

# Welcome to your CDP Climate Change Questionnaire 2020

## C0. Introduction

### C0.1

#### **(C0.1) Give a general description and introduction to your organization.**

Williams (NYSE: WMB) is committed to being the leader in providing infrastructure that safely delivers natural gas products to reliably fuel the clean energy economy. Headquartered in Tulsa, Oklahoma, Williams is an industry-leading, investment grade C-Corp with operations across the natural gas value chain including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids. With major positions in top U.S. supply basins, Williams connects the best supplies with the growing demand for clean energy. Williams owns and operates more than 30,000 miles of pipelines system wide — including Transco, the nation's largest volume and fastest growing pipeline — and handles approximately 30% of the natural gas in the United States that is used every day for clean-power generation, heating and industrial use. Our Core Values are engrained in how we do our work, every day, on behalf of our key stakeholders, including our communities, customers, employees and investors. At Williams, we are:

- **Authentic:** Our integrity cannot be compromised; for more than a century we've remained true to ourselves, always striving to do the right thing.
- **Safety Driven:** Safeguarding our people and neighbors is engrained in our culture and fundamental to everything we do.
- **Reliable Performers:** We stand behind our reputation as a dependable and trustworthy business that delivers on our promises.
- **Responsible Stewards:** We are dedicated to strengthening our people and communities and to protecting the environment.

The boundaries of the emissions data provided in this disclosure inventory exclude corporate offices and focus solely on our direct operations that we own and operate. This boundary and the exclusions are referenced in comments to questions 6.1 and 6.3.

The information in the CDP response may contain or incorporate by reference statements that do not directly or exclusively relate to historical facts. Such statements are “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements relate to anticipated financial performance, management's plans and objectives for future operations, business prospects, outcome of regulatory proceedings, market conditions and other matters. We make these forward-looking statements in reliance on the safe harbor protections provided under the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included herein that address activities, events or

developments that we expect, believe or anticipate will exist or may occur in the future, are forward-looking statements.

Forward-looking statements can be identified by various forms of words such as “anticipates,” “believes,” “seeks,” “could,” “may,” “should,” “continues,” “estimates,” “expects,” “forecasts,” “intends,” “might,” “goals,” “objectives,” “targets,” “planned,” “potential,” “projects,” “scheduled,” “will,” “assumes,” “guidance,” “outlook,” “in-service date” or other similar expressions. These forward-looking statements are based on management’s beliefs and assumptions and on information currently available to management. Certain important factors that could cause actual results to differ, possibly materially, from expectations or estimates reflected in such forward-looking statements can be found in the “Risk Factors” and “Forward-Looking Statements” sections included in Williams’s Annual Report on Form 10-K filed with the SEC on February 24, 2020, and in Part II, Item 1A Risk Factors in our Quarterly Reports on Form 10-Q. Given the uncertainties and risk factors that could cause our actual results to differ materially from those contained in any forward-looking statement, we caution investors not to unduly rely on our forward-looking statements. We disclaim any obligations to, and do not intend to, update any particular forward-looking statement included in this report or announce publicly the result of any revisions to any of the forward-looking statements to reflect future events or developments.

## C0.2

**(C0.2) State the start and end date of the year for which you are reporting data.**

|                | Start date      | End date          | Indicate if you are providing emissions data for past reporting years | Select the number of past reporting years you will be providing emissions data for |
|----------------|-----------------|-------------------|---|--|
| Reporting year | January 1, 2019 | December 31, 2019 | Yes   | 1 year   |

## C0.3

**(C0.3) Select the countries/areas for which you will be supplying data.**

United States of America

## C0.4

**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

USD

## C0.5

**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.**

Operational control

## C-OG0.7

**(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?**

Row 1

**Oil and gas value chain**

Midstream

**Other divisions**

## C1. Governance

### C1.1

**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

### C1.1a

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

| Position of individual(s) | Please explain   |
|---------------------------|--|
| Board-level committee     | <p>The Board of Directors oversees the effectiveness of the company’s environmental, social and governance (ESG) risk management and ensures management is devoting adequate attention to ESG matters, including those related to climate change.</p> <p>While climate-related topics can arise in the context of all committees and the full Board, the Governance and Sustainability Committee within Williams’ Board of Directors has primary oversight on climate change matters because the Governance and Sustainability Committee oversees the company’s ESG performance and disclosure.</p> <p>The committee has responsibility for providing general direction on decisions regarding the sustainability of the business and tracking the ESG strategy. This includes reviewing Williams’ environmental and climate-related policy statements. The committee regularly reports to the full Board of Directors on relevant topics for further discussion.</p> <p>Climate change topics can also arise within the Environmental Health and Safety</p> |

|  |   |
|--|---|
|  | <p>(EHS) Committee, which has responsibility for environmental issues. Specifically, the committee provides oversight on compliance with applicable and proposed environmental legislation, regulations and orders; conformance with industry standards and best practices; asset reliability; operational risk management; and asset integrity plans and programs.</p> <p>The Audit Committee also has oversight of climate risks as they arise within the Enterprise Risk Management framework. The Audit Committee is responsible for discussing policies with respect to risk assessment and risk management, including with regards to major financial risk exposures and the steps management has taken to monitor and control such exposures.</p> <p>Situation: Given the emphasis on climate change in 2019, Williams is especially focused on reducing emissions from leaks. Task: To address this risk, Williams decided to use targets to drive ongoing performance improvements. Action: In 2019, Williams joined in the Our Nation’s Energy Future Coalition, Inc. (ONE Future) collaborative and committed to the 2025 intensity targets to reduce methane leaks from gathering and boosting, processing, and transmission and storage operations. Result: This action from the Board has helped establish a long-term vision for Williams and facilitated increased organizational engagement on the topic</p> |
|--|---|

## C1.1b

### (C1.1b) Provide further details on the board’s oversight of climate-related issues.

| Frequency with which climate-related issues are a scheduled agenda item | Governance mechanisms into which climate-related issues are integrated   | Please explain  |
|---|--|---|
| Scheduled – some meetings   | <ul style="list-style-type: none"> <li>Reviewing and guiding strategy</li> <li>Reviewing and guiding major plans of action</li> <li>Reviewing and guiding risk management policies</li> <li>Reviewing and guiding business plans</li> <li>Setting performance objectives</li> <li>Monitoring implementation and performance of objectives</li> </ul> | <p>The Board of Directors participates in a strategic risk assessment process annually to identify the top 10 risks for Williams, during which climate-related topics are sometimes considered.</p> <p>Although climate change is not always prioritized during the strategic risk assessment process, it is specifically addressed by the Governance and Sustainability Committee along with other ESG risks.</p> <p>As part of this effort, climate change is factored into major plans and actions. For example,</p> |

|  |  |  |
|--|--|--|
|  | Monitoring and overseeing progress against goals and targets for addressing climate-related issues | evaluating the use of solar powered facilities across our processing plants and pipeline systems is a key consideration for upcoming capital projects. |
|--|--|--|

## C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

| Name of the position(s) and/or committee(s)                               | Responsibility  | Frequency of reporting to the board on climate-related issues |
|---|---|---|
| Chief Operating Officer (COO)   | Both assessing and managing climate-related risks and opportunities | More frequently than quarterly                                |
| Other, please specify<br>Director of Environmental Social, and Governance | Both assessing and managing climate-related risks and opportunities | More frequently than quarterly                                |
| Chief Executive Officer (CEO)   | Both assessing and managing climate-related risks and opportunities | More frequently than quarterly                                |

## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

All company risks are managed by the Chief Executive Officer (CEO) and Executive Officer Team (EOT). Top risk identified through our risk assessment process is assigned to an Executive Officer who is responsible for leading and reporting assurances to the CEO and EOT. Williams' Chief Operating Officer (COO) is the highest management-level position with responsibility for climate-related risks and opportunities. The COO sits on the EOT and reports directly to the CEO of Williams. As part of this role, the COO is responsible for the operational aspect of climate change, including oversight of implementing emissions reduction initiatives. The COO has responsibility for climate-related issues because the majority of Williams' climate risk is associated with its direct operations. For example, there are strategic initiatives underway to reduce fugitive methane emissions through enhanced programs and equipment, and mitigate greenhouse gas emissions by utilizing solar energy to power compression stations.

In addition to overseeing operational tasks that mitigate climate change, Williams is working to enhance its overall environmental, social and governance (ESG) strategy and communications. In 2020, Williams appointed an ESG Director to integrate ESG topics across the organization,

including climate change. Because these responsibilities tie directly to our corporate strategy, the ESG Director reports to Williams' Vice President Corporate Strategic Development.

The ESG Director is responsible for engaging with shareholders and other stakeholders to understand ESG expectations and communicate our performance, as well as for raising the visibility of Williams' ESG capabilities. These responsibilities are supported by the Williams Board of Directors and EOT. The ESG Director collaborates with several groups within the organization, including Investor Relations, Communications & Corporate Social Responsibility, Government Affairs & Public Outreach, and the Corporate Secretary, to promote effective delivery of ESG-related activities and communicate results to investors and key stakeholders.

### C1.3

**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

|       | Provide incentives for the management of climate-related issues | Comment |
|-------|---|---------|
| Row 1 | Yes   |         |

### C1.3a

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

| Entitled to incentive         | Type of incentive | Activity incentivized      | Comment  |
|-------------------------------|-------------------|----------------------------|--|
| Chief Operating Officer (COO) | Monetary reward   | Emissions reduction target | The Chief Operating Officer's monetary incentive includes performance against Williams' annual target to reduce reportable releases. This refers to any type of reportable air releases determined by state regulations. In the context of climate change, reportable air releases include methane.                |
| Chief Executive Officer (CEO) | Monetary reward   | Emissions reduction target | The Chief Executive Officer's monetary incentive includes performance against Williams' annual target to reduce reportable releases. This refers to any type of reportable air releases determined by state regulations. In the context of climate change, reportable air releases include methane.                |
| All employees                 | Monetary reward   | Emissions reduction target | Williams' reportable releases metric is an internal environmental metric that influences the short-term, annual incentive for individual employees. This refers to any type of reportable air releases determined by state regulations. In the context of climate change, reportable air releases include methane. |

|                               |                 |                            |   |
|-------------------------------|-----------------|----------------------------|---|
| All employees                 | Monetary reward | Emissions reduction target | Williams established a loss of primary containment target that includes the unplanned or uncontrolled release of methane. Achieving this target influences short-term, annual incentives for all employees eligible for our Annual Incentive Program. The goal is weighted at 5% of our 2020 Annual Incentive Program for all employees.  |
| Chief Operating Officer (COO) | Monetary reward | Emissions reduction target | Williams established a loss of primary containment target that includes the unplanned or uncontrolled release of methane. Achieving this target influences short-term, annual incentives for all employees eligible for our Annual Incentive Program. The goal is weighted at 5% of our 2020 Annual Incentive Program for all employees, including the Chief Operating Officer. |
| Chief Executive Officer (CEO) | Monetary reward | Emissions reduction target | Williams established a loss of primary containment target that includes the unplanned or uncontrolled release of methane. Achieving this target influences short-term, annual incentives for all employees eligible for our Annual Incentive Program. The goal is weighted at 5% of our 2020 Annual Incentive Program for all employees, including the Chief Executive Officer. |
| Corporate executive team      | Monetary reward | Emissions reduction target | Williams established a loss of primary containment target that includes the unplanned or uncontrolled release of methane. Achieving this target influences short-term, annual incentives for all employees eligible for our Annual Incentive Program. The goal is weighted at 5% of our 2020 Annual Incentive Program for all employees, including the executive officer team.  |

