consistent with our Code of Business Conduct and Ethics and our Indigenous Peoples Policy. We recognize the legal and constitutional protected rights of Indigenous Peoples. We engage in good faith with community members while communicating and cooperating with affected Indigenous Peoples. We are committed to:

- participating in good faith engagement;
- continuing to partner with community members in suitable employment opportunities, as well as education, commercial, and community development opportunities;
- identifying opportunities to support youth, education, culture, and the environment; and
- negotiating in good faith with indigenous and government entities.

Listening & Responding

We strive to operate and grow in a socially and environmentally responsible way. We work to establish positive interactive relationships with Indigenous Peoples who have, or claim to have, an ancestral interest in our operations or projects. We communicate early and often with these affected Indigenous groups and National tribal experts. We listen to and engage with Indigenous Peoples through one-on-one, group, and public meetings.

Right-of-way Renewals

We have a long history of working with Indigenous groups on renewing right-of-way grants. These renewals occur approximately every twenty years. We understand that the needs of Indigenous members and organizations change over time, so we begin our renegotiations for right-of-way renewals approximately 18 to 24 months in advance. During negotiations, we engage with:

- current Tribal leaders,
- Tribal heads of Operations,
- Tribal Engineering,
- Tribal Finance,
- Tribal Legal,
- Bureau of Indian Affairs liaison,
- other Tribal representatives the Tribe deems appropriate.

Open Houses

One of the primary ways we meet with and listen to communities, including Indigenous Peoples, that may be impacted by one of our projects, is by holding project open houses. Open houses are publicized locally, and we encourage individuals or groups with an interest in our projects to attend these meetings.

Walk the Route

During planning for certain projects, we invite Indigenous members, with interests in a specific project, to walk the project site or route with us to identify anything of special interest to their specific Indigenous group. For the interests identified, we have meaningful consultation with the affected Indigenous group to listen to the history and importance of the matters identified and agree on the best path forward. These matters may include:

- insects, birds, and animals;
- plants;
- sacred sites, including stone formations, and;
- historical and cultural resources.

Employment and Community Development

For our projects, we work to meet or exceed compliance with the respective Tribal Employment Rights Ordinances and Native American Preference law in offering Indigenous community members employment opportunities as available. We also meet with Tribal leaders to discuss other possible education, commercial, and community development opportunities.

Over the past three years, we have donated over \$767,000 to Native American tribes with whom we do business. These contributions include scholarships and local fire department donations. Our donation amounts to these tribes are provided in *Section 16.2 Social Investment Programs* of the *Sustainability Report*.

Maintaining Relationships

We maintain positive, long-term relationships even after a project is in service or right-of-way renewals have been finalized. We achieve this by:

- holding public awareness and first responder meetings in Indigenous communities;
- having tribal representatives meet with our executives and visit our facilities;
- making presentations to Tribal classrooms on our energy business, and;
- participating in Tribal Feast Day events.

Public Participations in Indigenous Matters

Our employees are participants in industry conferences, Bureau of Indian Affairs conferences, and Tribal Organization conferences. We not only attend these events, but also participate as speakers and panel members. We also consult regularly on matters affecting National Tribal law and practices.

For more information, see our Indigenous Peoples Policy and an example of how we operationalize our Indigenous Peoples Policy, see our *Respecting Indigenous Peoples and Communities* case study video and fact sheet at <https://www.kindermorgan.com/Safety-Environment/ESG>.

Part 2 – TCFD Report

Our disclosure follows the Financial Stability Board’s TCFD recommended climate-related financial disclosures, which are structured around the four thematic areas shown below.

Core Elements of TCFD’s Recommended Climate-Related Financial Disclosures³¹



Governance

The organization’s governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning

Risk Management

The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

In our third TCFD Report, we have updated our disclosure after considering the feedback we received from investors and other stakeholders, additional published guidance, and TCFD reports issued by our customers and other energy infrastructure companies. We have updated our transition risk scenario assessment of our business strategy under the IEA’s 2019 World Energy Outlook 1.5-2 °C scenario.³² We have also considered the 2020 market impacts of the Saudi Arabia-Russia oil price war and the COVID-19 pandemic, both which began after the IEA’s 2019 World Energy Outlook was published. In 2020, we completed a physical risk scenario assessment for our assets under the 4 °C scenario of the IPCC RCP 8.5.³³ To further expand our disclosure, in 2021 we expect to report our company-wide Scope 1 and 2 greenhouse gas emissions.

Although we regularly identify, assess, and manage the risks, opportunities, and financial information that the TCFD identifies as “climate-related,” we do not regularly use the term “climate-related” in our internal discussions. Consequently, when this report refers to climate discussions or considerations in connection with our review, reporting, planning, and decision making, we are using the broader TCFD meaning.

³¹ Task Force on Climate-related Financial Disclosures. “Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures.” Task Force on Climate-related Financial Disclosures. 15 June 2017: 27. 2020. <<https://www.fsb-tcfid.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf>>.

³² International Energy Agency. “World Energy Outlook 2019.” International Energy Agency. November 2019. 2020. <<https://www.iea.org/reports/world-energy-outlook-2019>>.

³³ Intergovernmental Panel on Climate Change. “Climate Change 2014: Synthesis Report. Contributions of Working Group I, II, and III to the Fifth Assessment Report.” Intergovernmental Panel on Climate Change. 2014. 2020. <https://ar5-syr.ipcc.ch/ipcc/ipcc/resources/pdf/IPCC_SynthesisReport.pdf>.

1.0 Governance

1.1 Board Oversight

(SASB Midstream EM-MD-110a.2, SASB Exploration & Production EM-EP-110a.3, SASB Rail Transportation TR-RA-110a.2, SASB Marine Transportation TR-MT-110a.2, GRI 102-18, GRI 102-19, GRI 102-20, GRI 102-26, GRI 102-27, GRI 102-29, GRI 102-31, GRI 102-32, CDP Cl.1b, CDP CC1.1)

Our Board is responsible to our stockholders for the oversight of the Company. We recognize that effective governance is critical to achieving our performance goals and maintaining the trust and confidence of our various stakeholders, including our:

- investors,
- lenders,
- customers,
- employees,
- business partners,
- regulatory agencies,
- underwriters, and
- other stakeholders.

As part of its responsibilities, our Board oversees the assessment of our major business risks and opportunities, and the measures we take to mitigate and address such risks and opportunities. Our Board is briefed regularly by our CEO, President, CFO, COO, and General Counsel, and periodically by each business segment president, on the following areas:

- business strategies,
- business risks and opportunities,
- major plans of action,
- annual budgets,
- business plans,
- capital expenditures for major expansion, and
- acquisitions and divestitures.

In reviewing and providing guidance in each of these areas, our Board assesses our assets and long-term business strategy for resilience and adaptability to various risks and opportunities. We believe our Board's collective skill set is well-suited to identifying the key risks and opportunities we face during the next decade, as the Board has members with significant experience in risk management and capital planning, both of which are essential to meeting our industries' potential disruptors. Our Board members' backgrounds allow them to foster healthy debate on climate-related topics, challenge management assumptions, and make thoughtful and informed decisions about these risks and opportunities.

While our Board is ultimately responsible for risk and opportunity oversight, various Board committees assist our Board in fulfilling its responsibilities by considering the risks and opportunities within their respective areas of expertise. Our EHS Committee assists our Board with oversight of EHS risk and opportunity management, which may include climate-related risks and opportunities. The EHS Committee consists of independent directors appointed by the Board. Board members with experience in EHS and regulatory matters assist in confirming that we are operating consistent with best practices and that environmental and safety matters are properly considered in Board decisions. In 2019, an additional independent Board member was added to the EHS Committee, increasing its membership from three directors to four. The EHS Committee meets at least semi-annually and reviews reports on EHS issues

from our Vice President of Corporate EHS. Any Board member may elect to attend EHS Committee meetings. Our CEO, President, and other Board members, with few exceptions, attend and participate in the regularly scheduled EHS Committee meetings.

Through our EHS Committee, our Board also provides direction to management about ESG disclosures in conjunction with our ESG Disclosure Committee. Our ESG Disclosure Committee is described in greater detail in *Section 1.0 Introduction* of the *Sustainability Report*. In 2018 and 2019, our EHS Committee reviewed the progress and results of the scenario analysis we conducted to test the resilience of our business strategy. Through the EHS Committee, our Board provided direction to our Vice President of Corporate EHS on EHS, sustainability, and climate-related issues. Our Board and EHS Committee also established performance expectations with our CEO, President, and Vice President of Corporate EHS for the management of these issues.

1.2 Management's Role

(SASB Midstream EM-MD-110a.2, SASB Exploration & Production EM-EP-110a.3, SASB Rail Transportation TR-RA-110a.2, SASB Marine Transportation TR-MT-110a.2, GRI 102-19, GRI 102-29, GRI 102-31, GRI 102-32, CDP Cl.1b, CDP Cl.2, CDP Cl.2a)

Our business segment presidents, corporate function heads, and subject matter personnel are responsible for assessing and managing actual and potential risks and opportunities, including those related to climate. These individuals, in turn, use various management systems to assist them with their responsibilities.

Our Vice President of Corporate EHS is responsible for providing strategic leadership for EHS matters, including matters related to climate. Our Vice President of Corporate EHS is responsible for engaging with investors, regulators, employees, lenders, and customers on ESG-related matters, including our risks and opportunities. Our Vice President of Corporate EHS is also responsible for implementing procedures and controls to track the data necessary for the preparation of our Report, and for sharing our results with other senior management and our Board's EHS Committee.

Our CEO and President hold a series of regularly scheduled meetings to engage with our business segment presidents, corporate function heads, and subject matter personnel on issues related to our business. We use those meetings to monitor progress and performance and to discuss risks and opportunities, including, where appropriate, climate-related risks and opportunities and plans to address such risks and opportunities. The frequency of these meetings creates a cycle of ongoing assessment and improvement, as action plans are initiated and adjusted based on new information and past experience. The regular cadence and varied length of the meetings, from a few hours to most of a business day, permits extended discussion and regular follow-up on a wide range of action items. The meetings are typically scheduled one year in advance and are described in greater detail in *Section 3.0 Risk and Opportunity Management* of the *TCFD Report*.

A wide range of professionals in our organization typically attend these recurring meetings. Participants include employees with subject matter knowledge applicable to managing risks and opportunities, including:

- business administration;
- business continuity planning;
- energy markets and marketing;
- engineering and earth sciences;
- environmental and energy policy, law, and compliance;
- finance and accounting;

- insurance;
- legal;
- public relations;
- strategic management; and
- technology development.

For more detail on these regularly scheduled, recurring meetings, please see *Section 3.0 Risk and Opportunity Management* of the *TCFD Report*.

These meetings focus our senior management's attention on near-, medium-, and long-term business risks and opportunities with substantial input from subject matter personnel. In addition, our senior management engages in ad hoc meetings on an as-needed basis to:

- review and approve new projects and acquisitions,
- review with industry consultants and other experts long-term trends (e.g., demand and supply) for the products we transport and handle, and
- identify and understand disruptive technologies or emerging policies.

The knowledge and information our senior management gains from these meetings are presented to our Board regularly. Our Board, in turn, uses the work done at the management level to inform its decisions about the Company's future direction.

2.0 Strategy

The fundamental principles of our business strategy are to:

- focus on stable, fee-based energy transportation and storage assets that are central to the energy infrastructure of growing North American domestic and export markets;
- increase utilization of our existing assets while controlling costs, operating safely, and employing environmentally sound operating practices;
- leverage economies of scale from incremental acquisitions and expansions of assets that fit within our strategy and are accretive to cash flow; and
- maintain a healthy financial profile and return value to our stockholders.

Our forward-looking strategies and financial decisions are driven primarily by market opportunities and corporate objectives and responsibilities. We make long-term strategic decisions with the intention of creating sustainable competitive advantages. To sustain and improve upon our market position, we project and plan for reasonably foreseeable changes, including changes to governmental regulations, which could potentially impact our business and the markets in which we operate. We respond to such changes as they occur. Market and policy responses to climate change have been and can be a factor in our forward-looking strategic and financial decision-making.

We modify our strategy as necessary to reflect changing economic conditions and other circumstances, including, among other factors, those related to identified or reasonably anticipated impacts of climate change. We invest in our assets to operate them safely and to protect our employees, the environment, and the communities in which we operate. We work collaboratively within our industry and with governments, environmental groups, Indigenous Peoples, and communities to build our understanding of the issues around climate change and seek potential solutions. We contribute to and embrace responsible changes in government policy and regulations in North America and implement them as they emerge.

2.1 Potential Climate-Related Risks, Opportunities, and Impacts

(SASB Exploration & Production EM-EP-420a.4, GRI 102-15, GRI 201-2, GRI 203-1, CDP C2.1, CDP C2.3, CDP C2.3a, CDP C2.4, CDP C2.4a)

Our customers include major oil and natural gas companies, energy producers and shippers, local distribution companies, and businesses across many industries. In most of our business segments, we operate like a giant toll road and receive a fee for our services, generally avoiding commodity price risk. In our CO₂ business, where we are exposed to commodity price risk, we employ a hedging strategy to partially mitigate that risk. Because our customers generally own the commodities we transport, the impact of climate-related risks and opportunities on us are often derivative of the impact on our customers.

Our management system integrates the identification, assessment, and management of risks and opportunities across various time horizons, including climate-related risks and opportunities where appropriate. As discussed in *Section 1.2 Management's Role* of the *TCFD Report*, we use a series of meetings to monitor the performance of our businesses and to identify and address opportunities and risks over a variety of time horizons, including:

- Near-term - immediate to one year
 - Management process:
 - weekly, monthly, and quarterly financial and operational reviews
 - annual budget reviews
 - Examples of climate risks and opportunities that may be considered:
 - legislative and regulatory proposals and changes that are likely to affect our business or that of our customers
 - extreme weather event identification, preparation, and recovery
 - energy efficiency and alternative sources of energy
 - emission controls
 - compliance costs
- Medium-term - one to five years
 - Management process:
 - quarterly business reviews
 - long-range outlook
 - project approval meetings
 - Examples of climate risks and opportunities that may be considered:
 - changes in demand for services or changes in customer preferences
 - potential increases in the utilization of our existing assets and efficiency gains
 - change in our ability to obtain permits or other regulatory approvals
 - public opposition due to climate concerns
- Long-term - five to 30 or more years
 - Management process:
 - quarterly business reviews
 - ad hoc meetings with experts
 - Examples of climate risks and opportunities that may be considered:
 - changes in long-term demand for the products we transport and store
 - potential lower emission product options or product replacements
 - changes in public policy that may affect growth opportunities in our traditional lines of business
 - CO₂ sequestration opportunities.

The TCFD divides climate-related risks into two categories: transitional and physical. Transitional risks are those risks related to the transition to a lower-carbon economy, such as policy constraints on emissions, carbon taxes, and shifts in market demand and supply. The TCFD groups transitional risks into four categories:

- policy and legal risk,
- technological risk,
- market risk, and
- reputational risk.

Physical risks are those associated with physical impacts from climate change that could affect assets and operations. Physical risks include the disruption of operations and/or destruction of property. The TCFD divides physical risk into acute and chronic risks. Acute risks include physical damage from variations in weather patterns, such as severe storms, wildfires, floods, and drought. Chronic risks include sea-level rise and desertification.

Both transitional and physical climate-related risks may affect our business. As such, we seek to include reasonably anticipated regulations and policy decisions in our business models and project planning.

Expanding our existing assets and constructing new assets is part of our strategy. A variety of factors outside of our control can cause delays in our construction projects. Some examples of these factors include difficulties in obtaining rights-of-way, permits, other regulatory approvals, or public opposition. Inclement weather and natural disasters can increase costs or cause construction delays. Significant cost overruns or lengthy delays can have a material adverse effect on our return on investment, results of operations, and cash flows. These factors can result in project cancellations or limit our ability to pursue other growth opportunities.

Some of our assets are located in areas susceptible to natural disasters, such as:

- hurricanes,
- earthquakes,
- wildfires,
- tornadoes,
- flooding,
- extreme snow and ice, and
- other natural disasters.

Our shipping vessels operate in areas with similar risks.

Natural disasters can damage or destroy our assets or disrupt the supply of the products we transport or store. In the third quarter of 2017, Hurricane Harvey caused disruptions in our operations near the Texas Gulf Coast requiring approximately \$45 million in repair costs, approximately \$10 million of which was not recoverable through insurance. Natural disasters can similarly affect our customers' facilities. Circumstances could arise in which our losses could so exceed our insurance coverage that those losses result in a material adverse impact to our assets, financial condition, and operating results.

The two tables below contain a list of potential transitional and physical risks, as well as the following:

- potential financial impacts related to such risks,
- available strategy and mitigation measures for such risks, and
- page numbers where the topics are discussed in our Report.

Potential Transitional Risks

Potential Climate-Related Risk	Potential Financial Impact	Available Strategy and Mitigation Measures	Page
<i>Policy & Legal</i>			
<ul style="list-style-type: none"> – Increased climate change-related regulation and policies resulting in: <ul style="list-style-type: none"> ◦ higher emission fees and carbon taxes ◦ higher fuel prices ◦ additional emission reporting obligations ◦ mandates on and regulation of customers’ products or our services ◦ mandated transition to renewables 	<ul style="list-style-type: none"> – Increased compliance costs – Increased fuel costs – Reduced demand for our traditional services 	<ul style="list-style-type: none"> – Engaging with regulators, industry organizations, and NGOs – Systematic monitoring of regulatory proposals and implementation of compliance programs – Offsetting, reducing, and managing emissions – Managing energy use and improving efficiency – Developing new services 	<ul style="list-style-type: none"> – p 18 – p 84 – p 21 – p 19 – p 84
<i>Technology</i>			
<ul style="list-style-type: none"> – Substitution of customers’ existing products with lower emission options – Lower potential demand for existing products due to greater energy efficiencies 	<ul style="list-style-type: none"> – Reduced demand for our traditional services – Increased write-offs and earlier retirement of existing assets – Increased customer credit risk, including bankruptcies 	<ul style="list-style-type: none"> – Negotiating contracts with longer terms, with higher per-unit pricing, and for a greater percentage of our available capacity – Adjusting investment evaluation assumptions to assume lower uncontracted cash flows and terminal values – Continued discipline in accounts receivable management and customer credit protections – Developing new services 	<ul style="list-style-type: none"> – p 82 – p 82 – p 82 – p 83
<i>Market</i>			
<ul style="list-style-type: none"> – Changing consumer behavior reducing demand for customers’ products – Uncertainty in market signals – Increased cost of raw materials 	<ul style="list-style-type: none"> – Reduced demand for our traditional services – Increased production costs due to higher energy prices – Abrupt and unexpected shifts in energy prices and costs – Repricing of oil field reserves 	<ul style="list-style-type: none"> – Adjusting investment evaluation assumptions – Negotiating contracts with longer terms, higher per-unit pricing and for a greater percentage of our available capacity – Managing energy use and improving efficiency – Risk management and hedging programs 	<ul style="list-style-type: none"> – p 82 – p 82 – p 19 – p 82

Potential Transitional Risks

Potential Climate-Related Risk	Potential Financial Impact	Available Strategy and Mitigation Measures	Page
<i>Reputation</i>			
<ul style="list-style-type: none"> – Stigmatization of sector – Increased stakeholder concern or negative stakeholder feedback 	<ul style="list-style-type: none"> – Increased cost of capital – Decreased access to public capital markets – Increased cost of public relations 	<ul style="list-style-type: none"> – Expanding and developing lower carbon business activities – Adjusting ESG disclosure to be responsive to the financial sector by reporting per SASB, TCFD, and other reporting frameworks – Reducing need to access capital markets, increased internal funding – Working to reduce our carbon footprint 	<ul style="list-style-type: none"> – p 84 – p 1 – p 82 – p 12

Potential Physical Risks

Potential Climate-Related Risk	Potential Financial Impact	Available Strategy and Mitigation Measures	Page
<i>Acute</i>			
<ul style="list-style-type: none"> - More frequent and severe weather events (e.g., hurricanes, floods, extreme heat, extreme cold, droughts, extreme snow and ice, and tornadoes) leading to business interruption and damage across operations and supply chain - Wildfires 	<ul style="list-style-type: none"> - Reduced revenue as a result of business and supply chain interruptions - Increased write-offs and costs for damaged property - Increased insurance costs 	- Business continuity planning	- p 45
		- Environmental assessments and management plans	- p 27
		- Maintaining the necessary types and amounts of insurance	- p 82
		- Monitoring weather patterns, storms, and wildfire outbreaks	- p 45
		- Operational procedures and plans to identify areas prone to severe weather events and wildfires	- p 5
		- Engineered controls	- p 46
		- Right-of-way maintenance	
		- Drill severe weather event and wildfire scenarios	- p 27
		- Emergency shutdown procedures, followed by damage inspection and restart protocols	- p 45
		<i>Chronic</i>	
<ul style="list-style-type: none"> - Long-term shifts in climate patterns, possibly resulting in new storm patterns, coastal flooding, and chronic heat waves - Rising sea levels and tidal fluctuations 	<ul style="list-style-type: none"> - Reduced revenue as a result of business interruption or facility shutdown - Increased costs for damaged property and adaptation improvement 	- Business continuity planning	- p 45
		- Developing engineering controls	- p 5
		- Pre-construction planning incorporating enhanced engineering standards	- p 45
		- Improving facilities to accommodate excess storm surge	
		- Monitoring tide levels	

The TCFD recognizes that an organization’s efforts to mitigate and adapt to climate change may also produce opportunities for the organization. The TCFD groups those opportunities into five categories:

- resource efficiency,
- energy source,
- products and services,
- markets, and
- resilience.

As an energy infrastructure company, we recognize and expect that future energy demand will continue to be met in part by a growing proportion of renewable energy sources. Today, the world still relies on traditional fuels for most of its energy needs. While delivering access to the secure energy the world needs, we pursue opportunities that also benefit the global effort to address climate change. Specifically, we are:

- expanding our natural gas transmission business, making access to lower carbon energy more feasible;
- pursuing opportunities internally and within the industry to increase efficiency along our and our customers' value chains;
- making economic energy efficiency improvements in our operations; and
- exploring new low-carbon technologies and business models.

The following table contains a brief listing of:

- potential opportunities,
- potential financial impacts,
- our strategy and enhancement measures, and
- page numbers where the topics are discussed in our Report.

Potential Opportunities			
Climate-related Opportunities	Potential Financial Impact	Available Strategy and Enhancement Measures	Page
<i>Resource Efficiency</i>			
<ul style="list-style-type: none"> – Using more efficient equipment – Using more efficient production and distribution processes 	<ul style="list-style-type: none"> – Reduced operating costs through efficiency gains and cost reductions – Increased production capacity, resulting in increased revenues 	<ul style="list-style-type: none"> – Increase utilization of our existing assets – Leverage economies of scale from incremental acquisitions and expansions of assets 	– p 74
<i>Energy Source</i>			
<ul style="list-style-type: none"> – Using lower-emission sources of energy – Using supportive policy incentives – Using new technologies – Participating in the carbon markets – Shifting toward decentralized energy generation 	<ul style="list-style-type: none"> – Higher returns on investment in lower-carbon natural gas infrastructure – Increased capital availability as more investors favor lower-emissions products – Reputational benefits resulting in increased demand for services – Increased value of fixed assets 	<ul style="list-style-type: none"> – Allocate the largest portion of our capital to lower-carbon natural gas infrastructure – Develop new services including storage / transportation of lower-emission energy sources 	– p 82

Potential Opportunities

Climate-related Opportunities	Potential Financial Impact	Available Strategy and Enhancement Measures	Page
<i>Products and Services</i>			
<ul style="list-style-type: none"> – Developing and/or expanding low emission goods and services – Diversifying business activities – Responding to shifting consumer preferences 	<ul style="list-style-type: none"> – Increased revenue through demand for lower emissions products and services – Increased revenue from our competitive position and asset flexibility to respond to shifting consumer preferences 	<ul style="list-style-type: none"> – Allocate the largest portion of our capital to lower-carbon natural gas infrastructure – Develop new services 	<ul style="list-style-type: none"> – p 82
<i>Markets</i>			
<ul style="list-style-type: none"> – Increased demand for natural gas services – Use of public-sector incentives for carbon sequestration – Increased demand for reliable fuel for power generation 	<ul style="list-style-type: none"> – Increased revenue from increased demand for natural gas gathering, processing, transportation, storage, and distribution – Increased revenues through access to new and emerging carbon sequestration markets 	<ul style="list-style-type: none"> – Allocate the largest portion of our capital to lower-carbon natural gas infrastructure – Pursue carbon sequestration opportunities – Develop new services focused on deliverability 	<ul style="list-style-type: none"> – p 82
<i>Resilience</i>			
<ul style="list-style-type: none"> – Responding to market changes resulting from natural disasters – Participating in renewable energy programs and adoption of energy efficiency measures 	<ul style="list-style-type: none"> – Increased market valuation through resilience planning – Increased reliability of supply chain and ability to operate under various conditions 	<ul style="list-style-type: none"> – Business continuity planning – Continue to innovate and improve our energy management programs – Evaluate new ways to reduce our emissions by increasing equipment efficiency 	<ul style="list-style-type: none"> – p 45 – p 19 – p 15

2.2 Financial Planning Considerations

(CDP C2.1, CDP C2.2d, CDP C2.3a, CDP C3.1, CDP C3.1c, CDP C3.1d, CDP C2.4a, CDP C2.5)

We identify and develop plans for managing a variety of risks and opportunities when allocating capital to our assets, establishing capital project and operating budgets, and developing our long-range outlook. Climate-related risks and opportunities typically manifest themselves indirectly through fundamental financial considerations. For example, embedded in the supply and demand projections we use are the expected effects of climate-related factors such as changing consumer behavior, increased energy efficiencies, and competing products and services. Operating and capital project budgets include expected costs for climate-related expenses, such as environmental permitting, emission monitoring, emission reporting, emission fees, emission offsets, business continuity planning, and insurance, as applicable. When we anticipate increased opposition to our capital projects, including climate-related opposition, we adjust our project schedules and budget for community relations activities. Our business segments' annual budgets may include targets for reduced energy consumption, resulting in fewer Scope 2 emissions. These targets are achieved through our activities described in greater detail in *Section 3.3.5 Energy Management* of the *Sustainability Report* and are part of our strategy to manage our Scope 2 emissions.

We prioritize risks and opportunities based upon likelihood and significance. We typically give highest priority to potential risks and opportunities we consider more probable and most significant. When we assess capital allocation decisions, we may adjust our required levels and thresholds of the following criteria:

- rates of return on capital;
- payback periods;
- market demand projections;
- projected operating costs, including compliance costs;
- terminal value projections;
- customer contract durations;
- customer and equity partner creditworthiness and protections;
- customer and equity partner concentration;
- per-unit pricing;
- percentage of contracted capacity; and/or
- level of equity participation and partnership.

When potential climate-related risks are more likely, such as reduced demand for our customers' products as a result of changing consumer behavior, we may reduce estimated or projected revenue after initial contract expiration and/or adjust terminal value. For example, when evaluating expansion projects on our refined product pipelines, in some instances we have reduced estimated or projected revenue after expiration of the initial contract term and/or used a zero terminal value at the end of the period over which our customers have contracted for the additional services provided by the expansion.

When we are less certain of a project's risks or opportunities, we adjust our financial model to, for example, increase the hurdle rate for investment in the project. In addition to higher returns, our preference is for higher quality cash flow, meaning stable, more certain cash flows backstopped by long-term contracts from credit-worthy customers. We prioritize our expansion capital investments to projects where we have contracts with credit-worthy customers that allow us to recover our capital within the length of the contracts' terms. We accept that our disciplined focus on these types of opportunities sometimes restrains our pursuit of higher-risk projects. This approach reduces our exposure to medium and long-term market risks, including climate-related risks.

We have a systematic, disciplined approach to managing counterparty credit risk through a weekly review of certain accounts receivable, customer creditworthiness, and required credit protections. We also have developed and continue to improve our culture of thoughtful cost control.

2.3 Resilience of Our Strategy

(SASB Midstream EM-MD-110a.2, SASB Exploration & Production EM-EP-110a.3, SASB Rail Transportation TR-RA-110a.2, SASB Marine Transportation TR-MT-110a.2, GRI 203-1, CDP C3.1a, CDP C3.1d)

To better assess the resiliency of our business strategy and understand the impact that climate change could have on our business, we performed a high-level assessment of the impact of 1.5-2 °C and 4 °C global warming scenarios. The 1.5-2 °C and 4 °C scenarios are constructed assuming the average global temperatures will have increased by either 1.5-2 °C or 4 °C by the year 2100.

To update our transition risk analysis, we used the scenarios contemplated in the IEA's 2019 World Energy Outlook, and we considered these scenarios relative to our existing asset base. The IEA's scenarios consider the future projected energy demand and supply mix from a variety of perspectives, including:

- electricity generation sources and availability,
- transportation fuels,
- GHG emissions, and
- required investment.

The IEA's 2019 World Energy Outlook, used in our transition risk analysis, was published in November 2019 and does not address the impact of the Saudi Arabia-Russia oil price war or the COVID-19 pandemic. In response to the pandemic, the IEA published special reports that assess the macroeconomic impact of the pandemic and its impact on the energy sector, including projected energy demand in the short and longer term.³⁴ Based on data from the first several months of 2020, the IEA reports project that the global economy will contract in 2020. However, a recovery in gross domestic product is expected to occur starting the second half of 2020, based on the following assumptions:

- the global economy's gradual recovery,
- the avoidance of a second wave of infections during the latter-half of 2020, and
- the gradual lifting of lockdown measures by global governments.

While in the short term, risks to the economic outlook are negatively weighted due to the COVID-19 pandemic, the annual growth rate could return to pre-pandemic levels by the middle of 2021. If that is the case, it is expected that the pandemic will mostly affect oil related transportation fuels and domestic industrial and power sectors.

The IEA has adjusted future projected energy demand and supply mix since the IEA's 2019 World Energy Outlook was released. In this updated projection, there is further emphasis on de-carbonization and it is assumed that post-coronavirus attitudes toward climate change will likely drive additional policy changes that could create cost burdens on carbon emissions. The expectation is that in the long term, both domestically and globally, energy sectors will begin to accelerate the shift towards electricity and increase the share of energy supplied by low-carbon energy sources.

³⁴ International Energy Agency. "Sustainable Recovery: World Energy Outlook Special Report." [International Energy Agency](https://www.iea.org/reports/sustainable-recovery#). July 2020. 2020. <<https://www.iea.org/reports/sustainable-recovery#>>.

For our physical risk analysis, we used scenarios consistent with the RCP 8.5 4 °C Scenario presented in the IPCC's 2014 Fifth Assessment Report (AR5) which assumes that emissions continue to rise throughout the 21st century. In the 4 °C Scenario, the IPCC assumes that climate policy is less ambitious and GHG emissions remain high, which could lead to more severe physical risks, compared to a 1.5-2 °C Scenario.

We considered our potential exposures, mitigation measures, and vulnerabilities to the outcomes for the following variables:

- temperature,
- precipitation,
- drought,
- storm surges,
- wildfires,
- hurricanes,
- floods,
- sea level rise, and
- landslides.

While we performed our resiliency assessments by considering the scenarios relative to our existing asset base, if the scenarios were to become reality, we could undertake strategies that result in shifts in our asset base. For example, we could enter into new lines of businesses. Shifts in our asset base may occur incrementally, as we adapt to changes in circumstances, or the shifts could occur quickly through acquisitions and divestitures. An acquisition or sale of material businesses or assets may be significant in size relative to our existing assets or operations.

We believe the IEA's and IPCC's scenarios are not a prediction of the future, but rather provide a common framework for analyzing the potential future global energy mix and impacts of climate change. The assumptions underpinning the IEA's and IPCC's scenarios may change over time as new information becomes available. Some of the primary underlying assumptions and indicators currently in the IEA's and IPCC's scenarios are included in *Appendix E – Summary of Scenarios and their Underlying Assumptions and Indicators*. There can be no assurance that any of the scenario assessments we perform for our businesses and assets are a reliable indicator of any actual impact of climate change on our businesses and assets.

It bears repeating that factors could cause actual results to differ significantly from those expressed in or implied by our forward-looking statements. Please see the *“Important Information about Policies, Procedures, Practices, and Forward-Looking Statements”* for additional information. It is impossible to predict with certainty the timing, magnitude, and direction of climate-related risks and opportunities. As a result, it is impossible to predict how resilient we will be to climate-related changes.

2.3.1 Transition Risk Analysis

The IEA's three main scenarios include:

- Current Policies Scenario – based on climate-related laws and regulations in place as of mid-2019;
- Stated Policies Scenario – based on existing climate-related government policies, the continued evolution of known technologies, and policy ambitions announced as of August 2019; and

- Sustainable Development Scenario – based on an energy mix the IEA projects would be fully aligned with the Paris Agreement by holding the increase in the global average temperature to well below 2 °C, and pursuing efforts to limit it to 1.5 °C, above pre-industrial levels, as well as advancing progress toward certain of the SDGs, including achieving universal access to electricity and reducing the consequences of energy-related air pollution.

Under both the IEA’s Current Policies Scenario and the IEA’s Stated Policies Scenario, the global demand for crude oil, NGL, and natural gas is projected to grow through 2040. Given present perspectives and climate concerns, we believe it is unlikely that current policies will continue unchanged. Our current view of the North American energy mix for the foreseeable future most closely aligns with the IEA’s Stated Policies Scenario.

For our 1.5-2 °C scenario analysis, we used the IEA’s Sustainable Development Scenario. Under the IEA’s Sustainable Development Scenario:

- crude oil, NGL, and natural gas remain a significant portion of the global energy mix at 47% in 2040, but down from 54% in 2018;
- North American exports of oil and NGL grow from 0.2 million to 8.9 million barrels per day from 2018 to 2040, even as world oil and NGL demand decreases by more than 30%; and
- worldwide demand for natural gas grows from 2018 through 2025, remains steady through 2030, then gradually declines by approximately 10% from 2030 through 2040.

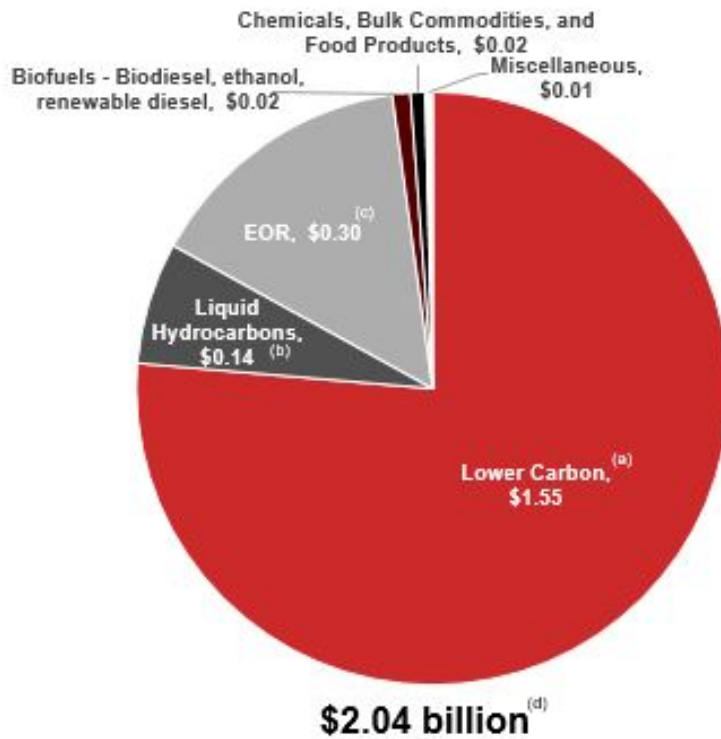
Some key assumptions and indicators of the IEA’s Sustainable Development Scenario include:

- global population grows by nearly 1.6 billion people, 21%, from 2018 to 2040, global primary energy demand declines by 7% during the same period;
- global energy intensity, the ratio of primary energy demand to gross domestic product, declines by more than 50% from 2018 to 2040;
- electric cars are nearly 50% of new car sales by 2030 and over 70% by 2050 versus 2% in 2018,
- solar photovoltaics and wind contribute 40% of global electricity generation by 2040 versus 7% in 2018;
- global biofuels demand expands by over 300% from 2018 to 2040;
- average annual investment in energy efficiency is nearly 4 times higher in 2031 to 2040 than it was from 2014 to 2018; and
- CO₂ captured with carbon capture, utilization and storage grows from 32 million tons in 2018 to over 760 million tons in 2030 and nearly 2.8 billion tons in 2050.

Transition Risk Analysis Results

As noted above, our business strategy is to focus on stable fee-based energy transportation and storage assets and to operate them safely and in an environmentally sound manner. We allocate capital to our assets in a disciplined manner and typically operate under multi-year contracts with our customers. We seek to be proactive in adapting to changing circumstances. Thus far, our business strategy is proving relatively effective in adapting to climate-related risks and opportunities.

The majority of our growth capital expenditures have been and are expected to continue to be allocated to assets that serve lower carbon fuels, such as natural gas and LNG, as well as biofuels. As reflected in the following chart, we allocated approximately 77% of our 2019 expansion capital to lower carbon fuels.



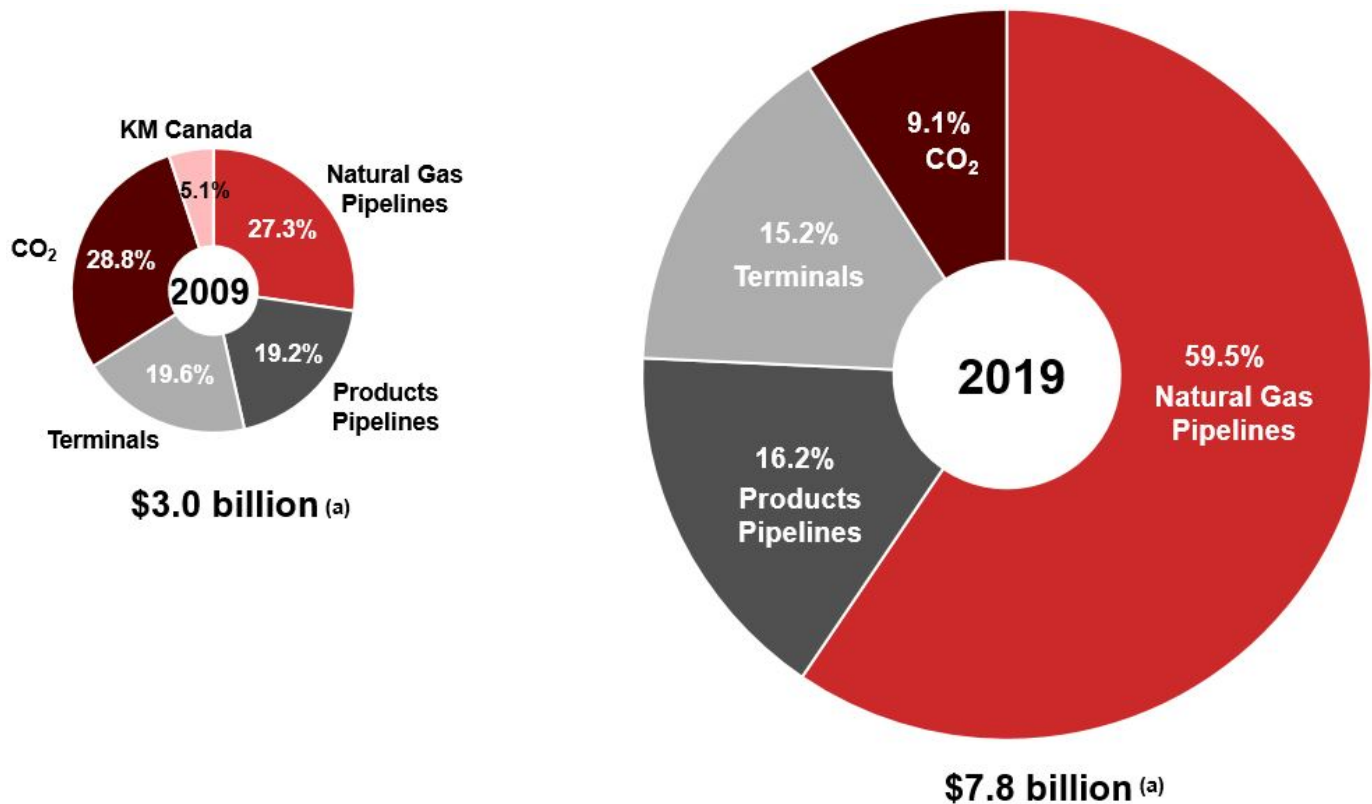
(a) Lower carbon includes expansion capital allocated to natural gas and LNG projects.