## C2. Risks and opportunities

### C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

#### C2.1a

**(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

|             | From (years) | To (years) | Comment |
|-------------|--------------|------------|---------|
| Short-term  | 0            | 3          |         |
| Medium-term | 3            | 10         |         |

|           |    |     |  |
|-----------|----|-----|--|
| Long-term | 10 | 100 |  |
|-----------|----|-----|--|

## C2.1b

### **(C2.1b) How does your organization define substantive financial or strategic impact on your business?**

We define strategic impacts on our business through an annual, strategic risk assessment that aligns with our long-term corporate strategy process. Because risk management is embedded within our company’s operations through a decentralized, cross-functional approach, we use a strategic risk assessment to look at how risks across the enterprise may impact our strategy. We utilized the “Enterprise Risk Management Integrated Framework” developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) as the basis of our strategic risk assessment. COSO is a joint initiative of five private sector organizations, the American Accounting Association, American Institute of Certified Public Accountants, Financial Executives International, the Association of Accountants and Financial Professionals in Business and the Institute of Internal Auditors. COSO is the leading organization in developing enterprise risk management, internal controls, and fraud deterrence frameworks.

This systematic process is facilitated by our corporate strategy team and identifies top risks that could have the greatest impact on achievement of our strategy. It incorporates leaders and risk process owners throughout the organization to identify risks. An annual survey is conducted to assess, rate and prioritize risks that could impact Williams’ strategic objectives. The survey includes a qualitative and quantitative assessment. Risks are rated on an impact scale that includes but is not limited to financial impact, which ranges from an annual financial loss/cash flow impact of \$10 million to greater than \$300 million. Risk measurement scales are also used to understand the likelihood of a risk and assess the effectiveness of risk controls. The risk measurement scale enables Williams to provide a measurable, consistent and quantitative rationale for selecting top risks.

Risk discussions are held with key stakeholders and our executive management team to validate survey results. Williams assigns a risk tolerance and executive monitoring and mitigation accountability for each top risk. Top risks identified through the process are presented to Board of Directors annually during strategy discussions. While climate change was not identified as a top risk for Williams in 2019, environmental topics including climate change are incorporated as part of the Board of Directors strategy discussion.

## C2.2

### **(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

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#### **Value chain stage(s) covered**

Direct operations

#### **Risk management process**



Integrated into multi-disciplinary company-wide risk management process

### **Frequency of assessment**

Annually

### **Time horizon(s) covered**

Short-term

Medium-term

### **Description of process**

An annual survey is conducted to assess, score and prioritize risks that could impact Williams' strategic objectives. All risks are assigned to one of 30 risk categories that are consolidated into four classifications: Strategic, Operational, Compliance and Reporting. We hold a risk workshop with key stakeholders and executive management to validate top risks, agree on risk tolerance, and assign accountability for risk monitoring and mitigation.

Williams uses a risk measurement scale to understand likelihood and velocity of risks. The definition of likelihood enables Williams to measure risks that can occur within the next three years. The top risks identified through the process are those that have the highest potential to produce a substantive financial or strategic impact on our business. We focus on the top risks identified through the process, which are presented to Board of Directors annually.

Acute and chronic physical risks, including those associated with climate change, are included as part of our evaluation of catastrophic loss and business interruptions during our annual strategic risk assessment. Extreme weather conditions can increase costs and contribute to increased system stresses. We evaluate physical risks to our operations by considering how catastrophic loss and business interruptions from hurricanes can overwhelm the controls we have in place. Understanding these potential impacts enables us to calculate sufficient redundancy in our compressor systems and effectively manage the integrity of our compressor stations. Williams has been able to reliably deliver natural gas and natural gas liquid processing during severe weather events with limited or no service interruptions. Recent examples include during a Bomb Cyclone in the Northeast in 2019 and during Hurricane Harvey in 2017.

We also evaluate transition risks, including reputational risk. We face reputational risks that could result in a loss of ability to compete due to perceptions that Williams or the industry does not effectively manage its business, deal fairly with stakeholders or accept responsibility to the community. Additionally, reputation risk could limit our ability to borrow capital at a low interest rate, which could have material impacts on the business. As part of the strategic risk assessment process we consider reputational risks, including those related to climate change, and how this might result in increased cost of capital. For example, we have faced reputational risks in New York and New Jersey, where the permitting environment for expansion projects is increasingly difficult due to local, public opposition related to climate change and the negative perception of natural gas, including doubt about the role it plays in a clean energy future.

## C2.2a

### (C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

|                     | Relevance & inclusion        | Please explain  |
|---------------------|------------------------------|---|
| Current regulation  | Relevant, always included    | <p>We consider the risks that existing climate change laws and regulations can have on our business as part of the legislative and regulatory risk category that is included within our annual strategic risk assessment. For example, our ability to obtain necessary permits and approvals has been impacted by climate regulation. Several communities in New York and Massachusetts are subject to moratoriums on new gas connections due to fuel shortages. The shortages are due in large part to state regulators that are not allowing the construction of new gas pipelines based on environmental concerns, including climate change.</p> <p>Additionally, if we are unable to recover or pass through a significant level of our costs related to complying with existing climate change regulatory requirements imposed on us, such as mandatory U.S. Environmental Protection Agency greenhouse gas reporting requirements, it could have a material adverse effect on our results of operations and financial condition.</p>  |
| Emerging regulation | Relevant, sometimes included | <p>We consider the risks that new climate change laws or greenhouse gas regulations could have on our business as part of the legislative and regulatory strategic risk category that is included within our annual strategic risk assessment process. For example, we assess how climate change regulations and the costs associated with the regulation of greenhouse gas emissions have the potential to affect our business.</p> <p>Regulatory actions by the Environmental Protection Agency or the passage of new climate change laws or regulations such as carbon pricing or Cap and Trade could result in increased costs to operate and maintain our facilities, install new emission controls on our facilities or administer and manage our greenhouse gas compliance program. We believe it is possible that future governmental legislation and/or regulation may require us either to limit greenhouse gas emissions associated with our operations or to purchase allowances for such emissions. We evaluate the potential for increased costs associated with installing new emission controls or changing how we manage our greenhouse gas reporting.</p> |

|                |                              |   |
|----------------|------------------------------|---|
| Technology     | Relevant, sometimes included | While not included as part of our annual strategic risk assessment, we evaluate the likelihood of technology disrupting our business as part of our qualitative scenario analysis process. One such scenario is “The Green Transformation,” which evaluates the associated business impacts of fossil fuels being phased out quicker than our other estimates anticipate due to increasing cost- competitiveness of renewable energy technologies such as solar power.  |
| Legal          | Relevant, sometimes included | We consider business interruptions from potential lawsuits as a component of operational risks, which are evaluated as part of our annual strategic risk assessment process. For example, our business could be affected by the potential for lawsuits against greenhouse gas emitters, based on links drawn between greenhouse gas emissions and climate change. Lawsuits stemmed from opposition to fossil fuels can disrupt or delay the operation or expansion of our assets.   |
| Market         | Relevant, always included    | While not included as part of our annual strategic risk assessment, we evaluate business risks associated with changing market conditions and customers shifting to renewable sources of fuels. One such scenario is “The Green Transformation” that evaluates the associated business impacts of fossil fuels being phased out quicker than our other scenarios anticipate. Adverse impacts on the oil and gas industry related to the worldwide social and political environment, including uncertainty or instability resulting from climate change, may also adversely affect demand for our services.  |
| Reputation     | Relevant, always included    | Reputation risk is a category of risk that we include as part of our annual strategic risk assessment. Reputational risks are considered a loss of customers, key employees, community support or a loss of ability to compete due to perceptions that Williams or the industry does not effectively manage its business, deal fairly with stakeholders or accept responsibility to the community. As part of this process, we assess the reputational risks to our business associated with climate change. For example, investors’ increased focus on climate change and sustainability matters may hinder access to capital, as investors may decide to reallocate capital or to not commit capital as a result of their assessment of a company’s practices. If we do not adapt to stakeholder expectations and standards, regardless of whether there is a legal requirement to do so, we may suffer from reputational damage and the business, financial condition and/or our stock price could be materially and adversely affected. |
| Acute physical | Relevant, sometimes included | Acute physical risk, including those associated with climate change, are included as part of our evaluation of catastrophic loss and business interruption during our annual strategic risk assessment. Increased frequency and severity of weather events such as hurricanes require more system backup, which can add costs and contribute to increased system stresses, including service  |

|                  |                              |   |
|------------------|------------------------------|---|
|                  |                              | interruptions. We calculate sufficient redundancy in our compression systems based on historic weather patterns and maintenance activities. We are building more redundancy in the system and enhancing how operations are built and operated based on historic weather patterns. To the extent the frequency of extreme weather events increases, this could increase our cost of providing service. We may not be able to pass on the higher costs to our customers or recover all costs related to mitigating these acute physical risks.  |
| Chronic physical | Relevant, sometimes included | Chronic physical risk, including those associated with climate change, are included as part of our evaluation of asset integrity risks during our annual strategic risk assessment. For example, many climate models indicate that climate change is likely to result in rising sea levels and more frequent rain events, which may lead to higher insurance costs or a decrease in available coverage for our assets in areas subject to severe weather. These climate-related changes could damage our physical assets. In particular, Williams' assets located in low-lying areas near coasts and river banks and facilities situated in hurricane-prone and rain-susceptible regions. Williams evaluates and manages the integrity of our assets. For example, we use Light Detection and Ranging equipment to actively monitor land movements stemmed from increased rainfall near our compressor stations, especially in risk-prone regions such as the Appalachia. |

## C2.3

**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

### C2.3a

**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

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**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

Reputation

Increased stakeholder concern or negative stakeholder feedback

**Primary potential financial impact**

Increased indirect (operating) costs

### **Company-specific description**

Investor advocacy groups, certain institutional investors, investment funds and other influential investors are increasingly focused on environmental, social and governance practices. As part of our corporate strategy, we are working to adapt to investor and stakeholder expectations to prevent reputational damage. We believe natural gas is an integral part of the low-carbon future, particularly when it comes to displacing higher-emission fuels such as coal and heating oil. Our shareholders may require us to implement sustainability procedures or standards to maintain existing investments or make further investments in us. Investors' increased focus and activism related to climate change matters could hinder access to capital, as investors may decide to reallocate capital or to not commit capital as a result of their assessment of Williams' climate practices.