(b) Liquid hydrocarbons includes expansion capital allocated to crude oil, refined products, and NGL projects.

(c) EOR includes the expansion capital allocated to our CO₂ business segment for CO₂ and crude oil exploration, production, and transportation.

(d) Excludes investments associated with KML. Does not include non-expansion joint venture contributions and overhead.

As a result of organic growth and acquisitions, our Natural Gas Pipelines business segment has grown significantly since 2009 and now comprises approximately 59% of earnings before depreciation from our segments, as reflected by Adjusted Segment EBDA, up from approximately 27% in 2009. Contributions by each of our business segments are presented in the following charts.



(a) For additional information about our use of and calculation for Adjusted Segment EBDA, a non-GAAP financial measure, see Part II, Item 7 included in our 2019 Form 10-K annual report, which is available through the SEC’s EDGAR system at <https://www.sec.gov> and on our website at <https://ir.kindermorgan.com/financials/annual-reports/default.aspx>.

Natural gas in North America is plentiful, inexpensive, and clean-burning relative to other fossil fuels. In the IEA’s Sustainable Development Scenario, natural gas is the only fossil fuel for which projected worldwide demand in 2040 is expected to be relatively consistent with 2018 demand.

Partly due to the increased number of cleaner burning natural gas-fired power plants, CO₂ emissions from U.S. electricity generation in 2019 were at their lowest levels since 1986,³⁵ and 32% below 2008 levels,³⁶ while the U.S. population increased 37% from 240 million in 1986 to 328 million in 2019.^{37,38}

As the rate of renewables penetration increases, natural gas is currently expected to provide peaking and balancing power to meet the variable load demand requirements of electric generation, as natural gas plants have proved to be reliable and dispatchable.³⁹ This need becomes even more acute in the early part of the energy transition, projected under the IEA’s Sustainable Development Scenario, as capacity additions of renewables accelerate to meet the goals of the Paris Climate Agreement.

³⁵ EIA. “Annual Energy Review 2011: Table 11.2e.” EIA. September 2012: 309. 2020. <<https://www.eia.gov/totalenergy/data/annual/pdf/aer.pdf>>.

³⁶ EIA. “March 2020 Monthly Energy Review: Table 11.1.” EIA. March 2020: 203. 2020. <<https://www.eia.gov/totalenergy/data/monthly/archive/00352003.pdf>>.

³⁷ U.S. Census Bureau. “Historical National Population Estimates: July 1, 1900 to July 1, 1999.” U.S. Census Bureau. February 2000. 2020. <<https://www2.census.gov/programs-surveys/popest/tables/1900-1980/national/totals/popclockest.txt>>.

³⁸ U.S. Census Bureau. “Quick Facts.” U.S. Census Bureau. 2020. <<https://www.census.gov/quickfacts/fact/table/US/IPE120218>>.

³⁹ Black & Veatch Management Consulting, LLC. “The Role of Natural Gas in the Transition to a Lower-Carbon Economy.” INGAA. 7 May 2019: 2-4. 2019. <<https://www.ingaa.org/File.aspx?id=36501>>.

Because the majority of our assets and growth projects are dedicated to natural gas, we expect to maintain a sustainable economic position even in a carbon-constrained economy. We expect our expansive natural gas pipeline and storage footprint to provide continuing opportunities to competitively deliver customer-driven solutions in a lower carbon world. Growth in renewable-firming pipeline services and infrastructure, such as market-area gas storage, is increasingly needed to supplement the variable power supply from renewable generation.⁴⁰ Greater natural gas pipeline deliverability, properly contracted and nominated, is expected to be critical to improving the reliability of electricity generated from renewable energy sources like wind and solar. We are expanding our service offerings to address these market needs. For example, we are putting more emphasis on marketing the deliverability and reliability of natural gas from our transportation and storage network as a complement to renewable energy.

Under the IEA's Sustainable Development Scenario, global trade in LNG is expected to increase by over 70% by 2030 and 80% by 2040 relative to 2018. Over the same period, North American natural gas production is expected to outstrip domestic demand by approximately 9 to 15 Bcf/d, making excess supply available for export to overseas markets. Our substantial natural gas transportation and storage infrastructure is connected to most major supply basins and demand markets in the U.S., including multiple LNG export facilities. As such, we believe there will be continued opportunities to use our assets to support this trade.

While natural gas has many advantages, other hydrocarbon fuels are generally affordable, dependable, plentiful, and, as a result of advancements in technology, increasingly more efficient. Hydrocarbon fuels are supported by an enormous, sophisticated, worldwide network of infrastructure. Hydrocarbons are inputs to products society uses every day, not only for fuel, but also as raw materials for the production of synthetic fabrics, fertilizers, solvents, and industrial chemicals. We believe it will take decades and a substantial investment of resources for another technology to supplant the existing hydrocarbon network. We anticipate the transition to lower demand for fossil fuels, even under the IEA's Sustainable Development Scenario, would be gradual, occurring over several decades. Accordingly, we plan to continue to operate, develop, and acquire diversified energy infrastructure assets in each of our business segments, consistent with our commitment to deliver energy to improve lives and create a better world. While demand for the current services of some of our assets may decline as a result of a transition, many of our assets are well-positioned to transport, store, or handle lower-carbon or transition-driven products, such as renewable fuels, hydrogen, and bulk mineral concentrates.

Our Products Pipelines and Terminals business segments are major transporters or handlers of gasoline, jet fuel, and other distillate products. If, as a result of the increased efficiency of gasoline powered vehicles and continued EV penetration as contemplated in IEA's Sustainable Development Scenario, there is less gasoline flowing through our liquids pipelines and stored at our liquids terminals, we could attempt to transport and store more biofuels and other replacement fuels instead. We would also expect our natural gas pipeline and storage assets to benefit from the incremental electricity production required for EVs.

The timeframe to transition our assets from handling one material to another varies from immediately to roughly three years. For example, certain volumes of biofuels or hydrogen can typically be accommodated immediately with minor modifications to existing liquid and natural gas assets. Converting a transmission asset from higher carbon liquids to lower carbon natural gas could take two to three years.

⁴⁰ Black & Veatch Management Consulting, LLC. "The Role of Natural Gas in the Transition to a Lower-Carbon Economy." INGAA. 7 May 2019: 12. 2019. <<https://www.ingaa.org/File.aspx?id=36501>>.

Lower Carbon Fuels and Carbon Sequestration

The IEA's Current and Stated Policies Scenarios show that the world is not yet on a pathway that is consistent with remaining at less than 1.5-2 °C above pre-industrial levels. Low carbon fuels such as RNG, hydrogen, and responsibly sourced natural gas are emerging as a few of the many potential solutions that could accelerate the world's progress along a path to limit the rise in global temperatures to less than 1.5-2 °C.

- *RNG*
RNG is a pipeline-quality gas that is interchangeable with conventional natural gas and thus can be transported, stored, and used in the same applications as natural gas. RNG is essentially biogas, the gaseous product of the decomposition of organic matter, which has been processed to purity standards. While the market for RNG has increased over time, it still represents a fraction of total natural gas consumption. In the U.S., approximately 78 MMscf/d of RNG was produced in 2019, which accounts for less than 0.1% of the 2019 U.S. natural gas supply. Between landfills, dairy farms, swine farms, and other RNG sources, the National Renewable Energy Laboratory estimates RNG has the potential to scale up to 1.15 Bcf/d in the U.S., or about 1.25% of the 2019 U.S. natural gas supply.⁴¹
- *Hydrogen*
Hydrogen is energy dense and well suited to long-distance transportation. In fact, hydrogen energy can be transported in larger quantities and between 10 to 20 times cheaper through pipelines than electrical energy through transmission lines, without the electricity losses.⁴² In addition, the level of necessary investments could be meaningfully reduced as the U.S. has in place an extensive network of natural gas pipelines that can be relatively inexpensively upgraded to accept hydrogen blends.⁴³

Transitioning to hydrogen fuel has the potential to integrate well with our natural gas business. In general, hydrogen could be shipped on our natural gas pipelines in low concentrations, possibly up to 5% to 10%, with little or no modification, depending on pipeline metallurgy, age, and various other operating parameters.

As the demand for hydrogen grows and the market develops further, we expect to continue to evaluate the ability and opportunity for our pipelines to transport hydrogen, as we believe pipelines will ultimately be the safest and most efficient mode of transportation.

Current estimates among leading analysts suggests that hydrogen opportunities start to develop around 2030, making modest inroads between now and then. The U.S. currently produces approximately 10 million tonnes per annum of hydrogen, which is an energy equivalent of

⁴¹ National Renewable Energy Laboratory. "Energy Analysis - Biogas Potential in the United States." National Renewable Energy Laboratory. October 2013. 2020. <<https://www.nrel.gov/docs/fy14osti/60178.pdf>>.

⁴² Becker, Meike. "All hydrogen roads lead to renewables (and through Rome?)" Sanford C. Bernstein & Co., LLC. 3 Sept. 2020: 3.

⁴³ Becker, Meike. "All hydrogen roads lead to renewables (and through Rome?)" Sanford C. Bernstein & Co., LLC. 3 Sept. 2020: 4.

3.35 Bcf/d of natural gas. Current estimates project that the hydrogen market will grow by eight times by 2050.⁴⁴

- *Responsibly sourced natural gas*
Responsibly sourced natural gas is conventional natural gas that has been produced by companies whose operations have been independently verified as meeting certain ESG standards. These standards typically focus on management practices for methane emissions, water usage, and community relations. Currently, there are 10 members of ONE Future that have committed to responsibly produce natural gas and have a target methane emission intensity rate of 0.28% of production by 2025. Total responsibly produced natural gas across the 10 member companies in 2019 was approximately 11 Bcf/d in the U.S., which represents about 11% of the current U.S. natural gas production. Given consumers' growing climate-related concerns, the market for responsibly sourced natural gas is expected to grow as natural gas consumers demand that their natural gas be responsibly produced and transported.
- *CCUS*
We also believe the increased need for CCUS technologies under the IEA's Sustainable Development Scenario could be a future opportunity for us. Our CO₂ business segment's expertise in processing, transporting, injecting, and managing CO₂ and extensive CO₂ assets should make us an attractive partner for CCUS initiatives and future developments. Rising demand for carbon capture and geologic sequestration may provide both incremental CO₂ transportation revenues and downstream EOR and sequestration opportunities.

Even as we continue to execute on our business strategy, given the potentially reduced role of hydrocarbons in the energy mix, to increase our resiliency, we have, where warranted, incorporated additional sensitivity analysis into our financial models that we use to assess investments in potential projects. This sensitivity analysis includes a reduction in uncontracted cash flows and reduced or, in some cases, zero terminal value assumptions. We also seek to re-purpose our existing underutilized assets to provide solutions for our customers at attractive returns with reduced risk and less investment.

Anticipating a lower-carbon economy, in addition to directing more of our capital investment toward our Natural Gas Pipelines business segment, we are continually working to monitor and improve our processes and our perspectives on policies, activities, and trends related to the transition to a lower-carbon economy and on the long-term supply and demand for the products we handle.

As a result of our 1.5-2 °C scenario analysis and our ESG reporting initiative, where appropriate, we:

- evaluate our longer-term views in light of the IEA's Sustainable Development Scenario;
- coordinate energy market analysis across our business segments;
- monitor key climate-related market indicators, such as:
 - climate-related policy proposals and regulatory changes;
 - natural gas and renewable penetration into the power markets;
 - EV adoption rates, vehicle efficiency standards, and average miles driven;
 - biofuel and hydrogen markets; and
 - technological advancements and price signals for CCUS;

⁴⁴ Hydrogen Council. "Hydrogen scaling up: A sustainable pathway for the global energy transition." [Hydrogen Council. November 2017: 20. 2020. <https://hydrogencouncil.com/wp-content/uploads/2017/11/Hydrogen-Scaling-up_Hydrogen-Council_2017.compressed.pdf>](https://hydrogencouncil.com/wp-content/uploads/2017/11/Hydrogen-Scaling-up_Hydrogen-Council_2017.compressed.pdf).

- expand our evaluation of the economics of emission reduction technologies over a range of potential carbon tax prices; and
- discuss these topics with our Board and its EHS Committee.

Further, in anticipation of transitioning to a lower-carbon economy, we also seek opportunities to:

- reduce our emissions;
- enhance our expertise in CCUS;
- store and transport biofuels;
- repurpose our assets;
- modify existing assets or develop assets for LNG export opportunities; and
- expand our natural gas deliverability.

We present and discuss these opportunities with our Board.

2.3.2 Physical Risk Analysis Results

Given the diversity and size of our asset footprint and the criticality of the infrastructure we operate, we maintain a forward-looking approach to potential impacts of climate change and incorporate fiscally responsible risk mitigation into our operations. We expanded the table of potential physical risks and our mitigation measures in *Section 2.1 Potential Climate-Related Risks, Opportunities, and Impacts of the TCFD Report* to reflect the results of our 4 °C Scenario analysis. Our Business Continuity Planning Director evaluated our physical risk assessments and our mitigative measures and determined that acute risks such as hurricanes, wildfires, flooding, and heat waves are adequately addressed. This evaluation also identified opportunities for improvement in our mitigative measures for some chronic risks, projected by the 4 °C Scenario analysis, including rising seas levels and changes in tidal patterns.

As described in greater detail in *Sections 2.2 Management System and 12.3 Business Continuity Planning and Emergency Preparedness of the Sustainability Report*, we work to continuously improve our processes and procedures to mitigate acute physical climate change risks. We routinely drill scenarios that include these acute risks. To further address chronic risks identified through the 4 °C Scenario analysis, we evaluated which of our assets could be affected by the rising sea levels projected in a 4 °C Scenario. Our Business Continuity Planning Director is reviewing our engineering standards for our coastal assets and making adjustments, as needed, to address potential future risk due to rising sea levels or changes in tidal patterns. We plan to include the results in our next year's Report.

3.0 Risk and Opportunity Management

(SASB Midstream EM-MD-110a.2, SASB Exploration & Production EM-EP-110a.3, SASB Rail Transportation TR-RA-110a.2, Marine Transportation SASB TR-MT-110a.2, GRI 102-30, GRI 102-32, GRI 201-2, CDP C2.2, CDP C4.2, CDP C9.1)

Our management system is designed to help us monitor and assess various types of risks and opportunities, including those related to climate. We identify and evaluate risks and opportunities based on both actual and potential likelihood and significance. Depending on the nature of the risk or opportunity being considered, we evaluate consequences based on a variety of attributes such as:

- health and safety,
- financial,
- operational, and
- environmental.

Our management system promotes continuous improvement and adjustment to changing conditions, including actual and potential risks and opportunities in the near-, medium-, and long-term. This integrated and comprehensive approach helps facilitate resiliency in our assets and business strategy.

Our management system establishes intentional, routine risk and opportunity management activities that are designed to achieve the following objectives:

- maintain financial and operational discipline;
- reveal and manage risks and opportunities, including increasingly climate-related risks and opportunities; and
- continually improve our performance and culture.

Our management system processes and procedures are performed through regular meetings, processes, and reports that establish a rhythm for our business as outlined in the following table.

Meeting and Topics Covered	Personnel Involved in Process
<p>Each topic is covered as warranted and is not covered at every meeting. Other topics, not listed below, are also periodically covered. There are also additional regular meetings not listed below.</p>	
Weekly	
<p><i>Monday Management Meeting</i> <i>CEO, President, COO, business segment presidents and corporate function heads meet two hours each week for financial and operational review.</i></p> <ul style="list-style-type: none"> – Actual and forecasted financial performance vs. budget for the week, month, quarter, and year, which includes costs of compliance, fuel, energy, production, and public relations – Demand for our services – Near-term business development opportunities and risks – General business risks and opportunities – EHS and pipeline encroachment incidents – Customer credit risk changes and accounts receivable activity for non-investment grade customers – Impacts on business from weather, natural disasters, and other incidents – Capital project progress 	<ul style="list-style-type: none"> – CEO, President, COO, Business Segment and Operating Company Presidents, CFO, CAO, General Counsel, Corporate Department Management

Meeting and Topics Covered

Each topic is covered as warranted and is not covered at every meeting. Other topics, not listed below, are also periodically covered. There are also additional regular meetings not listed below.

Personnel Involved in Process

Monthly

Business Segment Operations Meeting

- Progress toward reducing risk of high consequence assets and operations
- Internal and external incidents, near misses, and lessons learned
- Process improvements, efficiency, and productivity improvements
- Progress on expanding systems to more assets and operations, more operations goals, and more regulatory and other requirements
- Leading indicators and their meanings
- Significant results of internal and external audits, evaluations, and assessments, including status of corrective actions
- Stakeholder feedback
- Other key performance indicators

- Business Segment and Operating Company Presidents, Business Segment COOs, Operations and EHS Vice Presidents and Directors

Earnings Meetings

Review actual financial results for the month and the quarter.

- CEO, President, COO, Business Segment and Operating Company Presidents, CFO, General Counsel, Corporate and Business Segment Financial Planning

Accounts Receivable Review Meeting

Discuss collection status for past due accounts receivable balances.

- President, CFO, Controller, Corporate and Business Segment Accounting

Meeting and Topics Covered

Each topic is covered as warranted and is not covered at every meeting. Other topics, not listed below, are also periodically covered. There are also additional regular meetings not listed below.

Personnel Involved in Process

Quarterly

Quarterly Business Review for each business segment
Respective business segment presidents, COOs, and function heads provide the CEO and President with a “state of the business” presentation.

- Financial performance
- Near-, medium-, and long-term
 - strategies
 - market dynamics and trends
 - risks and opportunities
- Commercial discussions
- Progress and plans for reducing risk to potential high consequence assets and operations
- Operational performance
- Expansion project updates
 - risks and opportunities
 - environmental and other permits and related compliance activities
 - financial performance vs. forecast and budget
 - forecasted project capital expenditures
 - forecasted project EBITDA
 - estimated in-service date
 - milestone completion dates and projected in service date
 - safety
 - quality
 - regulation
 - project opposition
 - impacts from weather, natural disasters, and other incidents
 - supply chains
- The status and effectiveness of corrective actions resulting from previous management reviews
- Regulatory and litigation updates
- Once or twice a year these reviews may also include a long-range outlook financial projection and a less comprehensive review on other subjects

Operations Group Meeting

COO, Business segment COOs, and the Vice President of Corporate EHS share knowledge and best practices across business segments and review progress on actions taken to improve safety and performance.

- Proposed best practices across business segments
- Conflicts in interpretations of regulatory requirements identified by the EHS or legal departments
- Proposed modifications to the OMS
- Updates from operations working groups
- Internal and external incident and near miss trends and lessons learned

- CEO, President, COO, Business Segment and Operating Company Presidents, CFO, CAO, General Counsel, Corporate Department Management, Business Segment COOs, Department Vice Presidents and Directors

- COO, Vice President of Corporate EHS, Business Segment COOs, Working Group Leads

Meeting and Topics Covered

Each topic is covered as warranted and is not covered at every meeting. Other topics, not listed below, are also periodically covered. There are also additional regular meetings not listed below.

Personnel Involved in Process

Operations Working Group Meetings

- Operational considerations and regulatory risks
 - Incident Review
 - Pipeline Integrity
 - OMS adjustments
 - Security
 - Disaster Preparation, Response and Recovery
 - Regulatory Compliance

– Subject Matter Professionals

Periodically

Long-Range Outlook Update

- Five-year projections of:
 - Revenue
 - Capital expenditures
 - Operating expenses
 - Distributable cash flow, EBITDA and segment EBDA
- Adjust budget for projects, contract changes, etc.
- Translated to an annual plan

– CEO, President, COO, Business Segment and Operating Company Presidents, Business Segment COOs, CFO, General Counsel, Corporate and Business Segment Financial Planning

Annually

Budget Review

CEO, President, business segment presidents and corporate function heads review annual budgets and establish financial targets and operational metrics against which to evaluate performance in the coming year.

- Staffing, assets, systems, and other resources needed for business segments to operate in a safe, environmentally sound, and efficient manner
 - revenue impacts
 - compliance costs
 - fuel costs
 - insurance costs
 - public relations costs
 - production costs
- Capital expenditures, operating expenditures, and margins
- Commercial developments, such as contract rate and volumetric changes
- Translated to a monthly plan

– Manager level and above

In addition to our management system, to address certain risks we maintain other risk management programs and processes, such as:

- Energy commodity price risk management and mitigation program,
- Process Safety Management/Risk Management Plans,
- IMP,
- Responsible Care®,
- Cyber Threat Response Plan, and
- Critical Facility Security Plans.

4.0 Metrics and Targets

4.1 Climate-Related Metrics

(SASB Midstream EM-MD-110a.1, SASB Exploration & Production EM-EP-110a.1, SASB Rail Transportation TR-RA-110a.1, SASB Marine Transportation TR-MT-110a.1, GRI 102-29, GRI 102-30, GRI 201-2, CDP C6.1, CDP C6.2, CDP C6.3, CDP C6.5)

See *Section 3.0 Greenhouse Gas Emissions* of our *Sustainability Report* for our metrics to measure climate-related risk and opportunities.

4.2 Climate-Related Targets

(CDP C4.1, CDP C4.1a, CDP C4.1b, CDP C4.2)

See *Section 3.4.3 GHG Targets* of our *Sustainability Report* for our climate-related targets.

Appendix A – ESG Disclosure Topics & Accounting Metrics

	Unit	Year Ended December 31		
		2017	2018	2019
Kinder Morgan Inc.				
Research and development investments in GHG emissions and other climate change-related projects	Thousands	\$229	\$257	\$226
Renewable energy consumed from the solar panels we operate	MWh	—	—	1,018
Total electricity consumption	GWh	—	7,755	7,692
GHG emission offsets purchased				
Purchased offsets	Metric tons CO ₂ e	105,609	40,923	95,799
Average price per metric ton CO ₂ e	Dollars	\$0.83	\$1.15	\$1.75
Maximum price paid per metric ton of CO ₂ e	Dollars	\$0.89	\$1.15	\$1.75
Minimum price paid per metric ton of CO ₂ e	Dollars	\$0.80	\$1.15	\$1.75
GHG reductions				
Voluntary GHG emissions reductions	Million metric tons CO ₂ e - methane GWP of 25	2.2	1.9	2.0
Voluntary GHG emissions reductions	Million metric tons CO ₂ e - methane GWP of 28	2.5	2.2	2.3
Target - GHG reductions	Million metric tons CO ₂ e - methane GWP of 28	—	—	1.1
Methane emission intensity rate target	%	0.31%	0.31%	0.31%
Methane emission intensity rate	%	0.04%	0.02%	0.03%
Air emissions for the following pollutants:				
NO _x (excluding N ₂ O)	Metric tons	51,852	58,736	57,938
SO _x	Metric tons	309	255	358
VOCs	Metric tons	13,764	13,865	14,397
PM ₁₀	Metric tons	1,285	1,400	1,395
Water use for hydrostatic integrity testing of existing PHMSA regulated pipeline	Thousand cubic meters	238	74	24
Ecological impacts				
Percentage of land operated within or near areas of protected conservation status or endangered species habitat	%	—	33%	30%
Hydrocarbon spills				
Number of hydrocarbon spills	#	39	37	43
Aggregate volume of hydrocarbon spills	Bbls	578	11,530	975
Aggregate volume of hydrocarbon spills in Unusually Sensitive Areas	Bbls	242	180	52
Volume recovered	Bbls	352	7,332	791
Marine spills and releases to the environment				
Number of marine spills and releases to the environment	#	1	1	0

	Unit	Year Ended December 31		
		2017	2018	2019
Aggregate volume of marine spills and releases to the environment	Cubic meters	<0.0001	0.0002	0
Employee and contractor health and safety				
Total recordable incident rate				
Employees	# Recordable incidents/100 full-time workers	1.0	1.0	1.0
Target - employee TRIR industry average	# Recordable incidents/100 full-time workers	2.8	2.3	2.0
Target - employee TRIR three-year average	# Recordable incidents/100 full-time workers	1.2	1.2	1.1
Contractors	# Recordable incidents/100 full-time workers	0.8	0.7	0.6
Short-service total recordable incident rate				
Employees	# Recordable incidents/100 full-time workers	1.0	1.1	1.2
Lost time incident rate				
Employees	# Recordable incidents/100 full-time workers	0.4	0.5	0.5
Fatalities				
Employees	#	0	0	0
Contractors	#	1	0	0
Average hours of employee health, safety, and emergency response training	Hours/employee	17	17	17
Marine lost time incident rate	# Lost time incidents/1,000,000 hours worked	1.1	0.6	0.3
Service supplier monitoring				
Percentage of service suppliers subject to performance audits	%	100%	100%	100%
Number of service suppliers audited	#	180	172	248
Percentage of service suppliers audited	%	6%	5%	7%
Hazardous waste				

	Unit	Year Ended December 31		
		2017	2018	2019
Amount Generated	Metric tons	5,302	5,203	9,888
Percent Recycled	%	54%	57%	55%
Recycled business waste				
Aluminum, cardboard, glass, paper, and plastic	Tons	105	155	119
Competitive behavior and pricing integrity and transparency				
Total amount of monetary losses as a result of legal proceedings associated with federal pipeline and storage rate, access, and pricing regulations	Millions	\$10	\$0	\$19.5
Legal or regulatory fines, settlements, or penalties associated with bribery and corruption	Dollars	\$0	\$0	\$0
Reportable pipeline incidents				
Number of reportable pipeline incidents	#	50	53	60
Percentage significant of reportable pipeline incidents	%	46%	43%	40%
Natural gas and hazardous liquid pipelines inspection				
Percentage of natural gas pipelines inspected	%	14%	14%	19%
Percentage of hazardous liquid pipelines inspected	%	19%	18%	27%
Number of accident releases from rail transportation	#	0	0	0
Number of non-accident releases from rail transportation	#	6	1	1
Number of FRA recommended violation defects	#	12	5	32
Contributions to political campaigns, individuals, parties, and organizations	Thousands	\$0	\$0	\$0
Payments to lobbying groups or organizations	Thousands	\$578	\$575	\$265
Trade association dues	Thousands	\$2,427	\$2,502	\$2,523
Portion of trade association dues attributed to lobbying	Thousands	\$169	\$180	\$225
Income taxes (refunded) paid				
U.S. Federal	Millions	\$(144)	\$(149)	\$(1)
U.S. State	Millions	\$(3)	\$26	\$4
Canada	Millions	\$0	\$11	\$360
Mexico	Millions	\$7	\$3	\$8
Brazil	Millions	\$0	\$0	\$1
Total income taxes (refunded) paid, net	Millions	\$(140)	\$(109)	\$372
Royalties, duties, and other taxes paid	Millions	\$64	\$72	\$70
Employee demographics				
Part-time employees	#	—	9	6
Temporary employees	#	—	6	5
Employee age representation				
Average age	#	—	46	45
Percentage under 18 years old	%	—	0%	0%
Percentage from 18 through 29 years old	%	—	11%	11%
Percentage from 30 through 50 years old	%	—	51%	52%
Percentage over 50 years old	%	—	39%	38%
Female employee representation				

	Year Ended December 31			
	Unit	2017	2018	2019
Percentage of workforce	%	—	16%	16%
Percentage of management	%	—	18%	19%
Percentage of Board of Directors	%	—	13%	13%
Minority employee representation				
Percentage of workforce	%	—	28%	29%
Percentage of management	%	—	19%	19%
Percentage of Board of Directors	%	—	6%	6%
Percent of workforce with disabilities	%	—	4%	4%
Employee turnover - Total	%	—	9%	10%
Involuntary employee turnover	%	—	2%	4%
Voluntary employee turnover	%	—	7%	6%
Donations and community investments	Thousands	\$3,011	\$1,949	\$1,897

	Year Ended December 31			
	Unit	2017	2018	2019
Kinder Morgan Canada Ltd.				
KML gross global Scope 1 & 2 emissions				
KML gross global Scope 1 emissions	Thousand metric tons CO ₂ e	22	22	10
KML gross global Scope 2 emissions	Thousand metric tons CO ₂ e	195	158	71
KML combined gross global Scope 1 and 2 emissions	Thousand metric tons CO ₂ e	217	180	81
Percentage covered under emissions-limiting regulations	%	0%	0%	0%
Percentage methane	%	4%	3%	1%
KML Scope 1 emission intensity per BOE throughput	Metric tons CO ₂ e per BOE throughput	0.0001	0.0001	0.0001

Appendix B – Activity Metrics

	Unit	Year Ended December 31		
		2017	2018	2019
Number of employees (TR-RA-000.E)	#	10,897	11,165	11,086
Natural Gas Pipelines				
Natural gas transport volumes	BBtu/d	29,108	32,821	36,793
Natural gas sales volumes	BBtu/d	2,341	2,472	2,420
Natural gas gathering volumes	BBtu/d	2,647	2,972	3,382
Crude and condensate(a)	MBbl/d	273	307	—
NGL	MBbl/d	—	—	125
Products Pipelines				
Gasoline(b)	MBbl/d	1,038	1,038	1,041
Diesel fuel	MBbl/d	351	372	368
Jet fuel	MBbl/d	297	302	306
Total refined product volumes	MBbl/d	1,686	1,712	1,715
NGL(a)	MBbl/d	112	114	—
Crude and condensate(a)	MBbl/d	327	345	651
Total delivery volumes	MBbl/d	2,125	2,171	2,366
Ethanol(c)	MBbl/d	117	126	150
Biodiesel	MBbl/d	6	7	10
Terminals				
Bulk transload tonnage	MMton	59.5	64.2	59.4
Liquids tankage capacity available for service	MMBbl	87.6	88.8	89.0
Liquids utilization(d)	%	93.6%	94.9%	94.0%
Liquids throughput	MBbl/d	2,357	2,494	2,449
Ethanol	MBbl/d	173	157	128
Biodiesel	MBbl/d	14	12	10
CO₂				
CO ₂ production (gross)	Bcf/d	1.3	1.2	1.3
CO ₂ production (net)	Bcf/d	0.6	0.6	0.6
CO ₂ production terrestrial sites	#	91	93	90
Oil production (gross)	MBbl/d	53.3	54.2	52.0
Oil production (net)(e)	MBbl/d	37.8	38.8	37.2
Natural gas production	MMscf/d	1,425	1,537	2,285
NGL sales volumes (net)(e)	MBbl/d	9.9	10.0	10.1
Kinder Morgan Canada				
Transport volumes(f)	MBbl/d	308	291	—

		Year Ended December 31		
	Unit	2017	2018	2019
Oil & Gas Midstream				
Quantity transported (by mode of transportation) (EM-MD-000.A)				
Pipelines				
1) Natural gas	Bcf	13,300	14,800	16,300
2) Crude oil and petroleum products by business segment				
2a) Products Pipelines	Bn-bbl miles	631	648	689
2b) Terminals	Bn-bbl miles	22	20	31
2c) CO ₂	Bn-bbl miles	111	102	105
2d) Kinder Morgan Canada(f)	Bn-bbl miles	85	49	—
Total	Bn-bbl miles	<u>849</u>	<u>819</u>	<u>825</u>
Oil & Gas Exploration & Production				
Production of oil (EM-EP-000.A)	MBbl/d	54	56	52
Number of offshore sites (EM-EP-000.B)(g)	#	0	0	0
Number of terrestrial sites (EM-EP-000.C)(g)	#	1,124	1,146	1,253
Rail Transportation				
Number of carloads transported (TR-RA-000.A)(h)				
Natural Gas Pipelines	Thousands	6	7	7
Products Pipelines	Thousands	8	15	22
Terminals(i)	Thousands	145	142	131
Total	Thousands	<u>159</u>	<u>164</u>	<u>160</u>
Terminals rail loading facilities bulk throughput	MMton	6	6	8
Terminals rail loading facilities liquids throughput	MMBbl	43	46	34
Number of intermodal units transported (TR-RA-000.B)	#	—	—	—
Track miles (TR-RA-000.C)	Miles	—	—	—
Revenue ton miles (TR-RA-000.D)	RTM	—	—	—
Marine Transportation				
Number of shipboard employees (TR-MT-000.A)	#	518	594	736
Total distance traveled by vessels (TR-MT-000.B)	Nautical miles	330,970	781,105	686,259
Operating days (TR-MT-000.C)	Days	4,884	5,781	5,720
Barrels transported(j)	MMBbl	236	268	269
Number of vessels in total shipping fleet (TR-MT-000.E)	#	16	16	16
Number of vessel port calls (TR-MT-000.F)	#	486	994	892
Twenty-foot equivalent unit capacity (TR-MT-000.G)(k)	TEU	—	—	—

- (a) Joint venture throughput is reported at our ownership share. Effective January 1, 2019, for segment reporting purposes, our pipelines that transport crude and condensate volumes were transferred to our Products Pipelines business segment.
- (b) Volumes include ethanol pipeline volumes.
- (c) Represents total ethanol volumes, including ethanol pipeline volumes included in gasoline volumes above.
- (d) The ratio of our tankage capacity in service to tankage capacity available for service.
- (e) Net after royalties and outside working interests.
- (f) On August 31, 2018, the assets comprising the Kinder Morgan Canada business segment were sold, so this segment does not have results of operations on a prospective basis.

- (g) Represents number of active and operated oil wells.
- (h) Unless otherwise noted, represents the number of rail cars loaded and unloaded.
- (i) If the number of rail cars are unavailable, they are calculated by dividing the weight or volume transported by 100 tons or 821 bbls, respectively.
- (j) Represents the cargo barrels transported.
- (k) Twenty-foot equivalent unit capacity is a unit of cargo used to measure a ship's container carrying capacity. We do not operate marine vessels capable of carrying cargo containers.

Appendix C – ESG Content Index

Topic	Sustainability Policies and Accounting Metrics	SASB(a)	GRI (Core) (b)	CDP(c)	SDGs	ESG Report Section Page or Reference to Kinder Morgan Published Document
General Disclosures	Name of the organization	--	102-1	--	--	2019 ESG Report A Message from Our CEO
	Activities, brands, products, and services	--	102-2	--	--	2019 ESG Report A Message from Our CEO 2019 ESG Report Pg. 4 2019 Form 10-K 2019 Form 10-K
	Location of headquarters	--	102-3	--	--	2019 ESG Report Pg. 19 2019 Form 10-K Cover Page
	Location of operations	--	102-4	--	--	2019 ESG Report Pg. 4 2019 Form 10-K Part I, Items 1. and 2.
	Ownership and legal form	--	102-5	--	--	2019 ESG Report Pg. 4 2019 Form 10-K Part I, Items 1. and 2.
	Markets served	--	102-6	--	--	2019 ESG Report Pg. 4 2019 Form 10-K Part I, Items 1. and 2.
	External initiatives	--	102-12	--	--	2019 ESG Report Pg. 12 2019 ESG Report Pg. 27 2019 ESG Report Pg. 61 2019 ESG Report Pg. 66
	Membership of associations	--	102-13	--	--	2019 ESG Report Pg. 12
	Statement from senior decision-maker	--	102-14	--	--	2019 ESG Report A Message from Our CEO
	Key impacts, risks and opportunities	--	102-15	C2.1 C2.3 C2.3a C2.4 C2.4a	16	2019 ESG Report Pg. 75
	Values, principles, standards, and norms of behavior	--	102-16	--	16	2019 ESG Report Pg. 4
	Mechanisms for advice and concerns about ethics	--	102-17	--	16	2019 ESG Report Pg. 4
	Governance structure	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-18	C1.1b	16	2019 ESG Report Pg. 1 2019 ESG Report Pg. 72 2020 Proxy Statement Pgs. 15-22
	Delegating authority	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-19	C1.1b	16	2019 ESG Report Pg. 73
	Executive-level responsibility for economic, environmental, and social topics	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-20	C1.1b	16	2019 ESG Report Pg. 1 2019 ESG Report Pg. 72
	Consulting stakeholders on economic, environmental, and social topics	--	102-21	--	16	2019 ESG Report Pg. 63
	Composition of the highest governance body and its committees	--	102-22	--	5 16	2020 Proxy Statement Pgs. 13-21
Report whether the chair of the highest governance body is also an executive officer, describe his or her function within the organization management and the reasons for this arrangement	--	102-23	--	16	2020 Proxy Statement Pgs. 8-9, 14	

Topic	Sustainability Policies and Accounting Metrics	SASB(a)	GRI (Core) (b)	CDP(c)	SDGs	ESG Report Section Page or Reference to Kinder Morgan Published Document
General Disclosures	Report the nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members	--	102-24	--	5 16	2020 Proxy Statement Pgs. 19-22
	Conflicts of interest	--	102-25	--	5	KMI Code of Business Conduct and Ethics Pgs. 19-24 2020 Proxy Statement Pgs. 24-25
	Role of highest governance body in setting purpose, values, and strategy	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-26	C1.1b	16	2019 ESG Report Pg. 12 2019 ESG Report Pg. 72
	Collective knowledge of highest governance body	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-27	C1.1b	16	2019 ESG Report Pg. 72 2020 Proxy Statement Pg. 15
	Evaluating the highest governance body's performance	--	102-28	--	16	2020 Proxy Statement Pgs. 14-15
	Identifying and managing economic, environmental, and social impacts	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-29	C1.1b C1.2 C1.2a	16	2019 ESG Report Pg. 72
	Effectiveness of risk management processes	--	102-30	C4.2 C9.1	--	2019 ESG Report Pg. 91
	Review of economic, environmental, and social topics	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-31	C1.1b C1.2 C1.2a	--	2019 ESG Report Pg. 72 2020 Proxy Statement Pg. 18
	Report the highest committee reviews and approves the organizations sustainability report and ensures that all material topics are covered	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-32	C1.1b C1.2 C1.2a	--	2019 ESG Report Pgs. 1, 72
	Remuneration policies	--	102-35	--	--	2020 Proxy Statement Pgs. 32-51
	Process for determining remuneration	--	102-36	--	--	2020 Proxy Statement Pgs. 32-51
	Stakeholders' involvement in remuneration	--	102-37	--	16	2020 Proxy Statement Pg. 33
	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	--	102-43	--	1 6 10 12 17	2019 ESG Report Pg. 27 2019 ESG Report Pg. 63
	Boundaries	--	102-46	--	--	2019 ESG Report Pg. 1
	Reporting period	--	102-50	--	--	2019 ESG Report Pg. 1
	Date of most recent report	--	102-51	--	--	2019 ESG Report Cover Page
	Reporting cycle	--	102-52	--	--	2019 ESG Report Pg. 1
	GRI content index	--	102-55	--	--	2019 ESG Report Appendix C
	External assurance	--	102-56	--	1	2019 ESG Report Appendix D
Economic Performance	Financial implications and other risks and opportunities due to climate change	--	201-2	C2.3	13	2019 ESG Report Pg. 75
Indirect Economic Impacts	Infrastructure investments and services supported	--	203-1	--	6 9 11 14 15	2019 ESG Report A Message From Our CEO 2019 ESG Report Pg. 4 2019 ESG Report Pg. 66 2019 ESG Report Pg. 75 2019 ESG Report Pg. 83
	Significant indirect economic impacts	--	203-2	--	1 3 8	2019 ESG Report Pg. 66