We have experienced, and we anticipate that we will continue to face, opposition to the operation and expansion of our pipelines and facilities from certain governmental officials, environmental groups, landowners, tribal groups, local groups, and other advocates such as what we have encountered with the Northeast Supply Enhancement (NESE) project. NESE was a proposed pipeline project that would help the state of New York transition from higher carbon heating oils to cleaner natural gas. In some instances, we encounter opposition from stakeholders that disfavor hydrocarbon-based energy supplies regardless of practical implementation, emission reductions, societal benefits or financial considerations.

Opposition to the operation and expansion of Williams pipelines and facilities can take many forms, including the delay or denial of required governmental permits, organized protests, attempts to block or sabotage our operations, intervention in regulatory or administrative proceedings involving our assets, or lawsuits or other actions designed to prevent, disrupt or delay the operation or expansion of our assets and business. This opposition to hydrocarbon infrastructure increases the cost of installation and can cause a delay of in-service dates. Any such event that delays or prevents the expansion of our business, that interrupts the revenues generated by our operations, or which causes us to make significant expenditures not covered by insurance, could adversely affect our financial condition and results of operations.

### **Time horizon**

Short-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium

### **Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

At this time, we do not have a financial impact figure.

**Cost of response to risk**

204,000

**Description of response and explanation of cost calculation**

We engage with shareholders on a variety of sustainability topics, including climate change, to understand different perspectives, share our viewpoints and resolve issues. To support this effort, we appointed an environmental, social and governance (ESG) director to raise the visibility of our ESG capabilities, engage shareholders and communicate our performance. We interact with our stakeholders on topics related to climate change using a variety of mechanisms, including in-person meetings, social media, open houses and community events. In 2019, members of our executive management team attended 15 investor conferences, 21 on-site investor meetings and two non-deal roadshows. Additionally, we publish an annual Sustainability Report that provides information on our emissions-reduction efforts and climate change strategy. We used the external cost of third-party support with our Sustainability Report, CDP climate change questionnaire and sustainability governance strategy in 2019 to calculate the cost to respond to this risk. Natural gas plays an important role in the clean energy economy, particularly when it comes to providing alternatives to more polluting fuels with solutions we can execute on today. Natural gas is helping significantly reduce emissions from the electric generation sector. It is also the ideal partner for renewable energy since it can quickly and reliably provide power when wind and solar resources are not available. Our government affairs and outreach team works with local communities to communicate accurate information on how natural gas can be used in decarbonizing the grid. In 2019, we worked with the Marcellus Shale Coalition, West Virginia Oil and Natural Gas Association, and Ohio Oil and Gas Association to provide in-depth information to policymakers, regulators and other public stakeholders in Pennsylvania, West Virginia and Ohio on the positive impacts responsible natural gas production is having on local communities in these areas. We provide educational information on the significant emissions reductions that our natural gas infrastructure is supporting. For example, increased natural gas production coupled with a growing renewable energy market have helped the U.S. reduce carbon emissions to the lowest levels since 1988. Since 2005, our infrastructure has helped the U.S. decrease greenhouse gas emissions by 33 million metric tons — the equivalent of removing 7,006,369 gasoline-powered cars from the road for a year.

**Comment**

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**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

Emerging regulation

Mandates on and regulation of existing products and services

**Primary potential financial impact**

Increased indirect (operating) costs

**Company-specific description**

Our operations are subject to environmental laws and regulations, including laws and regulations relating to climate change and greenhouse gas emissions, which may expose us to significant costs, liabilities and expenditures that could exceed our expectations. Failure to comply with these laws, regulations and permits may result in the assessment of administrative, civil and/or criminal penalties, the imposition of remedial obligations, the imposition of stricter conditions on or revocation of permits, the issuance of injunctions limiting or preventing some or all of our operations, and delays or denials in granting permits.

Climate change regulations and the costs associated with the regulation of greenhouse gas emissions could result in increased costs to operate and maintain our facilities, install new emission controls on our facilities, or administer and manage our greenhouse gas compliance program. If we are unable to recover or pass through a significant level of our costs related to complying with climate change regulatory requirements, it could have a material adverse effect on our operations and financial condition. To the extent financial markets view climate change and greenhouse gas emissions as a financial risk, this could negatively impact our cost of and access to capital.

In addition to activities on the federal level, state and regional initiatives could also lead to the regulation of greenhouse emissions sooner than federal regulation and/or independent of federal regulation. These regulations could be more stringent than any federal legislation that may be adopted. For example, the U.S. Environmental Protection Agency and several states that Williams operates in (Colorado, Pennsylvania, Virginia, New York, Maryland, and Ohio) have updated regulations aimed to reduce fugitive methane emissions at natural gas processing and compression facilities. Additional states are in the rule-making process to regulate methane emissions, or are considering carbon cap and trade mechanisms. We anticipate with the growing activity at the state level around making climate commitments, including setting either state-wide or sector-wide targets around carbon neutrality, that these risks will increasingly be passed on to the business.

**Time horizon**

Medium-term

**Likelihood**

About as likely as not

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

88,550,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

Using the current federal estimate of the Social Cost of Carbon per Metric Ton at \$7 per metric ton in 2020, estimated financial impact would be \$88,550,000 USD to offset Williams 2019 Scope 1 and Scope 2 emissions.

**Cost of response to risk**

475,000

**Description of response and explanation of cost calculation**

We continue to monitor legislative and regulatory developments related to climate change and take efforts to voluntarily reduce greenhouse gas emissions from our facilities. To manage potential risks from climate-related policies, we engage with and educate state and federal agencies during the rule-making processes to advocate for sensible regulations on methane and carbon emissions. Global energy systems need to undergo major transformations over the next 30 to 50 years to reduce carbon emissions. A key challenge to achieving this transformation is the current federal permitting policies. The National Petroleum Council's energy infrastructure study, co-chaired by the Chief Executive Officer of Williams Companies, calls on Congress to address this challenge by clarifying the National Environmental Protection Act permit process and developing a national climate change policy. The U.S. Council on Environmental Quality division of the Executive Office has issued draft National Environmental Policy Act regulation updates in response to study.

Simultaneously, we have implemented programs and invested in technologies designed to help reduce methane and other greenhouse gas emissions from our operations, which may reduce costs related to future greenhouse gas regulations. Efforts to reduce methane emissions include conducting leak detection and repairs at facilities, reducing blowdowns by increasing system reliability, replacing compressor rod packing, installing



electric motors on compressors and glycol circulation pumps, installing flares and thermal oxidizers to control methane emissions, and replacing wet-seal compressors with dry-seal compressors. Through these efforts, we have reduced reported methane emissions from our transmission compressor stations and processing plant operations by more than 41% since 2012, while at the same time throughput capacity at these facilities increased 40%. Additionally, Williams implemented a methane emissions reduction initiative in 2019 to identify additional opportunities to reduce greenhouse gas emissions across our Northeast gathering and processing operations. To respond this risk, Williams invested an estimated \$475,000 in the initiative, resulting in a 26% reduction in predicted methane emissions for the year 2020 compared to 2017— the equivalent of taking more than 14,300 cars off the road each year. \$475,000 was the cost to perform equipment change outs and modifications to achieve methane reductions.

## Comment

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### Identifier

Risk 3

### Where in the value chain does the risk driver occur?

Direct operations

### Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

### Primary potential financial impact

Increased capital expenditures

### Company-specific description

Climate change may create physical risks to our business. A decrease in energy use due to climate change may affect our financial condition through decreased revenues. Extreme climate conditions generally require more system backup, which can add costs and contribute to increased system stresses, including service interruptions. Extreme climate conditions outside of our operating territory could also have an impact on our revenues.

Additionally, models indicate that climate change is likely to result in rising sea levels and increased frequency and severity of climate events, which may lead to higher insurance costs or a decrease in available coverage for our assets in areas subject to severe climate impacts. These climate-related changes could damage our physical assets, especially operations located in low-lying areas near coasts and river banks and facilities situated in hurricane-prone and rain susceptible regions such as the Appalachia.

Our assets and operations, particularly those located offshore, as well as our customers' assets and operations can be adversely affected by hurricanes, floods, earthquakes, landslides, tornadoes, fires and other weather conditions such as extreme or unseasonable temperatures. An impairment of our assets, including property, plant, and equipment, intangible assets, and/or equity-method investments could reduce our earnings.

Since Williams' onshore facilities are largely underground, we are less susceptible to weather events than many of our competitors in the infrastructure sector. Our offshore facilities, four deepwater crude oil pipelines and production platforms serving the deepwater, are primarily located along the Gulf Coast, and flow rate through these facilities can be adversely impacted during severe weather events that require offshore producers to shut-in production for safety.

A significant disruption in our or our customers' operations or a significant liability for which we are not fully insured could have a material adverse effect on our business, financial condition, results of operations and cash flows.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Low

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

We are not reporting a financial impact figure at this time.

**Cost of response to risk**

**Description of response and explanation of cost calculation**

The Williams Integrated Management System (WIMS) serves as a platform for communicating and implementing the company's policies, requirements, guidelines,

procedures, specifications and other documents that are used to design, build, operate and maintain our assets. To manage our potential risks from physical weather and/or climate-related events, we use WIMS, Standard Operating Procedures, and System Integrity Plans. We also have invested in insurance coverage for potential property damage and business interruption. Our business continuity planning and training includes potential impacts from future weather and climate events, and helps Williams appropriately respond when such challenges arise.

As part of our operating process, we calculate sufficient redundancy in our compression systems based on historic weather patterns in the different regions where we operate and maintenance activities. We are building more redundancy in the system, and continually enhancing how operations are built and operated based on historic weather patterns. We take into account the increasing number of severe weather events resulting from climate change.

Williams' Chief Executive Officer co-chaired a National Petroleum Council study that examined the resiliency of natural gas and oil infrastructure in the event of a natural disaster. The report provides industry and government with advice to better prepare for significant disruptions to oil and natural gas supply chains caused by natural disasters such as hurricanes, earthquakes and floods.

#### Comment

## C2.4

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

## C2.4a

**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

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#### Identifier

Opp1

#### Where in the value chain does the opportunity occur?

Direct operations

#### Opportunity type

Resource efficiency

#### Primary climate-related opportunity driver

Use of more efficient production and distribution processes

**Primary potential financial impact**

Reduced indirect (operating) costs

**Company-specific description**

Williams is continually working to improve our operational performance and increase access to natural gas by being the premier provider of large-scale energy infrastructure while simultaneously exploring opportunities to improve the efficiency of our 30,000 miles of pipelines, 28 processing facilities, 7 fractionation facilities, and approximately 23 million barrels of natural gal liquid storage capacity.

By lowering emissions from our operations, we can help our customers across the value chain meet their clean-energy goals. There are additional emission reduction and cost reduction opportunities from information and technology transfer with industry partners. These opportunities are realized by implementing new technologies, using best management work practices and participating in industry research. Williams is participating in climate change initiatives such as Our Nation's Energy Future Coalition, Inc. (ONE Future), the Interstate Natural Gas Association of America Methane Commitments, the American Petroleum Institute Environmental Partnership, the U.S. Environmental Protection Agency Methane Challenge and the Regional Greenhouse Gas Initiative. By reducing our own emissions, Williams can assist its customers' efforts to minimize environmental impacts.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

At this time, we do not have a financial impact figure.

**Cost to realize opportunity**

375,000,000

**Strategy to realize opportunity and explanation of cost calculation**

Williams works to reduce greenhouse gas emissions on our interstate pipelines by connecting the best natural gas supplies to nearby markets, which results in shorter transport distances and decreased compressor-driver energy requirements. Williams continues to explore growth opportunities that are combined with existing competitively advantaged infrastructure, allowing significant operating and capital-cost synergies.

In 2019, Williams joined the Environmental Partnership, sponsored by the American Petroleum Institute, which consists of U.S. natural gas and oil production, processing and transmission companies operating in every major oil and gas basin across the country. The organization provides a forum for participants to share information, analyze best practices and identify technological breakthroughs to responsibly develop essential natural gas and oil resources. The Environmental Partnership represents a growing coalition of companies responsible for meeting the nation's growing demand for low-cost energy that have committed to improving environmental performance by increasing energy efficiency and accelerating emissions reduction activities.

Williams is also exploring opportunities to use solar energy to power compression stations and gas processing facilities. By using solar power to meet a portion of our electricity use, we can support the development of renewable energy and reduce emissions from our operations' purchased electricity use. We plan to make an investment decision in 2020 on the first set of solar energy projects. We conducted a study to determine the most opportunistic locations to deploy solar energy based on where we are a major consumer of electric power. If approved, the estimated capital cost to realize this opportunity is \$375,000,000 USD for the proposed solar projects, which was calculated using estimates for the engineering, permitting and installation.

## Comment

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### Identifier

Opp2

### Where in the value chain does the opportunity occur?

Direct operations

### Opportunity type

Markets

### Primary climate-related opportunity driver

Access to new markets

### Primary potential financial impact

Increased revenues through access to new and emerging markets

### Company-specific description

Natural gas is a critical part of our nation's clean-energy future and provides immediate, practical solutions to reducing emissions. As natural gas is a flexible, lower-emission

fuel compared to other hydrocarbons such as coal, natural gas can be an ideal partner for renewable energy sources like wind and solar power since it can quickly provide power to the national grid when renewable energy sources are not available. Natural gas provides an opportunity for states and consumers to reduce emissions by switching from traditional fuels used for heating and power generation, and align with state-driven climate change or greenhouse gas emission policy ambitions. This opportunity provides an avenue for Williams to access new markets beyond the operations we already have in 15 supply areas that provide natural gas services to more than 600 customers.

We remain committed to reducing greenhouse gas emissions from our operations while simultaneously helping our customers achieve their emissions reductions goals. Our U.S. customers are beginning to make commercial decisions based on the carbon intensity of gas molecules delivered. Williams has an opportunity to harness a competitive advantage by providing “greener gas” to customers along the entire value chain. Williams’ commercial teams are working closely with the environmental, safety and operations groups to support customers’ ambitions around climate change and sustainability. For example, Williams delivers renewable natural gas by partnering with energy companies in Washington, Ohio and Texas to transport landfill-produced methane.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

At this time, we are not providing a financial impact figure.

**Cost to realize opportunity**

76,262,229

**Strategy to realize opportunity and explanation of cost calculation**

Williams evaluates opportunities to introduce our products to different markets in the United States. Natural gas continues to be the preferred fuel type for new power generation projects in the United States, and Williams pursues expansion opportunities to serve these markets. By expanding access to natural gas, we are able to displace higher-emission fuels such as coal and heating oil while contributing to the growing clean energy economy. In 2019, Williams completed the Gateway Expansion Project — approximately 11 months ahead of schedule — to meet growing demand for clean energy in New Jersey. The cost to realize the opportunity of access to new markets through the Gateway Expansion Project was \$76,262,229 USD capital cost, as reported to Federal Energy Regulatory Commission in the required cost report in a 6/30/20 filing. The Gateway Expansion Project provides the transportation services needed to meet the daily home heating, hot water and cooking needs of an estimated 280,000 homes. This is equivalent to removing approximately 590,000 metric tons per year of greenhouse gas emissions as a result of converting heating oil to natural gas.

Williams also continues to expand our capabilities to provide gas supplies for liquefied natural gas (LNG) exports. There is growing demand around the world for lower-emission energy that is accessible and affordable. Williams is uniquely positioned to supply gas for LNG export along its Transco Pipeline system. LNG export volumes are projected to grow by an additional 13.4 billion cubic feet per day along Transco states through 2028.

## Comment

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### Identifier

Opp3

### Where in the value chain does the opportunity occur?

Downstream

### Opportunity type

Products and services

### Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

### Primary potential financial impact

Increased revenues resulting from increased demand for products and services

### Company-specific description

As more counties, states, cities and companies make commitments to reduce emissions and achieve carbon neutrality, Williams has an opportunity to support these entities looking for a pathway to meet ambitious targets. Many of these entities have already started switching to renewable fuels, increasing the demand for these products. To help meet this demand, we are identifying more biogenic and renewable sources of fuel to supply to our customers. For example, a commonly available renewable fuel is methane

that is a by-product of the waste decomposition process that occurs in landfills and on dairy farms. Williams is well position to collect and process methane from landfills and agriculture for consumption. Our expertise in pipeline operations enables us to capitalize on this opportunity and help reduce methane emissions for our customers.

Renewable natural gas has negative greenhouse gas emissions when combusted as a fuel instead of directly vented to atmosphere, so we are always looking for new sources of renewable gas and new partnerships to meet growing demand for renewable fuels. Williams works with companies in Washington, Texas and Ohio, as well as a public utility district to transport landfill-produced methane.

In the Northeast, partnering with Montauk Energy, Williams operates a receipt point for natural gas produced by the Apex Landfill in Ohio. Methane is captured by drilling small wells across the landfill's surface, then gathered at an onsite treatment facility where the gas composition is brought to Williams' pipeline specifications. After ensuring the landfill-produced methane is pipeline quality, Williams receives and markets the gas on our system.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Low

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

At this time, we do not have a financial impact figure.

**Cost to realize opportunity**

1,513,000

**Strategy to realize opportunity and explanation of cost calculation**

We continue to capitalize on opportunities to meet increasing customer demand for renewable resources. In 2019, Williams' updated our gas quality specifications to attract more renewable natural gas per year, and we are actively working to increase that



number. As part of this effort, we are evaluating opportunities to incrementally expand renewable gas produced from dairy and swine farms that don't have infrastructure in place to capture gas by products.

The cost to realize this strategy is \$1,513,000 USD. This was the total cost of design, construction, and implementation of one interconnect in Washington to bring dairy biogas from one farm onto the Northwest Pipeline system in 2019. As part of the project, we changed tariff specifications to allow for more renewable natural gas on our Northwest Pipeline system. The project will convert 150,000 gallons per day of dairy cow waste into 160,000 million British Thermal Units (MMBtu) of renewable gas each year. We anticipate the project will offset approximately 50,000 metric tons of greenhouse gas emissions each year.

We have evaluated available sources of renewable gas in the United States, and our estimates show that there is enough available to offset emissions from our transmission pipeline operations, which represents one-third of our carbon footprint.

**Comment**

## C3. Business Strategy

### C3.1

**(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?**

Yes, and we have developed a low-carbon transition plan

### C3.1a

**(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?**

Yes, qualitative

### C3.1b

**(C3.1b) Provide details of your organization's use of climate-related scenario analysis.**

| Climate-related scenarios and models applied   | Details   |
|--|---|
| Other, please specify<br>Williams uses a variety of inputs including Wood Mackenzie and International Energy Agency projections to understand different scenarios. | As a part of our 2020 annual corporate strategy development process we generated and evaluated four qualitative scenario analyses to consider business impacts and risks to our long-term strategic direction. One such scenario, "The Green Transformation," evaluated potential impacts if over the next ten years U.S. legislative actions prohibit new infrastructure |

|  |  |
|--|--|
|  | <p>development and the country pursues a rapid decarbonization plan. The resulting strategic direction and execution plans drive our investment decisions and risk mitigation plans.</p> <p>We have a project lifecycle analysis process to identify risks, incorporate relevant stakeholders, and evaluate return on investment for significant capital projects. We believe our company is well positioned for the future based on our strong growth plan and strategic competitive advantages such as our irreplaceable transmission assets. We evaluate the best place to deploy capital in order to maximize returns, while also taking into account environmental and reputational considerations, including those related to climate change. We currently use a marginal abatement cost curve approach when evaluating projects in select regions. The area of the organization this scenario analysis relates to is identifying market risks and business drivers.</p> <p>As part of our growth strategy, we consider acquisition opportunities and engage in significant capital projects. In the Northeast (NE), we use the price of \$/ton to prioritize reduction efforts for the NE Methane Reduction Program. The price is used as an evaluation tool to drive low-carbon investments and prioritize spending for methane reduction projects. Approved reduction projects spanning 2019 and 2020 ranged from \$2.60/ton to \$295/ton. Based on the results of this assessment, Williams was able to identify investments in equipment change outs from 2019-2020 that will reduce emissions by 1,890 tons of methane with an investment of \$1.66 million USD, resulting in a cost of carbon of \$35.10/ton CO<sub>2</sub>e. The results of the scenario analysis enable Williams to strategically evaluate project opportunities and make sure we are spending capital most efficiently. Doing so has directly influenced our business objectives by targeting meaningful methane reductions in a cost-constrained environment.</p> |
|--|--|