Topic	Sustainability Policies and Accounting Metrics	SASB(a)	GRI (Core) (b)	CDP(c)	SDGs	ESG Report Section Page or Reference to Kinder Morgan Published Document
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage methane, percentage covered under emissions-limiting regulations	EM-MD-110a.1 EM-EP-110a.1	305-1	C6.1 C6.3 C7.3 C7.6 C7.9 C8.1-8.2f	13	2019 ESG Report Pg. 10
	Discussion of long-term and short-term strategy or plan to manage gross global scope 1 and 2 emissions, emissions reduction targets, and an analysis of performance against those targets	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	305-5	C3.1	13	2019 ESG Report Pg. 12
	Energy management	--	--	C8.2	13	2019 ESG Report Pg. 19
	GHG offsets	--	--	C4.3 C11.2	13	2019 ESG Report Pg. 21
	Internal Price of Carbon	--	--	C11.3	13	2019 ESG Report Pg. 21
	GHG reductions	--	305-5	C4.3	13	2019 ESG Report Pg. 22
	GHG targets	--	--	C4.1	13	2019 ESG Report Pg. 23
	Reduction of energy consumption	--	302-4	--	13	2019 ESG Report Pg. 19
Electricity consumption	--	302-1	C8.2 C8.2a	13	2019 ESG Report Pg. 19	
Air Quality	Air emissions for the following pollutants: NO _x (excluding N ₂ O), SO _x , volatile organic compounds (VOCs) and particulate matter (PM ₁₀)	EM-MD-120a.1 EM-EP-120a.1	305-7	--	3 11 12	2019 ESG Report Pg. 25
Water Usage	Water management & usage	EM-EP-140a.1	303-5	W1.1 W1.2 W6.1	6	2019 ESG Report Pg. 26
Ecological Impacts	Description of environmental management policies and practices for active operations	EM-MD-160a.1 EM-EP-160a.1		--	15	2019 ESG Report Pg. 27
	Percentage of land owned, leased, and/or operated within areas of protected conservation status or endangered species habitat	EM-MD-160a.2	304-1	--	15	2019 ESG Report Pg. 31
	Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume in Unusually Sensitive Areas (USAs), and volume recovered	EM-MD-160a.4 EM-EP-160a.2	306-3	--	6 15	2019 ESG Report Pg. 32
	(1) Number and (2) aggregate volume of marine spills and releases to the environment	TR-MT-160a.3	306-3	--	6	2019 ESG Report Pg. 34
	Operational sites owned, leased, managed in or adjacent to protected areas and areas of high biodiversity value outside protected areas	--	304-1	--	6 14 15	2019 ESG Report Pg. 31
	Significant impacts of activities, products and services on biodiversity	--	304-2	--	6 14 15	2019 ESG Report Pg. 27
	Habitats protected or restored	--	304-3	--	6 14 15	2019 ESG Report Pg. 27

Topic	Sustainability Policies and Accounting Metrics	SASB(a)	GRI (Core) (b)	CDP(c)	SDGs	ESG Report Section Page or Reference to Kinder Morgan Published Document
Occupational Health and Safety, Emergency Preparedness & Response	Discussion of management systems used to integrate a culture of safety and emergency preparedness throughout the value chain and throughout project lifecycles	EM-MD-540a.4 EM-EP-320a.2	403-1 403-4 403-8	--	8	2019 ESG Report Pg. 34
	(1) Total Recordable Incident Rate (TRIR); (2) Fatality Count; (3) Average hours of Health, Safety, and Emergency Response Training for: (a) Employees, (b) Contractors, and (c) short-service employees	EM-EP-320a.1	403-9	--	3 8	2019 ESG Report Pg. 36
	Workers representation on formal joint management-worker health and safety committees	--	403-1	--	8	2019 ESG Report Pg. 34
	Types of injury and rates of injury, occupational diseases, lost days and absenteeism, and number of work-related fatalities	--	403-2	--	8	2019 ESG Report Pg. 36
	Worker participation, consultation, and communication on occupational health and safety	EM-MD-540a.4 EM-EP-320a.2	403-4 403-9	--	8 16	2019 ESG Report Pg. 34
	Worker training on occupational health and safety	--	403-5	--	8	2019 ESG Report Pg. 36
	Promotion of worker health	--	403-6	--	3	2019 ESG Report Pg. 34
Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	--	403-7	--	8	2019 ESG Report Pg. 36	
Marine Accidents & Safety Management	Lost time incident rate (LTIR)	TR-MT-320a.1	403-9	--	8	2019 ESG Report Pg. 38
Hazardous Materials Management	Amount of hazardous waste generated, percentage recycled	EM-RM-150a.1	306-2	--	3	2019 ESG Report Pg. 41
Competitive Behavior	Total amount of monetary losses as a result of legal proceedings associated with federal pipeline and storage regulations	EM-MD-520a.1	--	--	16	2019 ESG Report Pg. 43
Business Ethics & Anti-Corruption	Description of the management system for prevention of corruption and bribery throughout the value chain	EM-EP-510a.2	205-2	--	16	2019 ESG Report Pg. 44
	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	--	206-1	--	16	2019 ESG Report Pg. 44 KMI Code of Business Conduct and Ethics Pg. 38
Operational Safety	Number of reportable pipeline incidents, percentage significant	EM-MD-540a.1	--	--	6	2019 ESG Report Pg. 49
	Percentage of (1) natural gas and (2) hazardous liquid pipelines inspected	EM-MD-540a.2	--	--	12	2019 ESG Report Pg. 50
Rail Accidents & Safety Management	Number of Federal Rail Administration (FRA) Recommended Violation Defects	TR-RA-540a.3	--	--	8	2019 ESG Report Pg. 52
	Number of (1) accident releases and (2) non-accident releases (NARs) from rail transportation	EM-MD-540a.3 TR-RA-540a.2	--	--	15	2019 ESG Report Pg. 51
Management of the Legal & Regulatory Environment	Discussion of the corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	EM-EP-530a.1	--	--	16 17	2019 ESG Report Pg. 52
	Political contributions	--	415-1	--	16	2019 ESG Report Pg. 54
	Tax transparency	--	201-1 201-4	--	1 8 10 17	2019 ESG Report Pg. 54
Data Security	Description of approach to identifying and addressing data security risks	SV-PS-230a.1	--	--	--	2019 ESG Report Pg. 55

Topic	Sustainability Policies and Accounting Metrics	SASB(a)	GRI (Core) (b)	CDP(c)	SDGs	ESG Report Section Page or Reference to Kinder Morgan Published Document
Workforce Diversity & Engagement	Percentage of gender and racial/ethnic group representation for (1) executive management, (2) non-executive management, (3) professionals, and (4) all other employees	FN-IB-330a.1	405-1	--	5 10	2019 ESG Report Pg. 57
	(1) Voluntary and (2) involuntary turnover rate for employees	SV-PS-330a.2	401-1	--	5 8	2019 ESG Report Pg. 57
	Benefits provided to full-time employees that are not provided to temporary or part-time employees	--	401-2	--	8	2019 ESG Report Pg. 61 KMI Employee Stock Purchase Plan (filed as Exhibit 10.5 on Form 10-Q for the quarter ended March 31, 2011)
Freedom of Association and Collective Bargaining	Operations and suppliers in which the right to Freedom of Association and Collective Bargaining may be at risk	--	407-1	--	8	2019 ESG Report Pg. 39
Employee Training & Development	Discussion of (1) average hours of training per year per employee (2) programs for upgrading employee skills and transition assistance programs (3) percentage of employees receiving regular performance and career development reviews	--	404-1 404-2	--	4	2019 ESG Report Pg. 61
	Programs for upgrading employee skills and transition assistance programs	--	404-1 404-2	--	4 5 8 10	2019 ESG Report Pg. 61
Community Relations	Discussion of process to manage risks and opportunities associated with community rights and interests; impact assessments and development programs and operations with local community engagement	EM-EP-210b.1	413-1	--	1 8 9 11	2019 ESG Report Pg. 62
	Community investments	--	201-1	--	5 10	2019 ESG Report Pg. 66
Security, Human Rights & Rights of Indigenous Peoples	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict and operations and suppliers at significant risk for incidents of child labor, and forced or compulsory labor	EM-EP-210a.3	408-1 409-1	--	8 16	2019 ESG Report Pg. 68
Reserves Valuation & Capital Expenditures	Discussion of how price and demand for hydrocarbons and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets	EM-EP-420a.4	--	C2.3	13	2019 ESG Report Pg. 75

- (a) Version 2018-10: SASB Extractives & Minerals Processing Sector Oil & Gas Midstream Standard EM-MD, SASB Extractives & Minerals Processing Sector Exploration & Production Standard EM-EP, SASB Extractives & Minerals Processing Sector Refining & Marketing Standard EM-RM, SASB Transportation Sector Marine Transportation Standard TR-MT, SASB Transportation Sector Rail Transportation standard TR-RA, SASB Financials Sector - Investment Banking & Brokerage standard FN-IB, and SASB Services Sector - Professional & Commercial Services standard SV-PS.
- (b) GRI 102 General Disclosures 2016, GRI 201 Economic Performance 2016, GRI 203 Indirect Economic Impacts, GRI 205 Anti-Corruption 2016, GRI 206 Anti-competitive Behavior, GRI 302 Energy, GRI 303 Water and Effluents, GRI 304 Biodiversity 2016, GRI 305 Emissions 2016, GRI 306 Effluents and Waste 2016, GRI 401 Employment, GRI 403 Occupational Health and Safety 2016, GRI 404 Training and Education 2016, GRI 405 Diversity and Equal Opportunity 2016, GRI 407 Freedom of Association and Collective Bargaining, GRI 408 Child Labor 2016, GRI 409 Forced or Compulsory Labor 2016, GRI 413 Local Communities 2016, and GRI 415 Public Policy 2016.
- (c) CDP C1 Governance, CDP C2 Risks and Opportunities, CDP C3 Business Strategy, CDP C4 Targets and Performance, CDP C6 Emissions Data, CDP C7 Emissions Breakdown, CDP C8 Energy, CDP C9 Additional Metrics, CDP C11 Carbon Pricing, CDP W1 Current State, and CDP W6 Governance.

TCFD Core Elements	TCFD Core Element Description	Recommended Disclosure	SASB(a)	GRI (Core) (b)	CDP(c)	SDGs	Section Page
Governance	Disclose the organization's governance around climate-related risks and opportunities	Describe the board's oversight of climate-related risk and opportunities	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-18 102-19 102-20 102-26 102-27 102-29 102-31 102-32	C1.1b	13	2019 ESG Report Pg. 72
		Describe management's role in assessing and managing climate related risks and opportunities	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	102-29 102-31 102-32	C1.2 C1.2a	13	2019 ESG Report Pg. 73
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	--	102-15	C2.1 C2.3 C2.3a C2.4 C2.4a	13	2019 ESG Report Pg. 75
		Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	--	--	C2.1 C2.2d C2.3a C3.1 C3.1c C3.1d C2.4a C2.5	13	2019 ESG Report Pg. 82
		Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	--	C3.1a C3.1d	13	2019 ESG Report Pg. 83
Risk Management	Disclose how the organization identifies, assesses, and manages climate-related risks	Describe the organization's processes for identifying and assessing climate-related risks	--	201-2	--	13	2019 ESG Report Pg. 91
		Describe the organization's processes for managing climate-related risks	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	--	--	13	2019 ESG Report Pg. 91
		Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	EM-MD-110a.2 TR-RA-110a.2 EM-EP-110a.3 TR-MT-110a.2	--	C2.2	13	2019 ESG Report Pg. 91
Metrics and Targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	--	102-30	C9.1	13	2019 ESG Report Pg. 96
		Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	EM-MD-110a.1 TR-RA-110a.1 EM-EP-110a.1 TR-MT-110a.1	102-29 102-30 201-2	C6.1 C6.2 C6.3 C6.5	13	2019 ESG Report Pg. 96
		Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	--	--	C4.1 C4.1a C4.1b C4.2	13	2019 ESG Report Pg. 96

(a) Version 2018-10: SASB Extractives & Minerals Processing Sector Oil & Gas Midstream Standard EM-MD, SASB Extractives & Minerals Processing Sector Exploration & Production Standard EM-EP, SASB Transportation Sector Marine Transportation Standard TR-MT, SASB Transportation Sector Rail Transportation standard TR-RA.

- (b) GRI 102 General Disclosures 2016, GRI 201 Economic Performance 2016.
- (c) CDP C1 Governance, CDP C2 Risks and Opportunities, CDP C3 Business Strategy, CDP C4 Targets and Performance, CDP C6 Emissions Data, CDP C9 Additional Metrics.



Report of Independent Accountants

To the Board of Directors of Kinder Morgan, Inc.

We have reviewed the accompanying Kinder Morgan, Inc. (“Kinder Morgan”) management assertion, that the sustainability metrics in management’s assertion as of December 31, 2019 or for the year ended, are presented in conformity with the assessment criteria set forth in management’s assertion.

Kinder Morgan’s management is responsible for its assertion and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the sustainability metrics. Our responsibility is to express a conclusion on management’s assertion based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) in AT-C section 105, *Concepts Common to All Attestation Engagements* and AT-C section 210, *Review Engagements* and standards established by the International Auditing and Assurance Standards Board (IAASB) in International Standard on Assurance Engagements (ISAE) 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to management’s assertion in order to be fairly stated. A review is substantially less in scope than an examination, the objective of which is to obtain reasonable assurance about whether management’s assertion is fairly stated, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. We believe that our review provides a reasonable basis for our conclusion.

In performing our review, we have complied with the independence and other ethical requirements of the Code of Professional Conduct issued by the AICPA.

We applied the Statements on Quality Control Standards established by the AICPA and, accordingly, maintain a comprehensive system of quality control.

GHG emissions quantification is subject to inherent measurement uncertainty because of such things as GHG emission factors that are used in mathematical models to calculate GHG emissions and the inability of those models, due to incomplete scientific knowledge and other factors, to accurately measure under all circumstances the relationship between various inputs and the resultant GHG emissions. Environmental and energy use data used in GHG emissions calculations are subject to inherent limitations, given the nature and the methods used for measuring such data. The selection by management of different but acceptable measurement techniques could result in materially different amounts or metrics being reported.

The preparation of the other sustainability metrics requires management to establish the criteria, make determinations as to the relevancy of information to be included, and make assumptions that affect reported information. The selection by management of different but acceptable measurement techniques could result in materially different amounts or metrics being reported.

PricewaterhouseCoopers LLP, 1000 Louisiana Street, Suite 5800, Houston, TX 77002
www.pwc.com

As discussed in management's assertion, Kinder Morgan has estimated GHG emissions for certain emission sources for which no primary usage data is available.

Based on our review, we are not aware of any material modifications that should be made to management's assertion referred to above in order for it to be fairly stated.

PricewaterhouseCoopers LLP

October 22, 2020

**Kinder Morgan, Inc.’s Management Assertion
As of and for the Year Ended December 31, 2019**

Kinder Morgan, Inc. is responsible for the completeness, accuracy, and validity of the accompanying metrics reported in the Sustainability Accounting Standards Board (SASB) portion of the 2019 Environmental, Social and Governance (ESG) Report (also known as the “Sustainability Report”). Management of Kinder Morgan, Inc. has used the SASB Accounting Standards as an input to its consideration of what metrics and other sustainability disclosures to report, however, neither the Sustainability Report nor this management assertion related to certain metrics asserts that Kinder Morgan has complied with the SASB Accounting Standards.

Data presented in the Sustainability Report includes Kinder Morgan, Inc. and its operated subsidiaries and its operated investees (hereinafter, “KMI”). The Sustainability Report also provides certain stand-alone sustainability metrics for Kinder Morgan US (KMI US) and Kinder Morgan Canada Limited (KML) locations and activities through the December 16, 2019 sale of KML.

With respect to the metrics reported in the table below, which are also included in the Sustainability Report, management of Kinder Morgan, Inc. asserts that such sustainability metrics are presented in conformity with the assessment criteria set forth below. The metrics included in the table below have been rounded to the nearest whole number unless otherwise indicated. Management of Kinder Morgan, Inc. is responsible for the selection or development of the criteria, which management believes provide an objective basis for measuring and reporting on the selected sustainability metrics.

SASB Topic, SASB Sustainability Accounting Standard, and SASB Metric	Kinder Morgan, Inc. Metric and scope	Definition of Kinder Morgan, Inc. Metric and Assessment Criteria	Kinder Morgan, Inc. Metric Quantity As of or for the year ended December 31, 2019
<p>Greenhouse Gas Emissions</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i></p> <p>Gross global Scope 1 emissions, percentage methane, percentage covered under emissions-limiting regulations</p>	<p>KML GHG gross global Scope 1 and Scope 2 emissions, percentage methane, percentage covered under emissions-limiting regulations</p>	<p>The quantity in thousand metric tons (“MT”) of carbon dioxide equivalent (“CO₂e”) greenhouse gas emissions for KML.</p> <p>The KML percentage of methane emissions is calculated as the methane emissions in MT CO₂e divided by the gross global Scope 1 GHG emissions in MT CO₂e.</p> <p>The KML percentage of emissions covered under emissions-limiting regulations is calculated as the CO₂e emissions covered under regulations divided by the gross global Scope 1 GHG emissions in MT CO₂e.</p> <p>The KML Scope 2 emissions for location-based and market-based are calculated as the same amount, as we do not have specific emissions factors for suppliers.</p> <p>Refer to the GHG Emissions section below, including Organizational</p>	<p>KML gross global Scope 1 emissions: 10 thousand MT CO₂e</p> <p>KML gross global Scope 2 emissions: 71 thousand MT CO₂e</p> <p>KML combined gross global Scope 1 and 2 emissions: 81 thousand MT CO₂e</p> <p>KML Scope 1 percentage methane: 1%</p> <p>KML Scope 1 percentage CO₂e covered under emissions-limiting regulations: 0%</p>

SASB Topic, SASB Sustainability Accounting Standard, and SASB Metric	Kinder Morgan, Inc. Metric and scope	Definition of Kinder Morgan, Inc. Metric and Assessment Criteria	Kinder Morgan, Inc. Metric Quantity As of or for the year ended December 31, 2019
		Boundary, Exclusions, Calculations, Estimations, and Uncertainty, for additional information.	
<p>Greenhouse Gas Emissions</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i></p> <p>Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets</p>	<p>KMI voluntary GHG and methane emission reductions for the Natural Gas Pipelines business segment's transmission and storage assets</p>	<p>The quantity of voluntary methane emission reductions in million metric tons (MMT) CO₂e and volume in billions of cubic feet (Bcf) of voluntary methane emissions reductions.</p> <p>The five methane emission reduction activities included in this metric are: (1) compressor station leak repairs, (2) alternative pipeline maintenance technologies that reduce the need for a pipeline blowdown (e.g., installing sleeves), (3) pipeline drawdowns, (4) gas turbine installation, and (5) electric motor installation.</p> <p>Emission reductions are emissions mitigated or avoided that would otherwise have been emitted. The reported MMT CO₂e is based on a GWP of 25 if the methane were directly emitted to the atmosphere (GHGRP Subpart W, IPCC 2007). Calculation is from 40 CFR Part 98.233, Equation W-36: methane (scf) multiplied by 0.0192 kg/ft³ (methane density) multiplied by 0.001 metrics tons/kg (kg to metric tons conversion) multiplied by 25 metric ton CO₂e/metric ton methane (GWP).</p> <p>Methane content of pipeline quality natural gas is estimated at 95% per Methane Challenge Program Guidance. KMI reports GHG reduction metrics as specified by the EPA Natural Gas STAR and EPA Natural Gas Methane Challenge programs.</p>	<p>Voluntary GHG emission reductions: 2.0 MMT CO₂e</p> <p>Volume of voluntary methane emission reductions: 4.3 Bcf</p>
<p>Greenhouse Gas Emissions</p> <p><i>Methane Intensity Protocol and Methane Challenge Protocol One Future (EPA) and Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i></p> <p>Computed as net methane emissions divided by natural gas throughput</p>	<p>Methane emission intensity rate for the KMI Natural Gas Pipelines business segment's transmission and storage assets</p>	<p>Methane emissions are calculated for the Natural Gas Pipelines business segment's transmission and storage compressor stations, transmission pipelines, and underground natural gas storage facilities using the emission sources documented in ONE Future's Methane Emissions Estimation Protocol.</p> <p>The emission intensity rate is calculated by dividing natural gas transmission and storage total methane emissions (in MT) by natural gas transmission and storage throughput. Methane emissions are calculated using 40 CFR 98 Subpart W procedures.</p> <p>Throughput refers to the total volume of natural gas transported by the Natural Gas Pipelines business segment's transmission and storage pipelines. The throughputs submitted through the U.S. Energy Information Administration's Form 176 is used to determine throughput at the transmission pipeline entity level. The global warming potential</p>	<p>KMI Natural Gas Pipelines business segment's transmission and storage assets methane emission intensity rate: 0.03%</p>

SASB Topic, SASB Sustainability Accounting Standard, and SASB Metric	Kinder Morgan, Inc. Metric and scope	Definition of Kinder Morgan, Inc. Metric and Assessment Criteria	Kinder Morgan, Inc. Metric Quantity As of or for the year ended December 31, 2019
		(GWP) values from the Intergovernmental Panel for Climate Change (IPCC) Fourth Assessment Report (AR4) are applied (for CH4, the 100-year GWP value is 25).	
Air Quality <i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i> Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM10)	Reportable criteria air emissions	The reportable criteria air emissions include operations that reported emissions data to U.S. state and federal agencies, Mexican federal agencies, and Canadian federal and provincial agencies. The air emissions are reported in MT of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM 10).	Air emissions in MT (1) NOx (excluding N2O): 57,938 MT (2) SOx: 358 MT (3) VOCs: 14,397 MT (4) PM10: 1,395 MT
Operational Safety, Emergency Preparedness, & Response <i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i> Number of reportable pipeline incidents, percentage significant	Number of reportable pipeline incidents, percentage significant	The number of reportable pipeline incidents and significant reportable pipeline incidents reported for the year ended December 31, 2019, within the U.S., are based on data reported to Pipeline and Hazardous Materials Safety Administration (PHMSA) relating to the year ended December 31, 2019 as of February 2020. For incidents in Canada, the PHMSA reportability criteria is also applied. The PHMSA reportability thresholds are as follows: <ul style="list-style-type: none"> • Reportable liquid pipeline incidents are those that resulted in: explosions or fires, release of five gallons or more (excluding releases less than five barrels (bbls) associated with pipeline maintenance activities), a fatality, an injury necessitating hospitalization, or estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000. • Reportable gas gathering, transmission, storage, and distribution incidents include i) an event that involves a release of gas from a pipeline, or of liquefied natural gas (LNG), liquefied petroleum gas, refrigerant gas, or gas from an LNG facility, and that results in one or more of the following consequences: death or personal injury necessitating in-patient hospitalization; estimated property damage of \$50,000 or more, including loss to the operator and others, or both, but excluding the cost of gas lost; or unintentional estimated gas loss of three million cubic feet or more; ii) or an event that results in an emergency shutdown of an LNG facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident (an 	Number of reportable pipeline incidents: 60 Number of significant reportable pipeline incidents: 24 Percentage of significant reportable pipeline incidents: 40%

SASB Topic, SASB Sustainability Accounting Standard, and SASB Metric	Kinder Morgan, Inc. Metric and scope	Definition of Kinder Morgan, Inc. Metric and Assessment Criteria	Kinder Morgan, Inc. Metric Quantity As of or for the year ended December 31, 2019
		<p>incident is deemed by KMI as an undesired event that could result in a loss); and iii) an event that is significant in the judgment of KMI, even though it didn't meet the criteria above.</p> <ul style="list-style-type: none"> Significant reportable pipeline incidents are defined as an incident that includes one or more of the following conditions: a liquid release volume greater than or equal to 50 bbls, a highly volatile liquid release greater than five bbls, a fatality, an injury necessitating hospitalization, liquid releases resulting in a fire or explosion, or total cost that exceeds \$50,000 in 1984 dollars. Liquid releases include CO2 releases. For highly volatile liquid and CO2 releases, the unintentional and intentional release volumes are combined to determine if the incident meets the 50 bbl liquid release significant threshold. <p>The population of reportable incidents reported to PHMSA is verified against Kinder Morgan's internal incident reporting system.</p>	
<p>Operational Safety, Emergency Preparedness, & Response</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i></p> <p>Percentage of (1) natural gas and (2) hazardous liquid pipelines inspected</p>	<p>Percentage of (1) natural gas and (2) hazardous liquid pipelines inspected</p>	<p>The percentage of natural gas pipelines and hazardous liquid pipelines inspected through in-line inspections, pressure tests, direct assessments, or other technologies.</p> <p>For segments of pipe that are inspected more than once for the same types of anomalies during the same calendar year, the mileage inspected used in this calculation is counted once. In some limited instances where multiple inspections for different types of anomalies are conducted on the same segment in the same year, the mileage for each inspection is counted separately.</p>	<p>Percentage of natural gas pipelines inspected: 19%</p> <p>Percentage of hazardous liquid pipelines inspected: 27%</p>
<p>Operational Safety, Emergency Preparedness, & Response</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i></p> <p>Number of (1) accident releases and (2) non-accident releases (NARs) from rail transportation</p>	<p>Non-Accident and Accident Releases</p>	<p>A release is defined as a release of hazardous materials, reportable to the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA) via DOT 5800.1 report form. An accident release (AR) is defined according to the Association of American Railroads (AAR) as releases that result from derailment, collision or other rail-related accidents, and a non-accident release (NAR) is defined as the unintentional release of a hazardous material while in transportation, including loading and unloading while in railroad possession that is not caused by a derailment, collision or other rail-related accident. ARs and NARs consist of leaks, splashes, and other releases from improperly secured or defective valves, fittings, and tank shells, and also include venting of non-atmospheric gases from safety relief devices. (Normal safety venting of atmospheric gases, such as carbon dioxide and nitrogen, is not considered a NAR).</p>	<p>Number of non-accident releases from rail transportation: 1</p> <p>Number of accident releases from rail transportation: 0</p>

SASB Topic, SASB Sustainability Accounting Standard, and SASB Metric	Kinder Morgan, Inc. Metric and scope	Definition of Kinder Morgan, Inc. Metric and Assessment Criteria	Kinder Morgan, Inc. Metric Quantity As of or for the year ended December 31, 2019
		NARs and ARs include those where a Kinder Morgan entity is listed as a Shipper or Carrier on the DOT PHMSA Incident Report Form 5800.1.	
<p>Workforce Health & Safety</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas – Exploration & Production</i></p> <p>(1) Total recordable incident rate (TRIR), (2) fatality rate, (3) near miss frequency rate (NMFR) for</p> <p>(a) full-time employees, (b) contract employees, and (c) short-service employees</p>	<p>Total Recordable Incident Rate (TRIR) for employees; Number of Employee Fatalities; TRIR for contractors; TRIR for short-service employees</p>	<p>TRIR was calculated following the OSHA methodology as follows: total number of incidents multiplied by 200,000 divided by the number of employee hours actually worked. The 200,000 represents an estimate of the total hours 100 employees worked per year. 100 employees working 40 hours per week, 50 weeks per year.</p> <ul style="list-style-type: none"> For 2019, rates are calculated using incident classifications as of January 15, 2020. Injuries or illnesses may later be reclassified based on diagnosis. Employee TRIR and short-service employee TRIR do not include contractors (other than 10 Natural Gas Pipelines and Terminals business segment contractors we supervise on a day-to-day basis), which are reported in a separate metric. Employee TRIR includes regular full-time, regular part-time, temporary and short-service employees. <p>Kinder Morgan reports employee fatality count, and not fatality rate, and does not report NMFR.</p> <p>Short-service employees include regular full-time, regular part-time, or temporary employees that have been in their position less than 6 months of hire or rehire date. 2019 TRIR excludes KML (Canadian) employees. Also includes short service employees that are no longer working for KMI but were active during the reporting period.</p> <p>Contractor TRIR is based on incidents contractors incurred while doing work for Kinder Morgan on a defined major project. Major projects are capital expansion projects that meet a minimum total estimated project cost. If hours for a major project were not available, hours were estimated based on major project spend.</p>	<p>Employee total recordable incident rate*: 1.0</p> <p>Short-service employee total recordable incident rate*: 1.2</p> <p>Number of employee fatalities: 0</p> <p>Contractor total recordable incident rate*: 0.6</p> <p>Number of contractor fatalities: 0</p> <p>*Represented in number of recordable incidents per 100 full-time workers</p>
<p>Workforce Health & Safety</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas – Exploration & Production</i></p> <p>(4) average hours of health,</p>	<p>Average hours of Health, Safety, and Emergency Response Training for full-time employees</p>	<p>The average number of employee hours spent on health, safety, emergency response, and other safety training topics not required under OSHA 1910, such as:</p> <ul style="list-style-type: none"> safe driving, which addresses hazards such as distractions while driving and adverse weather conditions; back safety, which explores the factors that lead to back injuries such as physical activity, posture, and load positioning; ergonomics, which explains how various postures and movements affect the body and how to mitigate ergonomic hazards 	<p>Average hours per employee of health, safety, and emergency response training: 17 hours</p>

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<p>safety, and emergency response training for</p> <ul style="list-style-type: none"> (a) full-time employees, (b) contract employees, and (c) short-service employees 		<p>Training time is assigned to the business segment the employee was active under at the end of the year.</p> <p>Kinder Morgan estimates the average training hours per employee using the median training time per course multiplied by the number of course completions.</p> <p>Employee rates do not include contractors. Employee rates include regular full-time, regular part-time, and short-service employees.</p>	
<p>Ecological Impacts</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i></p> <p>Percentage of land owned, leased, and/or operated within areas of protected conservation status or endangered species habitat</p>	<p>Percentage of land owned, leased, and/or operated within or near areas of protected conservation status or endangered species habitat</p>	<p>The percentage of land operated within or near designated areas of protected conservation status or endangered species habitat.</p> <p>For the purposes of this assertion, “near designated areas” is defined as operated land within five kilometers of the boundary of a protected conservation area or endangered species habitat, and “within designated areas” is defined as operated land within the boundary of protected conservation area or endangered species habitat.</p> <p>The total acreage of land used in this metric is 428,758, which represents the total Acreage of KMI assets including pipeline corridors and facilities. Acreage operated for pipelines includes land within the 50-foot corridor of a pipeline’s centerline and excludes gathering lines in the CO₂ business segment. Acreage operated for a facility includes land within the facility’s security fence line for the Natural Gas Pipelines, CO₂, and Terminals business segments and acreage owned by KMI for the Products Pipelines business segment, which can include land both inside and outside the security fence line. There is additional land that is owned and leased, but not operated by KMI, which is not included in this analysis.</p> <p>The Products Pipelines, Terminals, and CO₂ business segments included abandoned lines in the metric calculation. The Natural Gas Pipelines business segment excludes abandoned lines from the metric. This excluded land is not operated by KMI.</p> <p>The areas characterized as protected conservation areas are determined by the World Database on Protected Areas (WDPA). For KMI’s Mexico operations, the areas characterized as endangered species habitats are determined by the International Union for Conservation of Nature (IUCN) designations of “critically endangered” and “endangered” species; because most of the Mexico assets are included in the IUCN designated areas it was assumed that 100% of the Mexico assets were in “critically endangered” and “endangered” areas.</p>	<p>Percentage of land operated within or near areas of protected conservation status or endangered species habitat inside or near designated areas: 30%</p>

SASB Topic, SASB Sustainability Accounting Standard, and SASB Metric	Kinder Morgan, Inc. Metric and scope	Definition of Kinder Morgan, Inc. Metric and Assessment Criteria	Kinder Morgan, Inc. Metric Quantity As of or for the year ended December 31, 2019
		<p>This analysis deviated from the SASB standard for U.S. operations, where the U.S. Fish and Wildlife Service (USFWS) designated areas for “endangered species” was used, as this dataset better reflects the biodiversity risk for KMI’s operations.</p> <p>The analysis was completed using KMI’s asset GIS datasets as of the first quarter 2020. The WDPA and USFWS datasets were acquired in the first quarter of 2020. The IUCN dataset was acquired in the first quarter of 2019.</p>	
<p>Ecological Impacts</p> <p><i>Extractives & Minerals Processing Sector: Oil & Gas - Midstream</i></p> <p>Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume in Unusually Sensitive Areas (USAs), and volume recovered</p>	<p>Hydrocarbon number of spills and volume, and volume recovered</p>	<p>KMI number of hydrocarbon spills: A spill is defined as greater than one barrel (bbl), excluding spills contained within impermeable secondary containment.</p> <p>KMI volume recovered: The volume of spills recovered is the amount of spilled hydrocarbons (in bbls) removed from the environment through short-term spill response activities, excluding: amounts that were recovered during longer-term remediation at spill sites and amounts that evaporated, burned, or were dispersed. The volume recovered is reported for the year the associated spill occurred.</p>	<p>Number of hydrocarbon spills: 43</p> <p>Aggregate volume of hydrocarbon spills: 975 bbls</p> <p>Volume recovered: 791 bbls</p>
<p>Employee Diversity & Inclusion</p> <p><i>Investment Banking & Brokerage</i></p> <p>Percentage of gender and racial/ethnic group representation for (1) executive management, (2) non-executive management, (3) professionals, and (4) all other employees</p> <p><i>GRI 405-1 criteria</i></p> <p>a. Percentage of individuals within the organization’s governance bodies in each of the following diversity categories: gender, Age</p>	<p>Average age of workforce</p> <p>Percentage under 18 years old</p> <p>Percentage from 18 through 29 years old</p> <p>Percentage from 30 through 50 years old</p> <p>Percentage over 50 years old</p> <p>Percentage of females in workforce</p> <p>Percentage of female representation in management</p>	<p>Workforce is the employee headcount (1) for U.S. employees that were active any time between November 10, 2019 and November 23, 2019 and (2) for Mexico employees as of December 31, 2019. It excludes employees on long term disability (LTD) and employees of divested companies (i.e. KML employees) as of December 31, 2019. An employee is defined as an individual working full-time or part-time (and includes short-service employees). Contractors are excluded. An individual working full-time is defined as an employee working 40 hours or more a week. An individual working part-time is defined as an employee working less than 40 hours a week.</p> <p>Average age and age diversity are calculated using U.S. workforce employee ages as of November 10, 2019 and Mexico workforce employee ages as of December 31, 2019. For U.S. employees, date of birth is self-reported by the employee and recorded in HR system. For Mexico, date of birth is self-reported by the employee and recorded in HR records.</p> <p>Gender and minority diversity are reported in accordance with the gender and minority as self-reported by the employee and recorded in HR system as of November 23, 2019 for U.S. employees.</p>	<p><u>Age representation</u></p> <p>Average age of workforce: 45</p> <p>Percentage under 18 years old: 0%</p> <p>Percentage from 18 through 29 years old: 11%</p> <p>Percentage from 30 through 50 years old: 52%</p> <p>Percentage over 50 years old: 38%</p> <p><u>Female employee representation</u></p> <p>Percentage of workforce: 16%</p> <p>Percentage of management: 19%</p> <p>Percentage of Board of Directors: 13%</p>

SASB Topic, SASB Sustainability Accounting Standard, and SASB Metric	Kinder Morgan, Inc. Metric and scope	Definition of Kinder Morgan, Inc. Metric and Assessment Criteria	Kinder Morgan, Inc. Metric Quantity As of or for the year ended December 31, 2019
<p>group, other*</p> <p>b. Percentage of employees per employee category in each of the following diversity categories: Gender, Age group, Other*</p> <p>* Other indicators of diversity where relevant (such as minority or vulnerable groups).</p>	<p>Percentage of female representation on the Board of Directors</p> <p>Percentage of minorities in the workforce</p> <p>Percentage of minorities representation in management</p> <p>Percentage of minorities representation on the Board of Directors</p>	<p>U.S. ethnicity/minority data is categorized per the Equal Employment Opportunity (EEO-1) Survey. Mexico data is excluded, as there is no requirement to collect ethnicity data.</p> <p>Minority includes the number of U.S. employees who classify themselves as Asian, Black or African American, Hispanic or Latino, Native American or Alaska Native, Native Hawaiian or Pacific Islander, and “Two or more races”.</p> <p>For job category metrics, the job category (i.e., manager), is obtained from the HR system as of November 23, 2019.</p> <p>Gender and minority diversity in the Board of Directors composition is reported in accordance with the gender and ethnicity as confirmed by board members as of April 2020.</p> <p>For women in management, positions are obtained from the HR system as of November 23, 2019. Title “manager” and above is considered a management position.</p>	<p><u>Minority employee representation (US only)</u></p> <p>Percentage of workforce: 29%</p> <p>Percentage of management: 19%</p> <p>Percentage of Board of Directors: 6%</p>
<p>Hazardous Materials Management <i>Extractives & Minerals Processing Sector: Oil & Gas - Refining & Marketing</i></p> <p>Amount of hazardous waste generated; percentage recycled</p>	<p>Hazardous waste generated (MT) and percent hazardous waste recycled for assets operated by KMI</p>	<p>Hazardous waste generated and percent recycled for assets operated by KMI for the year ended December 31, 2019. KMI only reported on hazardous materials management for U.S. and Mexico assets during the time they are under KMI operational control.</p> <p>Hazardous waste recycled from U.S. operations includes shipments with the reclamation and recovery handling type and the handling codes H010, H020, H039, H050, and H061., as defined by the EPA’s Hazardous Waste Report Instructions and Forms (EPA Form 8700-13 A/B).</p>	<p>Amount of hazardous waste generated: 9,888 MT</p> <p>Percentage hazardous waste recycled: 55%</p>

Exclusions

For the year ended December 31, 2019, KMI only reported on GHG emissions for KML. KMI does not yet report on KMI US's GHG emissions. GHG emissions data included in scope for calendar year 2019 only included assets during the time they were under KML operational control. On December 16, 2019, KMI sold the U.S. portion of the Cochin Pipeline and all the outstanding equity of KML.