### C3.1d

**(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.**

| Have climate-related risks and opportunities influenced your strategy in this area? | Description of influence |
|---|--------------------------|
|   |                          |

|                                 |                        |   |
|---------------------------------|------------------------|---|
| Products and services           | Yes                    | <p>Natural gas is critical to addressing climate change, particularly when it comes to displacing or providing alternatives to more polluting fuels with solutions we can execute on today. Because the U.S. has an abundant supply of natural gas, harnessing this local, cleaner resource has helped reduced U.S. emissions. Williams plans to expand access to natural gas products, which are contributing to a clean energy economy. As part of our corporate strategy, we are also exploring opportunities to expand the supply of renewable natural gas products to our customers. For example, in 2019, Williams partnered with a dairy farm in Washington by building the necessary infrastructure to connect the biogas to our pipeline. The project is expected to go into service in 2020. As part of the project, we changed tariff specifications to allow for more renewable natural gas in our Northwest Pipeline system, while still ensuring safe transportation of the blended fuel. We anticipate the project will offset approximately 50,000 metric tons of greenhouse gas emissions — the equivalent of taking more than 10,800 cars off the road each year.</p> <p>Time horizon: Short term</p> |
| Supply chain and/or value chain | Evaluation in progress | <p>Some of our businesses may be dependent on a small number of suppliers for delivery of critical goods or services. If one of the suppliers our businesses depends on failed to timely supply required goods, it would negatively impact our operations. Williams' supply chain is responsible for procuring large equipment packages for natural gas infrastructure projects executed by the Williams engineering services team. During the bid evaluation process, the supply chain team considers several important factors for awarding a decision. One of the important factors is the proximity of the supplier to the installation site, which minimizes the transportation cost, reduces associated transportation risks and helps reduce emissions. We are in the process of developing additional criteria for evaluating suppliers based on environmental, social and governance metrics.</p> <p>Time horizon: Medium term</p>   |
| Investment in R&D               | Yes                    | <p>Williams participates in and contributes to research initiatives to maintain our position as a thought leader, support technological innovation and develop best practices for the midstream sector. For example, Williams supports Colorado State University's Methane Emissions Technology</p>   |

|            |     |  |
|------------|-----|--|
|            |     | <p>Evaluation Center and funds greenhouse gas reduction projects at Pipeline Research Council International. Williams also supports government-led research efforts to advance industry knowledge and broaden public understanding of our industry. In 2019, Williams' president and Chief Executive Officer led "Dynamic Delivery, America's Evolving Oil and Natural Gas Transportation Infrastructure," a National Petroleum Council study on energy infrastructure requested by the U.S. Secretary of Energy. The purpose of the study was to determine the future need for U.S. oil and gas infrastructure under a variety of supply and demand scenarios. The study also included a series of recommended research and development opportunities to take the midstream oil and gas industry to the next level of safety and efficiency.</p> <p>Time horizon: Medium-term</p>   |
| Operations | Yes | <p>As we seek to maximize natural gas resources to meet growing demand, we are working to reduce greenhouse gas emissions from our operations. We support effective, voluntary programs to reduce emissions. Examples include conducting leak detection and repair assessments, installing electric motors on compressors and installing emission combustion devices. We are also evaluating opportunities for using solar energy to power our compression stations, which will significantly reduce emissions associated with electricity use for our operations. Williams is a signatory of the Interstate Natural Gas Association of America's Methane Emissions Commitment to implement methane reduction activities and perform leak surveys at all transmission and storage compressor stations by 2022. We use infrared cameras to quickly identify and repair leaking equipment, which can represent a large source of emissions for our industry. We are in the process of implementing a formalized leak detection and repair program in 2020 to enhance how we mitigate unintended releases from transmission and storage equipment and measure associated success.</p> <p>Our natural gas focused strategy provides a practical and immediate path to reduce emissions, support the viability of renewable energy and grow a clean energy economy — with solutions we can execute on today. To further support our strategy, we set a near-term goal of 56% absolute reduction from 2005 levels in company-wide greenhouse</p> |

|  |  |  |
|--|--|--|
|  |  | <p>gas emissions by 2030 on our path to net zero carbon emissions by 2050.</p> <p>Time horizon: Short-term, medium-term, and long-term</p> |
|--|--|--|

### C3.1e

**(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

|       | Financial planning elements that have been influenced | Description of influence  |
|-------|---|---|
| Row 1 | Capital expenditures                                  | <p>Our strategy to address the risks and opportunities of climate change includes:</p> <ul style="list-style-type: none"> <li>• Connecting the best supplies to the best markets to maximize transportation efficiency, improve cost-effectiveness and significantly reduce emissions;</li> <li>• Operating our assets efficiently through preventive maintenance and equipment upgrades;</li> <li>• Using data analytics to identify and drive strategic emissions reduction initiatives;</li> <li>• Collaborating with peer companies through key industry initiatives and trade organization involvement to uncover and implement innovative best practices;</li> <li>• Exploring and implementing renewable energy opportunities, including renewable natural gas and solar energy;</li> <li>• Focusing on the use of existing rights of way to reduce deforestation; and</li> <li>• Funding and participating in research related to emissions detection, quantification and reduction technologies.</li> </ul> <p>We incorporate this short- and medium-term strategy into our financial planning. For example, we take into account climate change risks and opportunities when evaluating capital expenditures.</p> <p>For example, Williams implemented a methane emissions reduction initiative in 2019 to identify additional opportunities to reduce greenhouse gas emissions across our Northeast gathering and processing operations. Using the U.S. Environmental Protection Agency reported methane emissions for 2017, it was determined that the best opportunities for methane reduction in the Northeast are equipment modification and replacement at existing facilities. This equipment includes, but is not limited to, pneumatic controller replacements, switching controllers to instrument air, replacement of gas-driven</p> |

|  |  |  |
|--|--|--|
|  |  | <p>pneumatic pumps with electric pumps on dehydrator skids and installing more efficient burner units in dehydrator systems. Williams worked to prioritize opportunities with the highest potential to reduce emissions in a strategic and targeted manner to manage costs and maximize outcomes. Williams invested an estimated \$475,000 in the initiative, resulting in a 26% reduction in predicted methane emissions for the year 2020 compared to 2017 — the equivalent of taking more than 14,300 cars off the road each year.</p> <p>In addition, Williams submitted a proposal to the Federal Energy Regulatory Commission to execute a voluntary Transco Emissions Reduction Program. Transco is a 10,200-mile interstate natural gas transmission pipeline system, extending from South Texas to New York City. The Transco Pipeline system is a major provider of natural gas to the Northeastern and Southeastern states. Compressor stations help move gas along the Gulf Coast and to 12 Southeastern and Atlantic seaboard states, including supplying natural gas to major metropolitan areas in New York, New Jersey and Pennsylvania. While we have not yet reached agreement with shippers for the program, we are committed to engaging customers to come up with a solution that satisfies all interested stakeholders. If approved, the Transco Emissions Reduction Program will significantly reduce key air pollutants, particularly methane emitted from compressor stations along the Transco Pipeline system. We anticipate an 82% reduction in methane emissions from the compressor units.</p> |
|--|--|--|

### C3.1f

**(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

We work to keep our costs competitive while reducing emissions. Our environmental specialists and operations managers help develop and implement initiatives to mitigate greenhouse gas emissions at our compressor stations, processing plants and storage facilities. Examples include conducting leak detection and repair assessments, installing electric motors on compressors and installing emission combustion devices. Our strategy for addressing the risks and opportunities of climate change includes:

- Connecting the best supplies to the best markets so that our products are traveling shorter distances, improving cost-effectiveness and significantly reducing our emissions;
- Operating our assets efficiently through proper maintenance and equipment upgrades;
- Using data to identify and drive the most common sense emissions reduction initiatives;
- Collaborating on best practices through voluntary programs and trade organizations;
- Exploring renewable energy opportunities, including renewable natural gas and solar energy; and
- Funding and participating in research related to emissions detection, quantification and reduction technologies.

Williams is committed to providing the infrastructure that safely delivers natural gas to reliably fuel the clean energy economy. Our natural gas focused strategy provides a practical and immediate path to reduce emissions, support the viability of renewable energy and grow a clean energy economy — with solutions we can execute on today. We have set a near-term goal of 56% absolute reduction from 2005 levels in company-wide greenhouse gas emissions by 2030 on our path to net zero carbon emissions by 2050. As a midstream industry leader, we believe we can successfully sustain and evolve our business as the world moves to a low carbon future, while also helping our customers meet state-level and company-driven climate goals. We will continue to invest in responsible environmental stewardship and reduce our carbon footprint while meeting the clean energy needs of our communities and delivering long-term value to our stakeholders. Achievement of our reduction goals will be dependent on many factors, including natural gas prices and the pace and extent of improvements in energy technology.

## C4. Targets and performance

### C4.1

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Intensity target

### C4.1b

**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

---

**Target reference number**

Int 1

**Year target was set**

2019

**Target coverage**

Other, please specify

Gathering and Boosting

**Scope(s) (or Scope 3 category)**

Scope 1

**Intensity metric**

Other, please specify

All U.S. natural gas production

**Base year**

2012

**Intensity figure in base year (metric tons CO<sub>2</sub>e per unit of activity)**

0.09

**% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

100

**Target year**

2025

**Targeted reduction from base year (%)**

11

**Intensity figure in target year (metric tons CO<sub>2</sub>e per unit of activity) [auto-calculated]**

0.0801

**% change anticipated in absolute Scope 1+2 emissions**

0

**% change anticipated in absolute Scope 3 emissions**

0

**Intensity figure in reporting year (metric tons CO<sub>2</sub>e per unit of activity)**

0.035

**% of target achieved [auto-calculated]**

555.5555555556

**Target status in reporting year**

Underway

**Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

**Please explain (including target coverage)**

In 2019, Williams joined Our Nation's Energy Future Coalition, Inc. (ONE Future), a group of natural gas companies voluntarily working to reduce methane emissions by identifying policy and technical solutions that better manage emissions associated with the production, processing, transmission and distribution of natural gas. ONE Future members set a goal to reduce collective methane emissions in the natural gas supply chain to 1% by 2025. Williams has committed to the ONE Future 2025 methane intensity goals for industry sectors of 0.08% for Gathering and Boosting, 0.11% for Processing, and 0.31% for Transmission and Storage. Williams is exceeding anticipated progress toward the ONE Future greenhouse gas reduction goals. In 2019, Williams' gathering and boosting intensity was 78% below the 2025 target.

As a midstream industry leader, we believe we can successfully sustain and evolve our business as the world moves to a low carbon future, while also helping our customers



meet their state level and company climate goals. We will continue to invest in responsible environmental stewardship and reduce our carbon footprint while meeting the clean energy needs of our communities and delivering long-term value to our stakeholders. We have set a near-term goal of 56% absolute reduction from 2005 levels in company-wide greenhouse gas emissions by 2030 on our path to net zero carbon emissions by 2050. Achievement of our reduction goals will be dependent on many factors, including natural gas prices and the pace and extent of improvements in energy technology.

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**Target reference number**

Int 2

**Year target was set**

2019

**Target coverage**

Other, please specify  
Processing

**Scope(s) (or Scope 3 category)**

Scope 1

**Intensity metric**

Other, please specify  
All US natural gas production

**Base year**

2012

**Intensity figure in base year (metric tons CO<sub>2</sub>e per unit of activity)**

0.19

**% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

100

**Target year**

2025

**Targeted reduction from base year (%)**

5

**Intensity figure in target year (metric tons CO<sub>2</sub>e per unit of activity) [auto-calculated]**

0.1805

**% change anticipated in absolute Scope 1+2 emissions**

0

**% change anticipated in absolute Scope 3 emissions**

0

**Intensity figure in reporting year (metric tons CO2e per unit of activity)**

0.017

**% of target achieved [auto-calculated]**

1,821.052631579

**Target status in reporting year**

Underway

**Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

**Please explain (including target coverage)**

In 2019, Williams joined Our Nation's Energy Future Coalition, Inc. (ONE Future), a group of natural gas companies voluntarily working to reduce methane emissions by identifying policy and technical solutions that better manage emissions associated with the production, processing, transmission and distribution of natural gas. ONE Future members set a goal to reduce collective methane emissions in the natural gas supply chain to 1% by 2025. Williams has committed to the ONE Future 2025 methane intensity goals for industry sectors of 0.08% for Gathering and Boosting, 0.11% for Processing, and 0.31% for Transmission and Storage. Williams is exceeding anticipated progress toward the ONE Future greenhouse gas reduction goals. In 2019, Williams' transmission and storage intensity was 163% below the 2025 target.

As a midstream industry leader, we believe we can successfully sustain and evolve our business as the world moves to a low carbon future, while also helping our customers meet their state level and company climate goals. We will continue to invest in responsible environmental stewardship and reduce our carbon footprint while meeting the clean energy needs of our communities and delivering long-term value to our stakeholders. We have set a near-term goal of 56% absolute reduction from 2005 levels in company-wide greenhouse gas emissions by 2030 on our path to net zero carbon emissions by 2050. Achievement of our reduction goals will be dependent on many factors, including natural gas prices and the pace and extent of improvements in energy technology.

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**Target reference number**

Int 3

**Year target was set**

2019

**Target coverage**

Other, please specify

Transmission and Storage

**Scope(s) (or Scope 3 category)**

Scope 1

**Intensity metric**

Other, please specify  
All US natural gas production

**Base year**

2012

**Intensity figure in base year (metric tons CO<sub>2</sub>e per unit of activity)**

0.44

**% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

100

**Target year**

2025

**Targeted reduction from base year (%)**

30

**Intensity figure in target year (metric tons CO<sub>2</sub>e per unit of activity) [auto-calculated]**

0.308

**% change anticipated in absolute Scope 1+2 emissions**

0

**% change anticipated in absolute Scope 3 emissions**

0

**Intensity figure in reporting year (metric tons CO<sub>2</sub>e per unit of activity)**

0.032

**% of target achieved [auto-calculated]**

309.0909090909

**Target status in reporting year**

Underway

**Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

**Please explain (including target coverage)**

In 2019, Williams joined Our Nation's Energy Future Coalition, Inc. (ONE Future), a group of natural gas companies voluntarily working to reduce methane emissions by identifying policy and technical solutions that better manage emissions associated with the production, processing, transmission and distribution of natural gas. ONE Future

members set a goal to reduce collective methane emissions in the natural gas supply chain to 1% by 2025. Williams has committed to the ONE Future 2025 methane intensity goals for industry sectors of 0.08% for Gathering and Boosting, 0.11% for Processing, and 0.31% for Transmission and Storage. Williams is exceeding anticipated progress toward the ONE Future greenhouse gas reduction goals. In 2019, Williams' transmission and storage intensity was 163% below the 2025 target.

As a midstream industry leader, we believe we can successfully sustain and evolve our business as the world moves to a low carbon future, while also helping our customers meet their state level and company climate goals. We will continue to invest in responsible environmental stewardship and reduce our carbon footprint while meeting the clean energy needs of our communities and delivering long-term value to our stakeholders. We have set a near-term goal of 56% absolute reduction from 2005 levels in company-wide greenhouse gas emissions by 2030 on our path to net zero carbon emissions by 2050. Achievement of our reduction goals will be dependent on many factors, including natural gas prices and the pace and extent of improvements in energy technology.

## C4.2

**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

Other climate-related target(s)

## C4.2b

**(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.**

---

**Target reference number**

Oth 1

**Year target was set**

2018

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: category & Metric (target numerator if reporting an intensity target)**

Resource consumption or efficiency

Other, please specify

Reportable air releases

**Target denominator (intensity targets only)**

**Base year**

2018

**Figure or percentage in base year**

48

**Target year**

2019

**Figure or percentage in target year**

23

**Figure or percentage in reporting year**

23

**% of target achieved [auto-calculated]**

100

**Target status in reporting year**

Achieved

**Is this target part of an emissions target?**

No, this target is not part of an emissions target.

**Is this target part of an overarching initiative?**

No, it's not part of an overarching initiative

**Please explain (including target coverage)**

Williams achieved its goal to reduce reportable air releases by 15% in 2019 from 2018 levels. We have set a new goal to reduce reportable air releases by an additional 10% in 2020. We set a loss of primary containment goal in 2020 to encourage further improvements in spill performance. This goal makes up 5% of our annual incentive program for employees, providing an increased focus on activities that help us meet enterprise safety and environmental commitments.

## **C-OG4.2c**

**(C-OG4.2c) Indicate which targets reported in C4.1a/b incorporate methane emissions, or if you do not have a methane-specific emissions reduction target for your oil and gas activities, please explain why not and forecast how your methane emissions will change over the next five years.**

Each of the targets reported in C4.1a/b are methane-specific emissions reduction targets. As we seek to maximize natural gas resources to meet growing demand, we are working to reduce greenhouse gas emissions from our operations. We have focused our mitigation efforts on specific projects that are meaningful drivers of emissions reductions. In part, due to these efforts we reduced our reported methane emissions from gas processing plants and

transmission compressor stations more than 41% since 2012. Over the same period, the throughput capacity at these facilities increased 40%.

We are also engaging in partnerships with our industry peers. For example, In June 2019, Williams joined Our Nation’s Energy Future (ONE Future) Coalition, a group of natural gas companies committed to voluntarily reduce methane emissions by identifying policy and technical solutions that better manage emissions associated with the production, processing, transmission and distribution of natural gas. ONE Future members set a goal to collectively reduce methane emissions in the natural gas supply chain to 1% by 2025. ONE Future’s members, which include exploration and production companies and pipeline operators, in most of the North American production basins.

We continue to grow the business and expect our emissions intensity will remain the same or decrease, as we continue to connect the best supplies to the best markets.

As a midstream industry leader, we believe we can successfully sustain and evolve our business as the world moves to a low carbon future, while also helping our customers meet their state level and company climate goals. We will continue to invest in responsible environmental stewardship and reduce our carbon footprint while meeting the clean energy needs of our communities and delivering long-term value to our stakeholders. We have set a near-term goal of 56% absolute reduction from 2005 levels in company-wide greenhouse gas emissions by 2030 on our path to net zero carbon emissions by 2050. Achievement of our reduction goals will be dependent on many factors, including natural gas prices and the pace and extent of improvements in energy technology.

### C4.3

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

### C4.3a

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

|                           | Number of initiatives | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---------------------------|-----------------------|--|
| Under investigation       | 0                     | 0  |
| To be implemented*        | 0                     | 0  |
| Implementation commenced* | 1                     | 47,270   |
| Implemented*              | 1                     | 760,000  |
| Not to be implemented     | 0                     | 0  |

## C4.3b

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

---

**Initiative category & Initiative type**

**Estimated annual CO2e savings (metric tonnes CO2e)**

760,000

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

3,300,000

**Investment required (unit currency – as specified in C0.4)**

2,700,000

**Payback period**

<1 year

**Estimated lifetime of the initiative**

1-2 years

**Comment**

In 2019, Williams implemented recompression activities during planned maintenance outages for an estimated 760,000 metric tons CO2e reduction in emissions that would have been vented. The cost was \$2.7 million USD, and estimate cost savings using the value of gas recovered at \$2/MMbtu was \$3.3 million USD.

## C4.3c

**(C4.3c) What methods do you use to drive investment in emissions reduction activities?**

| Method  | Comment   |
|---|---|
| Compliance with regulatory requirements/standards | Diligent compliance with environmental and regulatory requirements is vital to managing our environmental impacts. The Williams Integrated Management System provides Williams-specific guidelines and policies for employees to follow, including compliance regulations and industry standards. |

|  |   |
|--|---|
|  | <p>Our Williams Integrated Management System includes requirements for monitoring greenhouse gas (GHG) emissions and complying with federal reporting requirements. We prepare and submit an annual GHG emissions inventory to the U.S. Environmental Protection Agency for our midstream gathering, natural gas processing and interstate transmission and storage operations. We also track and report Scope 1 and Scope 2 emissions data in accordance with the Greenhouse Gas Protocol. Scope 1 emissions are those that come from operating our assets. Scope 2 emissions include indirect sources, such as the purchase of electricity to power compressor stations.</p> <p>Accurately tracking GHG emissions with measurable data enables us to identify opportunities to reduce energy consumption and increase operational efficiency.</p> |
| <p>Dedicated budget for other emissions reduction activities</p> | <p>Williams implemented a methane emissions reduction initiative in 2019 to identify additional opportunities to reduce greenhouse gas emissions across our Northeast gathering and processing operations. Williams invested an estimated \$475,000 in the initiative, resulting in a 26% reduction in predicted methane emissions for the year 2020 compared to 2017 — the equivalent of taking more than 14,300 cars off the road each year. As part of the initiative, Williams worked to prioritize opportunities with the highest potential to reduce emissions in strategic and targeted manner to manage costs and maximize outcomes. After careful evaluation of opportunities, emissions reduction measures thus far have included pneumatic device modifications, data validation efforts and burner upgrades.</p>                        |

## C4.5

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

## C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

---

**Level of aggregation**

Product

**Description of product/Group of products**



We recognize the important role natural gas can play in helping to address environmental climate change when it comes to displacing other higher-emission fuels with solutions we can execute on today. According to the U.S. Energy Information Administration, between 2005 and 2017, greenhouse gas emissions from the electric sector declined 28%. More than 60% of this total was attributed to natural gas replacing coal and oil based generation resources.

Natural gas is a flexible, lower-emission fuel compared to other hydrocarbons such as coal or heating oil. Because the United States has an abundant supply of natural gas, using this local resource can help reduce the country's demand for foreign energy sources, create jobs and reduce emissions. Natural gas emits up to 60% fewer greenhouse gas emissions than coal. Natural gas is also the ideal partner for renewable energy sources like wind and solar power since it can quickly provide power when renewable energy sources are not available. This complementary role is the key to adding more renewable energy at scale to the power grid.