GHG Emissions**Organizational boundary**

In conformance with the SASB Oil & Gas – Midstream Standard (2018-10), and *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*, KMI reported Scope 1 (direct) and Scope 2 (indirect) GHG emissions represent 100% of KML Gross Global emissions from the facilities where Kinder Morgan has operational control. Note: data for the year ended December 31, 2019 only included assets during the time they were under KML operational control. KML was divested on December 16, 2019.

Calculations

GHG emissions for carbon dioxide equivalents, including methane, are calculated using the methodologies outlined in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*. Carbon dioxide emissions and equivalents have been determined on the basis of measured or estimated fuel and electricity usage, multiplied by relevant, published carbon emission factors (as summarized in the table in the “Estimations” section), which are updated annually. Base data utilized in the calculation of consolidated Scope 1 (direct) and Scope 2 (indirect) GHG emissions is obtained from direct measurements, and third-party invoices or estimates. Carbon dioxide equivalent emissions utilize Global Warming Potentials (“GWPs”) sourced from the Intergovernmental Panel on Climate Change Fifth Assessment Report (Assessment Report 5 – 100 year). Refer to the table below for emission factors and calculation assumptions used by fuel type. Kinder Morgan is reporting location and market-based Scope 2 emissions. Other gases included in CO₂e (N₂O and HFC) are immaterial and have not been separately disclosed.

Estimations

Estimates are used for Scope 1 and Scope 2 emissions and methane intensity where measurement data is not readily available as noted in the table below. These estimates account for approximately 0.5% of the scope 1 and 0.4% of scope 2 GHG emissions.

Methane emission actuals and estimates have been used for determining total methane emissions for the Kinder Morgan transmission & storage assets included in the methane emission intensity metric. Data considered “actuals” use direct measurements, leak surveys, component counts, actual operating data, approved emission factors, and other similar data elements. Data considered “estimated” use assumptions to determine emissions where actual operating data, emission factors or measurement data is not readily available as detailed in the table below. The actuals account for approximately 88% of the methane emissions for FY2019 and the estimated data account for approximately 12% of the methane emissions for FY2019 included in the methane emission intensity metric.

Activity	Source Type	Emission Factor Source	Calculation Estimations and Assumptions
Combustion Equipment (Stationary) - Scope 1	Emissions from general stationary combustion of fuel or waste with production of useful energy, emissions from the combustion of waste gas, emissions from general stationary combustion for production of useful energy, and emissions from the combustion of natural gas and propane to support the heating value of the waste gas combustion.	Alberta - CCIR November 2018 Canada (except Alberta) - WCI 2011 US - eGRID 2016 Default emission factors were used for each fuel type is no site-specific emissions information was available.	<ol style="list-style-type: none"> 1. It was assumed that stationary combustion equipment was operated at 100% of the rated capacity for the runtimes provided by KML and the thermal efficiency of 34% was applied for diesel-fired combustion equipment (CAPP 2007). 2. In the event that stationary combustion equipment details were provided on an annual basis (i.e., runtimes or fuel consumption data), a ratio of 11.5/12 months were applied to the data in order to recognize the KML locations divested on December 16, 2019. These emissions are considered to be estimated. 3. An external gas analysis performed in 2015 for the VCU emissions was reviewed and assumed to be still applicable in 2019. Based on this assumption, emissions from waste gas are considered actual emissions since the volume of gas was known.
Combustion Equipment (Mobile) - Scope 1	Emissions from onsite mobile equipment required for operations, and on-road mobile equipment used by KML personnel. Typically, mobile equipment is used off-site.	Canada - National Inventory Report 1990-2017 (ECCC 2019).	<ol style="list-style-type: none"> 1. Emissions are calculated from purchased fuel and tracked in the EcoWheels system and therefore considered to be actual.
Fugitive - Scope 1	Involuntary release of a mixture of gases (including refrigerants) containing GHGs.	The calculation of a combined combustion CO ₂ emission factor has been derived using CAPP (2003) Calculating Greenhouse Gas Emissions.	<ol style="list-style-type: none"> 1. For some AC units there was no refrigerant charge, refrigerant type, or leak rate provided. Therefore, the industry norm of 1kg charge / 1-ton AC unit size, refrigerant type of R410A, and a leak rate of 5% were assumed. When AC unit sizes were unknown it was assumed that building rooftop units were 5-ton units and small window units were 2 tons. The refrigerant charge at the Calgary head office was unknown, therefore a 100-ton unit with refrigerant type of R410A, and a leak rate of 5% was assumed. 2. For every 20 employees in offices spaces, it was assumed that 1 refrigerator would be available. For refrigerators a 0.275kg charge, refrigerant type of HFC-134a, and a leak rate of 5% were assumed. 3. Fleet truck refrigerant charges were not provided. Therefore, 1.1 kg charge of R134a was assumed to be in fleet trucks older than 2017 and 1.1kg of R1234yf charge in trucks newer than 2017. Fleet trucks were assumed to have a charge leak rate of 20% per year (API Compendium 2009.) 4. Based on the information above, all emissions from refrigerants are considered to be estimated.

Activity	Source Type	Emission Factor Source	Calculation Estimations and Assumptions
Vent - Scope 1	Voluntary release of a mixture of gases containing GHGs. Typically, vent emissions are known sources and are part of operations. Kinder Morgan's operations include pig launching and receiving procedures at the Edmonton Rail Car Terminal.	Kinder Morgan site specific emission factors applied.	<ol style="list-style-type: none"> 1. Pigs in standby will expose trace hydrocarbons to the atmosphere during the entire standby duration. Industry standard of 30 min standby time was accepted in 2015 by KML. A low wind speed of 5m/s recommended by the Spills Equation was used for each standby. These were maintained in 2019. 2. Because the number of pigging events was known, the above items are considered to be assumptions used to calculate actual emissions.
Indirect Emissions - Scope 2	Emissions related to electricity generation associated with grid electricity.	Canada - National Inventory Report 1990-2017 (ECCC 2019). US - eGRID 2016.	<ol style="list-style-type: none"> 1. Indirect GHG quantification from leased office space was based on leased space area not actual electricity consumption. A leased space to energy conversion of 1.12 GJ/m² (Climate Registry 2018) was used to estimate energy consumption; therefore, emissions from leased office space is estimated. 2. The Grid Factor for 2019 was not available, therefore the average of 2015-2017 was used for Canada emissions; this approach is consistent with previous GHG data used to determine the 2018 Grid Factor.
Transmission Compressor Station and Underground Storage Facility Equipment Leaks – Methane Emissions	Fugitive component leaks that are identified using a leak detection device such as the optical gas imaging camera or laser leak detection. The component types are typically classified as meters, valves, connectors, open-ended lines, and pressure relief valves (PRVs). Reference: 40 CFR 98, Subpart W.	40 CFR 98, Subpart W. EPA emission factors developed for each component type is multiplied by the actual or average leak counts for that component at each facility. 95% methane composition in transmission pipeline quality natural gas.	<ol style="list-style-type: none"> 1. Leak counts for facilities that are not surveyed are based on average leak counts from the surveyed facilities. 2. Assumes that the component is leaking the entire reporting year (8,760 hours). The estimate is conservatively high because there is currently no device or technology in place to know when the component leaks actually began during the year.
Natural Gas Pneumatic Device (Controller) Vents – Methane Emissions	Emissions from gas driven pneumatic devices used at the transmission compressor stations and underground natural gas storage facilities. The pneumatic devices are bucketed into the following categories: <ul style="list-style-type: none"> • High-Bleed Pneumatic Devices • Intermittent Bleed Pneumatic Devices • Low-Bleed Pneumatic Devices 	40 CFR 98, Subpart W.	<ol style="list-style-type: none"> 1. Average device counts are used for non-surveyed facilities based on average of device counts at the surveyed facilities. 2. Assumes that each pneumatic device is vented at the EPA's emission factor rate for the entire reporting year (8,760 hours). The estimate is conservatively high because there is currently no device or technology in place to track the actual operating hours of the continuous bleed pneumatic device or frequency of actuation of the intermittent bleed pneumatics.

Activity	Source Type	Emission Factor Source	Calculation Estimations and Assumptions
Transmission Storage Tank Vents – Methane Emissions	Fugitive methane emission leaks that are associated with storage tanks located at transmission compressor stations. The primary source of methane emissions for storage tanks at these compressor stations is associated with dump valves that get stuck open causing pressurized natural gas to get entrained into the piping and eventually venting that gas out of the storage tank.	40 CFR 98, Subpart W.	<ol style="list-style-type: none"> 1. Annual leak detection survey of the storage tank(s) at each station is performed to determine if a tank is leaking. If it is not leaking, no measurement is taken as no emissions are occurring. 2. If the tank is determined to be leaking, an actual direct measurement is taken, and this measurement is multiplied by 8,760 hours to calculate the annual emissions.

Uncertainty

GHG quantification is subject to inherent measurement uncertainty because of such things as GHG emissions factors that are used in mathematical models to calculate GHG emissions and the inability of these models, due to incomplete scientific knowledge and other factors, to accurately measure under all circumstances the relationship between various inputs and the resultant GHG emissions. Environmental and energy usage data used in GHG emissions calculations are subject to inherent limitations, given the nature and the methods used for measuring such data. The selection of different but acceptable measurement techniques could result in materially different amounts of metrics being reported.

Other Estimations

The preparation of the other sustainability metrics requires management to establish the criteria, make determinations as to the relevancy of information to be included, and make assumptions that affect reported information. The selection by management of different but acceptable measurement techniques could result in materially different amounts or metrics being reported.

Air Quality

When site specific information was not available, the use of methodologies/approaches or emissions factors from publicly available guidance documents (i.e., US EPA AP 42, Canadian Association of Petroleum Producers CAPP 2004, and CAPP 2014) were used.

Appendix E – Summary of Scenarios and their Underlying Assumptions and Indicators

World Energy Outlook (WEO) 2019 IEA World Energy Model (WEM)

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
<i>Underlying Assumption: Policies</i>		
<ul style="list-style-type: none"> - Government policies that have been enacted or adopted by mid-2019 continue unchanged. (WEM p. 5) - Excludes the effects of stated ambitions and targets that have not yet been translated into operational laws and regulations. (WEO p. 751) - Provides a baseline that shows how energy markets would evolve if underlying trends in energy demand and supply are not changed. (WEM p. 5) 	<ul style="list-style-type: none"> - Incorporates policies and measures that governments around the world have already put in place, as well as the effects of announced policies, as expressed in official targets and plans. (WEO p. 751) - The prospects and timing for the realization of policies announced by governments are based upon IEA's assessment of the relevant regulatory, market, infrastructure, and financial constraints. (WEO p. 30) 	<ul style="list-style-type: none"> - Fully aligned with the goal of the Paris Agreement by holding the increase in global temperature to “well below 2 °C ... and pursuing efforts to limit the temperature increase to 1.5 °C.” (WEO p. 23) - Sets out the major changes that would be required to deliver the SDGs, providing an energy sector pathway that achieves: <ul style="list-style-type: none"> - universal access to affordable, reliable, and modern energy services by 2030 (SDGs 7); - substantial reduction in air pollution (SDGs 3.9); and - effective action to combat climate change. (SDGs 13, WEO p. 30, & WEM p. 5)
<i>Underlying Assumption: Population</i>		
<ul style="list-style-type: none"> - World population is projected to grow by 1.6 billion people per year on average, from 7.6 billion today to 9.2 billion in 2040. (WEO p. 752) - Approximately half of the increase to 2040 is in Africa, while India accounts for 15% of the growth and becomes the world's most populous country by 2040, as China's growth stalls. (WEO p. 752) 	<ul style="list-style-type: none"> - Held constant across scenarios. (WEO p. 751) 	<ul style="list-style-type: none"> - Held constant across the scenarios. (WEO p. 751)

**World Energy Outlook (WEO) 2019 IEA
World Energy Model (WEM)**

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
<i>Underlying Assumption: Economics</i>		
<ul style="list-style-type: none"> - World GDP is expected to grow at an average annual growth rate of 3.4% to 2040. (WEO p. 753) - Annual average world GDP growth is assumed to drop from 3.6% over 2018-2030 to 3.1% over 2030-2040. (WEO p. 753) 	<ul style="list-style-type: none"> - Held constant across the scenarios. (WEO p. 751) 	<ul style="list-style-type: none"> - Held constant across the scenarios. (WEO p. 751)
<i>Details: Timeframe</i>		
- 2018-2040	- 2018-2040	<ul style="list-style-type: none"> - 2018-2050 - Analysis extended to 2050 to assess the potential of new technologies (such as hydrogen and renewable gases) and to reflect announcements that several countries have made about plans to reach carbon neutrality by 2050. (WEO p. 81)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
Policy & Demand		
<i>Energy Efficiency</i>		
<ul style="list-style-type: none"> - Energy intensity of global GDP declines 22% by 2030 and 35% by 2040 relative to 2018. (WEO p. 302) 	<ul style="list-style-type: none"> - Energy intensity of global GDP declines 25% by 2030 and 40% by 2040 relative to 2018. (WEO p. 302) - Energy intensity declines by an average of 2.3% annually through 2040, with the largest improvement projects in China, India, and the European Union. (WEO p. 303) 	<ul style="list-style-type: none"> - Energy intensity of global GDP declines 37% by 2030 and 55% by 2040 relative to 2018. (WEO p. 302) - Energy intensity declines by an average of 3.6% annually through 2040 as all economically viable efficiency opportunities are pursued, with the biggest improvements in China, India, and Africa. (WEO p. 303) - By 2050, conventional vehicles are around 50% more efficient than today, broadly representing what is technically achievable including through hybridization. (WEO p. 106)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
CO₂ Price		
<ul style="list-style-type: none"> - Takes into consideration emissions trading schemes and carbon taxes already in place or under development including existing and planned programs, where the price of CO₂ is assumed to rise under each regional program over the projection period. (WEM p. 17) - Investment decisions in the power sector in the U.S. and Japan factor in an implicit price for carbon into from 2015. (WEM p. 17) - Extension and increase of U.S. "45Q" tax credits for carbon capture, utilization, and storage: rising to \$35/ton CO₂ in 2026 for enhanced-oil or gas recovery and to \$50/ton CO₂ sequestered in saline geological formations. (WEO p. 760) 	<ul style="list-style-type: none"> - Assumes higher carbon prices in Chile, China, the European Union and Korea with maximum prices in the mid-\$40s/ton in 2040 versus below \$40/ton in the Current Policies Scenario. (WEO p. 758) - South Africa added as a key region with assumed carbon prices of \$15/ton in 2030 and \$24/ton in 2040. (WEO p. 758) 	<ul style="list-style-type: none"> - Carbon pricing schemes become increasingly widespread and stringent, eventually covering all advanced economies together with Brazil, China, Russia, and South Africa by 2040. (WEO p. 74) - CO₂ price assumed to rise to \$100/ton in 2030 and \$140/ton in 2040 for advanced economies and to \$75/ton in 2030 and \$125/ton in 2040 for selected emerging economies. (WEM pg. 18)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
Renewables - including biofuels		
<ul style="list-style-type: none"> - In 2018, renewables continued an impressive pace of growth, and the increase in their output covered roughly half of the increase in global electricity demand. (WEO p. 37) - By 2018, most countries in the world had some form of renewable energy targets in place, and more than 150 countries had renewable energy policies in place in the power sector. (WEO p. 308) - The uptake of renewable energy in sectors such as industry and buildings (for heating) and transport (advanced biofuels) has been limited to date, given high costs and lack of sufficiently widespread policy support. (WEO p. 103) - The gap between expectations of a fast, renewables-driven energy transitions and the reality of today's energy systems in which reliance on fossil fuels remains stubbornly high. (WEO p. 23) 	<ul style="list-style-type: none"> - Renewable energy meets less than 20% of global energy demand through 2040. (WEO p. 38) - Share of renewables in the electricity supply grows from 26% to 44% in 2018-2040. (WEO p. 253) - Renewables provide three-quarters of the growth in electricity supply due to falling costs and supportive government policies. (WEO p. 253) - Developing countries in Asia account for over half of the global growth in power generation from renewables. (WEO p. 26) 	<ul style="list-style-type: none"> - Renewable energy meets more than 30% of global energy demand by 2040. (WEO p. 38) - Renewables deployment supported by a host of measures further strengthens their competitiveness versus fossil fuel power plants (such as carbon prices) and allows for their successful integration into the power mix. (WEO p. 103) - Global electricity generation from renewables grows by over 180% 2018-2040 and accounts for nearly 70% of the total by 2040. (WEO p. 44) - Wind and solar become the two main sources of power generation by 2040. (WEO p. 90) - Additional measures to incentivize investment in renewables-based electricity, biofuels, solar heat, geothermal heat and electrification push the share of renewables to two-thirds of electricity generation output and 37% of final energy consumption. (WEO p. 305)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
General Energy Demand		
<ul style="list-style-type: none"> - Energy demand rises at an average annual rate of 1.3% from 2018-2040, with increasing demand for energy services unrestrained by further efforts to improve efficiency. (WEO p. 23) - Growth in line with this scenario would mean greater consumption of all fuels and technologies, leading to a continuous rise in energy-related emissions and increasing strains on almost all aspects of energy security. (WEO p. 38) 	<ul style="list-style-type: none"> - Energy demand rises at an average annual rate of 1.0% from 2018-2040. (WEO p. 678) - Growth is slower than in the past (1.4% from 2010-2018, and 2.7% in the preceding decade) as energy consumption and economic growth continue to decouple. (WEO p. 302) - The global economy and the demand for energy move on diverging pathways due to structural shifts towards less energy-intensive output, energy efficiency gains and saturation effects, particularly in terms of vehicle use. (WEO p. 38) - Developing countries, led by Asia, are the main engines of global growth; India, where energy demand doubles, is the single largest source of demand growth to 2040. (WEO p. 40) - China remains the world's largest energy consumer, but its demand growth slows considerably. (WEO p. 40) - Energy use in advanced economies, which already have high per-capita consumption, generally declines. (WEO p. 40) 	<ul style="list-style-type: none"> - Energy demand declines at an average annual rate of 0.3% from 2018-2040. (WEO p. 68) - Energy demand in 2040 is 25% lower than in the Stated Policies Scenario, as further improvements in energy efficiency in final energy consumption save over 1,900 million tonnes of oil equivalent of energy demand in end-use sectors by 2040 relative to the Stated Policies Scenario. (WEO p. 302) - Due to energy efficiency, electrification and fuel switching, energy demand remains broadly stable, despite a growing economy. (WEO p. 92) - Energy efficiency is the single biggest contributor to reducing final energy consumption, responsible for 60% of the savings. (WEO p. 303)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
Oil Demand		
<ul style="list-style-type: none"> - Global oil demand rises by an annual average of ~1.1 MMBbl/d from 2018-2040, similar to the average increase seen since 2000. (WEO p. 133) - Growth is led by road transport, which accounts for nearly half of the increase to 2040, as well as major increases in petrochemicals and aviation. (WEO p. 133) - Oil price rises steadily to just under \$135/barrel in 2040. (WEO p. 133) 	<ul style="list-style-type: none"> - Global oil demand rises by an annual average of ~1 MMBbl/d through 2025, then increases by ~0.1 MMBbl/d in the 2030s as oil used in passenger cars peaks in the late-2020s. (WEO p. 132) - There is no definitive peak in oil use given increases in petrochemicals, trucks and the shipping and aviation sectors. (WEO p. 132) - In India, demand nearly doubles from 2018-2040, the largest absolute growth from any one country. (WEO p. 135) - In advanced economies, road transport accounts for half of oil demand and is a key determinant of overall trends. (WEO p. 134) - Oil price rises to nearly \$90/barrel in 2030 and \$103/barrel in 2040. (WEO p. 132) 	<ul style="list-style-type: none"> - Global oil demand peaks in the next few years and falls by an annual average of ~2 MMBbl/d during the 2030s, resulting in an overall decline of ~30% from 2018-2040. (WEO p. 133 & 675) - Demand falls more than 50% in advanced economies and by 10% in developing economies from 2018-2040. (WEO p. 133) - Oil use declines steeply for passenger cars and other uses; as a result, non-energy and non-emitting uses (such as plastic feedstock and asphalt) rise to 40% of the final consumption. (WEO p. 89) - By 2040, 50% of cars are electric, as are most of the world's urban buses; ~2 MMBbl/d of biofuels are consumed in the aviation and shipping sectors; and almost 20% of the fuel used by trucks worldwide is low-carbon. (WEO p. 133) - The only sector to see demand growth is petrochemicals. (WEO p. 133)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
<i>Natural Gas Demand</i>		
<ul style="list-style-type: none"> - In 2018, natural gas consumption increased by 4.6% and accounted for nearly half of the increase in global energy demand. (WEO p. 177) - Global natural gas demand rises at an annual average of 1.8% from 2018-2040 and by more than 50% in total. (WEO p. 675) - In the absence of further support for renewables or efficiency policies, gas satisfies a third of total energy demand growth, and more than any other energy source. (WEO p. 179) - The Middle East, North America and Eurasia each provide one-fifth of the total additional volumes required in this scenario, with around 45% of global incremental production consumed in developing Asian markets, primarily in China. (WEO p. 179) 	<ul style="list-style-type: none"> - Global natural gas demand rises at an annual average of 1.4% from 2018-2040 and by nearly 40% in total. (WEO p. 674) - Broad-based growth across all sectors increases natural gas' share of global energy demand from 23% to 25% by 2040. (WEO p. 180) - Developing Asian economies account for half of the global growth in natural gas demand and almost all of the increase in traded volumes, consuming one-quarter of the world's gas production by 2040. (WEO p. 175) - The U.S. remains by far the world's largest natural gas consumer, where demand continues to grow strongly until the late-2020s before leveling off. (WEO p. 181) - Industry accounts for almost half of the projected growth in natural gas use, as gas is increasingly used in steel making and petrochemical production, as well as a broad range of manufacturing. (WEO p. 180) 	<ul style="list-style-type: none"> - Global natural gas demand declines by an annual average of 0.1% from 2018-2040 and by ~2.5% in total. (WEO p. 675) - Natural gas consumption increases over the next decade at an annual average rate of 0.9%, as it replaces more polluting fuels, before reaching a high point by the end of the 2020s. (WEO p. 89 & 179) - After this, accelerated deployment of renewables and energy efficiency measures, together with a pickup in production of biomethane and later of hydrogen, begins to reduce consumption. (WEO p. 179) - Natural gas becomes the main fuel in the global energy mix by the mid-2030s given a rapid fall in oil use. (WEO p. 180) - Even though natural gas-fired electricity generation declines, capacity grows as the role of gas is expanded as a provider of power system flexibility. (WEO p. 179)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
<i>Coal Demand</i>		
<ul style="list-style-type: none"> - Coal demand, which increased for the second straight year in 2018, maintains a gradually-rising trajectory. (WEO p. 219) - Demand for electricity has continued to grow in Asia, where coal remains by some distance the largest source and is among the cheapest source of electricity. (WEO p. 221) - With stronger energy demand and weaker policy pressure than the Stated Policies Scenario, coal demand rises for both power generation and industrial uses. (WEO p. 222) 	<ul style="list-style-type: none"> - Coal demand is essentially flat, declining ~1% in total from 2018-2040. (WEO p. 222) - Declines in China (down 9%), the U.S. (down 40%), and the E.U. (down 73%) are offset by rising demand in India (up 97%) and Southeast Asia (up 90%). (WEO p. 219) - Flat demand in an expanding energy system means coal's share in the global energy mix declines from 27% to 21% in 2040, falling behind natural gas. (WEO p. 222) - Global coal use in power generation decreases slightly, while its industrial use grows modestly. (WEO p. 222) 	<ul style="list-style-type: none"> - With a much more stringent focus on reducing emissions, coal demand decreases steeply at an annual average rate of 4.2% from 2018-2040, declining more than 60% in total. (WEO p. 222-223) - Coal use decreases across the majority of sectors and drops to just 6% of total power generation. (WEO p. 225) - Coal is more resilient and continues to be used in the industrial sector, mainly for the production of cement, iron, and steel, where substitution possibilities are more limited. (WEO p. 89 & 225) - The availability of CCUS at scale becomes crucial in this scenario, capturing a third of industrial emissions. (WEO p. 89 & 225)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
Emerging Technologies		
<i>Solar PV Deployment</i>		
<p>- By 2040, solar PV contributes 9% of global power generation, increasing at an average annual rate of 8.6% from 2018-2040. (WEO p. 681)</p>	<p>- By 2040, solar PV contributes 11% of global power generation, increasing at an average annual rate of 9.9% from 2018-2040. (WEO p. 680)</p> <p>- Around 2035, solar becomes the single largest source of installed power capacity, surpassing both coal and gas, due to continued cost reductions and policy support in key markets. (WEO p. 54 & 253)</p>	<p>- By 2040, solar PV contributes 19% of global power generation, increasing at an average annual rate of 12.0% from 2018-2040. (WEO p. 681)</p> <p>- Declining costs of small-scale solar PV for off-grid and mini-grid electricity provide a cost-effective way to achieve electricity access, particularly in rural areas such as sub-Saharan Africa. (WEO p. 86)</p>
<i>Energy Storage</i>		
<p>- Battery storage capacity reached 8 GW in 2018, as the global power sector added 3 GW of capacity. (WEO p. 293)</p> <p>- Major cost reductions - down 45% from 2012 to 2018 - and increased policy support in many regions underpin this development. For example, several U.S. states, including New York and California, have introduced specific targets for batteries. (WEO p. 293)</p> <p>- Widespread deployment of battery storage requires electricity market reforms to incentivize sufficient investment in flexibility - scarcity pricing, operating reserve prices (as in U.S. markets), frequency control ancillary services (as in Australia) and capacity mechanisms already appear in various places. (WEO p. 294)</p>	<p>- Battery storage capacity reaches 330 GW by 2040. (WEO p. 267 & 293)</p> <p>- Battery storage capacity rises 40-fold by 2040 due to falling costs, shorter construction periods, widespread availability, and scalability. (WEO p. 254)</p> <p>- Annual power sector investment averages more than \$15 billion for battery storage from 2019-2040. (WEO p. 253)</p> <p>- India is projected to lead the way in battery storage deployment, reaching 120 GW of installed capacity by 2040, as cheap batteries offer a cost-effective flexibility option and eliminate the need for new coal-fired capacity after 2030. (WEO p. 254 & 294)</p> <p>- China and the U.S. both install around 50 GW of utility-scale batteries, while the E.U. installs 35 GW. (WEO p. 294)</p> <p>- Capital costs decline from \$392/kWh to \$191/kWh from 2018-2040. (WEO p. 294)</p>	<p>- Battery storage capacity reaches 550 GW by 2040. (WEO p. 294)</p> <p>- Annual power sector investment averages ~\$27 billion for battery storage from 2019-2040. (WEO p. 271)</p>