The growth of natural gas-fired generation will create continued environmental benefit by reducing carbon dioxide emissions from the power generation sector. For example, in 2019, Williams successfully placed its Gateway Expansion Project into service — approximately 11 months ahead of schedule — to meet growing natural gas demand for New Jersey tri-state area consumers in time for the 2019-2020 winter heating season. The project provides gas supply capacity to meet the daily home heating, hot water and cooking needs of about 280,000 homes. This is equivalent to removing approximately 590,000 metric tons per year of greenhouse gas emissions as a result of converting heating oil to natural gas.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify

EIA US Energy Information Administration

**% revenue from low carbon product(s) in the reporting year**

100

**Comment**

## C-OG4.6

**(C-OG4.6) Describe your organization's efforts to reduce methane emissions from your activities.**

Methane made up an estimated 15% of our assets' greenhouse gas emissions profile in 2019, and we pay particular attention to reducing methane emissions. We employ several mechanisms to continuously minimize methane emissions from our interstate natural gas

transmission and storage operations that focus on reductions from pipeline blowdowns, pneumatic controllers, compressor packing and leaking components. Williams' operating areas are actively purchasing and installing equipment to reduce methane emissions where opportunities are identified. Examples include replacing higher bleeding pneumatic controllers with low bleed controllers, and replacing gas pneumatic pumps with non-emitting electric pumps on dehydrator systems.

Williams has been a member of the U.S. Environmental Protection Agency Natural Gas Star program since 1993, participating in a voluntary partnership that encourages oil and natural gas companies to adopt cost-effective technologies and practices that improve operational efficiency and reduce methane emissions. We successfully implemented and reported pressure-reduction using recompression to lower gas line pressure before pipeline maintenance. In 2019, when using recompression, pipeline blowdown greenhouse gas emissions were reduced by 87%. These measures help reduce methane emissions and make more natural gas available for sale.

Williams participates in trade organizations to collaboratively identify and promote best industry management practices for reducing methane emissions. These organizations include the Interstate Natural Gas Association of America (INGAA), the American Petroleum Institute (API), Our Nation's Energy Future Coalition, Inc.(ONE Future), and the GPA Midstream Association. In 2019, Williams joined the API Environmental Partnership, which provides a forum for participants to share information and analyze best practices and technological breakthroughs aimed at responsibly developing natural gas and oil resources. The partnership represents a growing coalition of U.S. production, processing and transmission companies responsible for meeting the nation's growing demand for low cost energy. Participating companies are committed to improving environmental performance by accelerating methane emissions reductions from key emissions sources. Williams is also a signatory of the INGAA's Methane Emissions Commitment which includes performing leak surveys at all transmission and storage compressor stations by 2022, and implementing methane reduction activities, where feasible.

## C-OG4.7

**(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?**

Yes

## C-OG4.7a

**(C-OG4.7a) Describe the protocol through which methane leak detection and repair or other leak detection methods, are conducted for oil and gas production activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.**

We operate more than 30,000 miles of pipeline across 24 U.S. states and offshore in the Gulf of Mexico. Williams regularly completes integrity assessments of pipelines and repairs of identified defects. We monitor pipelines for flow, pressure, temperature and other factors

through our dedicated control centers, which include automated system response to potential leak conditions. Technologies such as infrared, acoustic and lasers are also used to facilitate leak detection. We train pipeline control specialists to recognize abnormal conditions that could be the result of a pipeline leak and how to respond to potential leaks.

Williams is a signatory of Interstate Natural Gas Association of America's Methane Emissions Commitment to implement methane reduction activities and perform leak surveys at all transmission and storage compressor stations by 2022. In 2020, we implemented a formalized leak detection and repair program to enhance how we mitigate unintended releases from transmission and storage equipment and measure associated success. The Williams Voluntary Leak Detection and Repair Program (WillDAR) is the voluntary standard applicable to Williams' compressor stations. WillDAR consists of detecting methane leaks with an optical gas imaging camera and repairing those leaks within 30 days. In 2020, we will conduct annual WillDAR leak surveys along our Eastern Interstates and Northwest Pipelines.

Williams has also sponsored and participated in five Colorado State University and U.S. Department of Energy methane emissions studies, and has attended workshops on next generation leak detection and repair strategies. Williams continues to support Colorado State University's Methane Emissions Technology Evaluation Center and fund greenhouse gas emissions reduction projects at Pipeline Research Council International.

## C-OG4.8

**(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.**

We do not have production activities, therefore flaring from our midstream facilities is not relevant. However, Williams works to help reduce flaring from upstream producers. For example, Williams filed a lawsuit in Travis County, Texas in 2019 challenging the Railroad Commission's decision to allow Exco Operating Co. LP to burn off gas at 130 oil wells in South Texas. Despite the fact that Williams operates a gathering system that connects to those wells and could have transported that gas to market, the Railroad Commission authorized the flaring because it wasn't profitable for Exco to sell the gas. Williams believes the recent pattern of approving every flaring permit contradicts a long-standing tradition at the agency of frequently prohibiting flaring. Flaring permits have increased by 44% over the past decade — from 158 approved in fiscal 2009 to nearly 7,000 approved in the latest fiscal year, resulting in increased greenhouse gas emissions. Limiting flaring permits regardless of economic conditions will help prevent unnecessary flaring emissions.

## C5. Emissions methodology

### C5.1

**(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

#### Scope 1

---

**Base year start**

January 1, 2018

**Base year end**

December 31, 2018

**Base year emissions (metric tons CO2e)**

10,713,000

**Comment**

Emissions have been restated.

**Scope 2 (location-based)**

---

**Base year start**

January 1, 2018

**Base year end**

December 31, 2018

**Base year emissions (metric tons CO2e)**

1,096,000

**Comment**

**Scope 2 (market-based)**

---

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

## **C5.2**

**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**

The Greenhouse Gas Protocol: Public Sector Standard

US EPA Mandatory Greenhouse Gas Reporting Rule

Other, please specify

Methane Emissions Estimation Protocol ONE Future

## C5.2a

### (C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

To estimate methane emission intensity figures for our business activities, Williams uses the ONE Future Methane Emissions Estimation Protocol. All ONE Future companies are intended to use this Methane Emissions Estimation Protocol to quantify and report their methane emissions intensity. This protocol also defines the means by which participating companies will estimate their average emissions intensity and compare it to segment targets and the national goal of 1% emission intensity. To minimize reporting burdens and provide consistent and transparent reporting, this protocol relies in large part on existing U.S. Environmental Protection Agency estimation and reporting mechanisms — principally the U.S. Environmental Protection Agency's Greenhouse Gas Reporting Program and Inventory of U.S. Greenhouse Gas Emissions and Sinks.

## C6. Emissions data

### C6.1

#### (C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO<sub>2</sub>e?

##### Reporting year

---

##### Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)

11,174,000

##### Start date

January 1, 2019

##### End date

December 31, 2019

##### Comment

The consolidation approach is operational control and includes CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. Emissions are calculated using the U.S. Environmental Protection Agency (EPA) Mandatory Greenhouse Gas Reporting Rule methodology for all assets that Williams owned and operated for the full calendar year. They do not include sources of Scope 1 greenhouse gas emissions from office buildings and company vehicles.

##### Past year 1

---

##### Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)

10,713,000

##### Start date

January 1, 2018

**End date**

December 31, 2018

**Comment**

The consolidation approach is operational control and includes CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. Emissions are calculated using the U.S. EPA Mandatory Greenhouse Gas Reporting Rule methodology for all assets that Williams owned and operated for the full calendar year. They do not include sources of Scope 1 greenhouse gas emissions from office buildings and company vehicles.

## C6.2

**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

**Row 1**

---

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

**Comment**

## C6.3

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?**

**Reporting year**

---

**Scope 2, location-based**

1,473,000

**Start date**

January 1, 2019

**End date**

December 31, 2019

**Comment**

The consolidation approach is operational control. Emissions were calculated using U.S. Environmental Protection Agency (EPA) Power Profiler Emissions Tool 2018v2, using emission factors from U.S. EPA eGRID2018v2 multiplied by kWh energy use for all assets that Williams owns and operates. Corporate building energy use is excluded.

**Past year 1**

---

**Scope 2, location-based**

1,096,000

**Start date**

January 1, 2018

**End date**

December 31, 2018

**Comment**

The consolidation approach is operational control. Emissions were calculated using U.S. EPA Power Profiler Emissions Tool 2016, using emission factors from U.S. EPA eGRID2016 multiplied by kWh energy use for all assets that Williams owns and operates. Corporate building energy use is excluded.

## C6.4

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

Yes

### C6.4a

**(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

---

**Source**

Company vehicles

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

Emissions are not relevant

**Explain why this source is excluded**

Williams has a fleet of company vehicles that generate approximately 37,000 metric tons of greenhouse gas emissions annually. These emissions are estimated to represent less than 1% of our overall Scope 1 and 2 emissions footprint and are considered de minimis.

---

**Source**

Office buildings

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

Emissions are not relevant

**Explain why this source is excluded**

Williams has four leased or owned corporate offices that are not included in our Scope 1 and 2 emissions footprint. Total energy purchased energy emissions are approximately 11,600 metric tons CO<sub>2</sub>e annually. These emissions are estimated to represent less than 1% of our overall Scope 1 and 2 emissions footprint and are considered de minimis.

---

**Source**

Offshore

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

Emissions are not relevant

**Explain why this source is excluded**

Williams has a few offshore few gathering platforms that are generating fugitive emissions. These emissions are estimated to represent less than 1% of our overall Scope 1 and 2 emissions footprint and are considered de minimis.

## C6.5

**(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.**

**Purchased goods and services**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**



Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of waste generated in operations. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions.

## Capital goods

---

### Evaluation status

Not evaluated

### Please explain

We have not evaluated our Scope 3 greenhouse gas emissions and thus are unable to evaluate if this will be a significant source of Scope 3 greenhouse gas emissions.

## Fuel-and-energy-related activities (not included in Scope 1 or 2)

---

### Evaluation status

Relevant, not yet calculated

### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, gas and natural gas liquids products are transferred by third party truck, rail, and pipeline systems. We estimate that upstream transportation and distribution will be a significant source of Scope 3 greenhouse gas emissions.

## Upstream transportation and distribution

---

### Evaluation status

Not relevant, explanation provided

### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of waste generated in operations. Therefore, we estimate these emissions to be zero (0).

## Waste generated in operations

---

### Evaluation status

Not relevant, explanation provided

### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of waste generated in operations. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions.

## Business travel

---

### **Evaluation status**

Not relevant, explanation provided

### **Please explain**

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, the emissions from business travel are proportionally small. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions. Business travel emissions for 2019 were less than 21,254 metric tons of CO<sub>2</sub>e total, using the distance-based method calculation. Emission factor for miles driven for business reasons outside of regular employee commuting (personal, rental, and fleet vehicles) is the EPA March 2018 emission factor of .404 kg CO<sub>2</sub> per mile for a typical passenger vehicle, and the emission factor for airline miles flown used was .217 kg CO<sub>2</sub>/ mi per passenger from carbonfund.org. Hotel stays were calculated at a rate of 15.13 kg CO<sub>2</sub>e/room day, also sourced from carbonfund.org.