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
<i>EV Deployment</i>		
<ul style="list-style-type: none"> - Electric car sales accounted for ~2% of total car sales in 2018. (WEO p. 149) - With stronger policy support and battery costs falling, the global EV market is growing rapidly. (WEO p. 324) - In 2018, worldwide sales of electric cars grew 70%, led by China, the U.S., Canada and the E.U. (WEO p. 262) - In 2018, China accounted for 55% of global electric car sales. (WEO p. 148) - Between 2010 and 2018, the effect on oil consumption from the rise in the share of SUVs on the road (~0.5 MMBbl/d) was 5x larger than oil displaced by electric cars over the same period (<0.1 MMBbl/d). (WEO p. 152) 	<ul style="list-style-type: none"> - In the road passenger segments, EVs account for more than 40% of sales by 2040. (WEO p. 97) - Annual electric car sales grow from 2 million today to around 20 million in 2030 and over 30 million in 2040. (WEO p. 152) - The total number of electric cars rises to 330 million by 2040 (one out of six cars), and the total number of EVs (cars, buses, trucks, and two/three-wheelers) rises to over 1 billion, corresponding to 30% of the total fleet. (WEO p. 262) - By 2040, the 330 million electric cars on the road displace around 4 MMBbl/d oil use. (WEO p. 153) - As heavier freight vehicles are more difficult to electrify, only 8% are electric by 2040. (WEO p. 263) - Around 20% of SUVs are projected to be electrified globally in 2040 and contributing nearly 40% of the growth in total electric car sales. (WEO p. 153) 	<ul style="list-style-type: none"> - EVs account for 75% of new vehicle sales by 2040. (WEO p. 324) - A much stronger push for electrification leads to a peak in conventional car sales in the mid-2020s and over 80 million electric cars are sold each year by 2040, representing three-quarters of total car sales. (WEO p. 155) - All small, medium, and large cars sold are electric by 2040, as are 40% of all SUVs. (WEO p. 155) - The total number of EVs reaches 1.9 billion by 2040, with almost 900 million electric cars. (WEO p. 263) - 26% of freight vehicles are electric by 2040. (WEO p. 263)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
CCUS Deployment		
<ul style="list-style-type: none"> - In 2018, ~32 million out of ~33 billion tons of energy-related CO₂ emissions were captured with CCUS. (WEO p. 83) - In 2018, the U.S. raised the Section 45Q tax credits that provide a financial boost for CCUS development in power and industry, tied to the amount of CO₂ captured and the type of storage employed. (WEO p. 285-286) - Apart from the recent Section 45Q tax credit reforms in the U.S., there has been relatively little policy progress on CCUS. (WEO p. 85) 	<ul style="list-style-type: none"> - Assumes the extension and strengthening of support for CCUS in the U.S. (WEO p. 762) - By 2030, ~71 million out of ~35 billion tons of energy-related CO₂ emissions are captured with CCUS. (WEO p. 83) 	<ul style="list-style-type: none"> - By 2030, around ~763 million out of ~25 billion tons of energy-related CO₂ emissions are captured with CCUS. (WEO p. 83) - By 2040, almost 160 GW of coal-fired plants are equipped with CCUS, accounting for 40% of the electricity generated from coal. (WEO p. 223) - By 2050, ~2.8 billion tons or ~28% of energy-related CO₂ emissions are captured, and deployment is split almost equally between the power and industry sectors (including cement, iron and steel, upstream oil and gas, and refineries). (WEO p. 47 & 103) - Around 215 GW of coal plants are equipped with CCUS by 2050, primarily in China where the fleet is very young, as are a similar amount of natural gas-fired power plants, led by the U.S. where natural gas prices remain low. (WEO p. 103)
Energy Mix		
Oil		
<ul style="list-style-type: none"> - Oil maintains the largest share of global energy demand, but declines from 31% to 29% from 2018 to 2040. (WEO p. 678-679) 	<ul style="list-style-type: none"> - Oil maintains the largest share of global energy demand, but declines from 31% to 28% from 2018 to 2040. (WEO p. 678) 	<ul style="list-style-type: none"> - Oil as a percentage of global energy demand is overtaken by renewables and natural gas, declining from 31% to 23% from 2018 to 2040. (WEO p. 678-679)
Natural Gas		
<ul style="list-style-type: none"> - Natural gas' share of global energy demand grows from 23% to 25% from 2018 to 2040. (WEO p. 678-679) 	<ul style="list-style-type: none"> - Natural gas overtakes coal by 2030 but trails oil in the global energy mix. (WEO p. 180) - Natural gas' share of global energy demand grows from 23% to 25% from 2018 to 2040. (WEO p. 678) 	<ul style="list-style-type: none"> - The rapid fall in oil use means natural gas becomes the main fuel in the global mix by the mid-2030s. (WEO p. 180) - Natural gas' share of global energy demand increases from 23% to 24% from 2018 to 2040; surpassed only by renewables. (WEO p. 678-679)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
Coal		
- Coal's share of global energy demand declines from 27% to 23% from 2018 to 2040. (WEO p. 678-679)	- Coal's share of global energy demand declines from 27% to 21% from 2018 to 2040. (WEO p. 678)	- Coal's share of global energy demand meaningfully declines from 27% to 11% from 2018 to 2040. (WEO p. 678-679)
Hydro		
- Hydro maintains a steady 3% share of global energy demand from 2018 to 2040. (WEO p. 678-679)	- Hydro maintains a steady 3% share of global energy demand from 2018 to 2040. (WEO p. 678)	- Hydro slightly grows in share of global energy demand from 3% to 4% from 2018 to 2040. (WEO p. 678-679)
Bioenergy (including solid biomass, biofuels, and biogas)		
- Bioenergy maintains a steady 9% share of global energy demand from 2018 to 2040. (WEO p. 678-679)	- Bioenergy's share of global energy demand increases slightly from 9% to 10% from 2018 to 2040. (WEO p. 678)	- Bioenergy's share of global energy demand rises from 9% to 12% from 2018 to 2040. (WEO p. 678-679)
Other Renewables (including wind, solar, geothermal, and marine)		
- Other Renewables' share of global energy demand grows from 2% to 5% from 2018 to 2040. (WEO p. 678-679)	- Other Renewables' share of global energy demand grows from 2% to 7% from 2018 to 2040. (WEO p. 678)	- Other Renewables' share of global energy demand grows dramatically from 2% to 17% from 2018 to 2040, surpassing coal. (WEO p. 678-679)

Comparison of Relevant Parameters and Signposts within Transition Scenarios

IEA's Current Policies Scenario	IEA's Stated Policies Scenario	IEA's Sustainable Development Scenario
Nuclear		
- Nuclear maintains a 5% share of global energy demand from 2018 to 2040. (WEO p. 678-679)	- Nuclear maintains a 5% share of global energy demand from 2018 to 2040. (WEO p. 678)	- Nuclear grows from 5% to 9% of global energy demand from 2018 to 2040. (WEO p. 678-679)
Outcomes		
CO₂ Emissions		
<ul style="list-style-type: none"> - Global energy-related CO₂ emissions grow on average by 1% per year 2018-2040. (WEO p. 681) - Growing energy demand results in a relentless upward march in energy-related emissions. (WEO p. 23) 	<ul style="list-style-type: none"> - Global energy-related CO₂ emissions grow on average 0.3% per year 2018-2040. (WEO p. 680) - The momentum behind clean energy technologies is not enough to offset the effects of an expanding global economy and growing population. (WEO p. 23) - Total global energy-related CO₂ emissions grow steadily from today's levels before plateauing after the mid-2040s - consistent with limiting the temperature increase to below 2.7 °C above pre-industrial averages with a 50% probability (or below 3.2 °C with 66% probability). (WEO p. 96) - There are significant regional variations in emissions trends, with declines in advanced economies and meaningful increases in developing economies in Asia. (WEO p. 96-97) 	<ul style="list-style-type: none"> - Global energy-related CO₂ emissions fall on average 3.3% per year 2018-2040. (WEO p. 681) - Global energy-related CO₂ emissions peak immediately and then fall an average of 3.8% per year through 2050, on course to net zero by 2070. (WEO p. 88) - Limits the temperature rise to below 1.8 °C with a 66% probability without the implied reliance on global net-negative CO₂ emissions, or 1.65 °C with a 50% probability without the implied reliance on global net-negative CO₂ emissions. (WEO p. 88)

°CIPCC 2014 Fifth Assessment Report (AR5) RCP 8.5 4 °C Scenario

	2046-2065	2081-2100 (i.e., end of the 21st Century)
	Mean (Likely Range)	Mean (Likely Range)
Global Mean Surface Temperature Increase (°C)	2.0 (1.4 to 2.6)	3.7 (2.6 to 4.8)
Global Mean Sea-level Rise (meters) relative to 1985-2005	0.30 (0.22 to 0.38)	0.63 (0.45 to 0.82)

Important Information about Policies, Procedures, Practices, and Forward-Looking Statements

Our Report includes descriptions of our vision, mission, values, and various policies, values, standards, procedures, processes, systems, programs, initiatives, assessments, technologies, practices, and similar measures related to our operations and compliance systems (“Policies and Procedures”). References to Policies and Procedures in our Report do not represent guarantees or promises about their efficacy, or any assurance that such measures will apply in every case, as there may be exigent circumstances, factors, or considerations that may cause implementation of other measures or exceptions in specific instances.

Our Report includes forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and Section 21E of the Securities Exchange Act of 1934 (“Exchange Act”). Forward-looking statements include any statement that does not relate strictly to historical or current facts and include statements accompanied by or using words such as “anticipate,” “believe,” “intend,” “plan,” “projection,” “forecast,” “strategy,” “outlook,” “continue,” “estimate,” “expect,” “may,” “to,” “will,” “shall,” and “long-term” or comparable terms. In particular, statements, express or implied, concerning the occurrence, impact, or timing of future actions, conditions, or events, including our Policies and Procedures and their efficacy, long term demand for our assets and services, our future operating results, or our ability to generate revenues, income, or cash flow or to pay dividends, are forward-looking statements.

Forward-looking statements are not guarantees or assurance of performance. Forward-looking statements are included for the purpose of providing management’s current expectations and plans for the future, based on the beliefs and assumptions of management and the information currently available to management. Forward-looking statements are subject to risks and uncertainties and assumptions. There is no assurance that any of the actions, events or results of the forward-looking statements will occur, or if any of them do, what impact they will have on our results of operations or financial condition. Because of these uncertainties, you are cautioned not to put undue reliance on any forward-looking statement.

Future actions, conditions or events and future results of operations may differ materially from those expressed in or implied by these forward-looking statements. Many of the factors that will determine these outcomes are beyond our ability to control or predict. These statements are necessarily based upon various assumptions involving judgments with respect to the future, including, among others, our ability to estimate accurately the time and resources necessary to meet the reporting and assurance testing standards applicable to additional measures we expect to include in future reports; the timing and extent of changes in the supply of and demand for the products we transport and handle; national, international, regional and local economic, competitive, political and regulatory conditions and developments, including, among others, near- and long-term effects of the COVID-19 pandemic; the timing and success of business development efforts; the timing, cost, and success of expansion projects; technological developments; the condition of capital and credit markets; inflation rates; interest rates; the political and economic stability of oil-producing nations; energy markets; federal, state or local income tax legislation; weather conditions; environmental conditions; business, regulatory and legal decisions; terrorism; cyber-attacks; and the risks and uncertainties described in this Report and in most recent Annual Report on Form 10-K and subsequent Exchange Act reports filed with the SEC, including under the headings “Risk Factors,” “Information Regarding Forward-Looking Statements,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and elsewhere. These reports are available through the SEC’s EDGAR system at <https://www.sec.gov>, and on our website at <https://www.kindermorgan.com>.

Forward-looking statements speak only as of the date they were made, and except to the extent required by law, we undertake no obligation to update any forward-looking statement because of new information, future events, or other factors.

Our Report contains references to KMI's website. These references are for readers' convenience only. We are not incorporating our Report by reference into any other document posted on <https://www.kindermorgan.com> or <https://www.sec.gov> and are not incorporating any other document posted on either website into this Report.

Our Report also includes links to websites owned and operated by third parties, which are provided for readers' information and convenience only. We are not responsible for these websites or their content.

We are in the process of identifying and developing the processes, procedures, and resources we expect to need to meet standards and limited assurance testing applicable to this Report. Except where and how specified in *Appendix D – Third-Party Assurance Statement*, our Report and the data presented in it have not been externally audited, assured, attested, or verified. We make no warranty, express or implied, regarding the accuracy, adequacy, completeness, legality, reliability, or usefulness of our Report.