---

## **Employee commuting**

### **Evaluation status**

Not relevant, explanation provided

### **Please explain**

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of emissions from employee commuting. Employee commuting is less than 27,884 metric tons CO<sub>2</sub>e per year, using the U.S. Environmental Protection Agency March 2018 emission factor of .404 kg CO<sub>2</sub> per mile for a typical passenger vehicle, and assuming a 30 mile one way commute for each of Williams' 4,793 employees in 2019.

---

## **Upstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Please explain**

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of emissions from upstream leased assets. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions.

---

## **Downstream transportation and distribution**

### **Evaluation status**

Not relevant, explanation provided

### **Please explain**

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of waste generated in operations. Therefore, we estimate these emissions to be zero (0).

### Processing of sold products

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of emissions from processing of sold products.

### Use of sold products

---

#### Evaluation status

Relevant, not yet calculated

#### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we anticipate that the use of sold products will be a significant source of Scope 3 greenhouse gas emissions.

### End of life treatment of sold products

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we do not have end of life treatment of sold products. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions and we estimate the emissions to be zero (0).

### Downstream leased assets

---

#### Evaluation status

Not relevant, explanation provided

#### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we have proportionally small amounts of emissions from downstream leased assets. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions.

## Franchises

---

### Evaluation status

Not relevant, explanation provided

### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we do not have franchises. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions and we estimate the emissions to be zero (0).

## Investments

---

### Evaluation status

Not evaluated

### Please explain

We have not evaluated our Scope 3 emissions and thus are unable to determine if this will be a significant source of Scope 3 greenhouse gas emissions.

## Other (upstream)

---

### Evaluation status

Not relevant, explanation provided

### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we do not have other (upstream) emissions. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions and we estimate the emissions to be zero (0).

## Other (downstream)

---

### Evaluation status

Not relevant, explanation provided

### Please explain

Since we have operations across the natural gas value chain, including gathering, processing, interstate transportation and storage of natural gas and natural gas liquids, we do not have other (downstream) emissions. Therefore, we do not anticipate this being a material source of Scope 3 greenhouse gas emissions and we estimate the emissions to be zero (0).

## C6.7

**(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**

No

## C6.10

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

---

**Intensity figure**

0.001542

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

12,647,000

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

8,201,000,000

**Scope 2 figure used**

Location-based

**% change from previous year**

7

**Direction of change**

Increased

**Reason for change**

When gross revenue is used as the denominator in the intensity metric, emissions intensity can be distorted. This does not provide an equivalent comparison. In our sector, some companies have a higher proportion of commodity sales in reported revenue which makes the total revenue number higher. For Williams, approximately 97% of 2019 estimated Gross Margin is from Fee-based Sources, so we only have a small amount of commodity sales to boost our revenue numbers. Additionally, our year over year revenue decreased by 5.6% even as our operations increased. Given this issue, the Scope 1 greenhouse gas emissions intensity (Scope 1 CO<sub>2</sub>e/MMcf) is the most relevant metric for comparison. This metric is provided below.

## C-OG6.12

**(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO<sub>2</sub>e) per unit of hydrocarbon category.**

---

**Unit of hydrocarbon category (denominator)**

Million cubic feet of natural gas

**Metric tons CO<sub>2</sub>e from hydrocarbon category per unit specified**

1.04

**% change from previous year**

2

**Direction of change**

Decreased

**Reason for change**

Williams transported 695,000 million cubic feet more of gas in 2019 than 2018, decreasing the Scope 1 greenhouse gas emissions intensity. Reduction activities resulting in 885 tons of methane were achieved in the Northeast Methane Reduction Program by replacing higher emitting methane equipment. This reduction in hydrocarbons emitted along with the increase of unit of hydrocarbon drove this reduction in intensity from 2018 to 2019.

**Comment**

## C-OG6.13

**(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.**

---

**Oil and gas business division**

Midstream

**Estimated total methane emitted expressed as % of natural gas production or throughput at given division**

0.016

**Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division**

6.3

**Comment**

Methane emissions in metric tons CH<sub>4</sub> divided by throughput in million standard cubic feet x 100. Methane molecules may be processed or moved twice, double counting is not accounted for in this metric. Please see ONE Future segment intensities. Liquids throughput + gas throughput = total hydrocarbons.

## C7. Emissions breakdowns

### C7.1

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

Yes

### C7.1a

**(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

| Greenhouse gas | Scope 1 emissions (metric tons of CO2e) | GWP Reference                                  |
|----------------|---|--|
| CO2            | 9,470,000                               | IPCC Fourth Assessment Report (AR4 - 100 year) |
| CH4            | 1,700,000                               | IPCC Fourth Assessment Report (AR4 - 100 year) |
| N2O            | 4,800                                   | IPCC Fourth Assessment Report (AR4 - 100 year) |

### C-OG7.1b

**(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.**

**Emissions category**

Combustion (excluding flaring)

**Value chain**

Midstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

8,353,290

**Gross Scope 1 methane emissions (metric tons CH4)**

2,385

**Total gross Scope 1 emissions (metric tons CO2e)**

8,417,530

**Comment**

Emissions are calculated using the U.S. Environmental Protection Agency Greenhouse Gas Reporting Program methodology.

---

**Emissions category**

Flaring

**Value chain**

Midstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

266,926

**Gross Scope 1 methane emissions (metric tons CH4)**

1,174

**Total gross Scope 1 emissions (metric tons CO2e)**

296,286

**Comment**

Emissions are calculated using the U.S. Environmental Protection Agency Greenhouse Gas Reporting Program methodology.

---

**Emissions category**

Venting

**Value chain**

Midstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

602

**Gross Scope 1 methane emissions (metric tons CH4)**

22,629

**Total gross Scope 1 emissions (metric tons CO2e)**

566,329

**Comment**

Emissions from blowdowns are calculated using the U.S. Environmental Protection Agency Greenhouse Gas Report Program and ONE Future calculation methodologies.



---

**Emissions category**

Fugitives

**Value chain**

Midstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

344

**Gross Scope 1 methane emissions (metric tons CH4)**

11,961

**Total gross Scope 1 emissions (metric tons CO2e)**

299,401

**Comment**

---

**Emissions category**

Other (please specify)

Emissions from pneumatic devices, pneumatic pumps, storage tanks, and compressor venting.

**Value chain**

Midstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

5,304

**Gross Scope 1 methane emissions (metric tons CH4)**

32,149

**Total gross Scope 1 emissions (metric tons CO2e)**

809,039

**Comment**

Emissions are calculated using U.S. Environmental Protection Agency Greenhouse Gas Reporting Program methodology.

**Emissions category**

Process (feedstock) emissions

**Value chain**

Midstream

**Product**

Gas

**Gross Scope 1 CO2 emissions (metric tons CO2)**

840,656

**Gross Scope 1 methane emissions (metric tons CH4)**

5,329

**Total gross Scope 1 emissions (metric tons CO2e)**

973,890

**Comment**

## C7.2

**(C7.2) Break down your total gross global Scope 1 emissions by country/region.**

| Country/Region       | Scope 1 emissions (metric tons CO2e) |
|----------------------|--------------------------------------|
| North America        | 11,174,000                           |
| Gulf of Mexico (GOM) | 0                                    |

## C7.3

**(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**

By activity

### C7.3c

**(C7.3c) Break down your total gross global Scope 1 emissions by business activity.**

| Activity                 | Scope 1 emissions (metric tons CO2e) |
|--------------------------|--------------------------------------|
| Gathering and Boosting   | 4,609,687                            |
| Processing               | 3,232,273                            |
| Transmission and Storage | 3,332,476                            |

## C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO<sub>2</sub>e.

|  | Gross Scope 1 emissions, metric tons CO <sub>2</sub> e | Comment                             |
|--|--|-------------------------------------|
| Oil and gas production activities (upstream)   | 0  |                                     |
| Oil and gas production activities (midstream)  | 11,174,000   | All Scope 1 emissions are midstream |
| Oil and gas production activities (downstream) | 0  |                                     |

## C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

| Country/Region | Scope 2, location-based (metric tons CO <sub>2</sub> e) | Scope 2, market-based (metric tons CO <sub>2</sub> e) | Purchased and consumed electricity, heat, steam or cooling (MWh) | Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh) |
|----------------|---|---|--|--|
| North America  | 1,473,000   | 0   | 3,233,000  | 0  |

## C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

### C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

| Activity                                      | Scope 2, location-based (metric tons CO <sub>2</sub> e) | Scope 2, market-based (metric tons CO <sub>2</sub> e) |
|---|---|---|
| Electric Power for Compression and Processing | 1,473,000   | 0   |

## C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO<sub>2</sub>e.

|  | Scope 2, location-based, metric tons CO <sub>2</sub> e | Scope 2, market-based (if applicable), metric tons CO <sub>2</sub> e | Comment   |
|--|--|--|---|
| Oil and gas production activities (upstream)   | 0  | 0  |   |
| Oil and gas production activities (midstream)  | 1,473,000  | 0  | Williams is a midstream company, with assets in gathering, processing and transmission. |
| Oil and gas production activities (downstream) | 0  | 0  |   |

### C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

### C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

|  | Change in emissions (metric tons CO <sub>2</sub> e) | Direction of change | Emissions value (percentage) | Please explain calculation  |
|--|---|---------------------|------------------------------|---|
| Change in renewable energy consumption | 0   | No change           | 0                            | Williams is not currently tracking renewable energy usage.  |
| Other emissions                        | 22,125  | Decreased           | 0.2                          | Williams implemented a Northeast Methane Reduction Program to reduce methane emissions through burner upgrades and equipment change outs. |

|   |         |           |     |  |
|---|---------|-----------|-----|--|
| reduction activities                    |         |           |     | Our total Scope 1 and Scope 2 greenhouse gas emissions in the previous year were 11.8 million metric tons CO <sub>2</sub> e, therefore we arrived at 0.2% through $(22,125/11,800,000) * 100 = 0.2\%$ (i.e. a 0.2% decrease in emissions).   |
| Divestment                              | 0       | No change | 0   | Several compressor stations were divested in 2019, resulting in a non-material decrease in emissions.  |
| Acquisitions                            | 114,000 | Increased | 1   | Williams acquired Utica East Ohio plants in Ohio. Last year 114,000 metric tons of CO <sub>2</sub> e were increased by our acquisition activities. Our total Scope 1 and Scope 2 greenhouse gas emissions in the previous year were 11.8 million metric tons CO <sub>2</sub> e, therefore we arrived at 1% through $(114,000/11,800,000) * 100 = 1\%$ (i.e. a 1% increase in emissions). |
| Mergers                                 | 0       | No change | 0   | No mergers occurred in the reporting year that resulted in a change in emissions.  |
| Change in output                        | 713,000 | Increased | 6   | The changes in output are reflected in the changes in fuel consumption. Our total Scope 1 and Scope 2 greenhouse gas emissions in the previous year were 11.8 million metric tons CO <sub>2</sub> e, therefore we arrived at 6% through $(713,000/11,800,000) * 100 = 6\%$ (i.e. a 6% increase in emissions).  |
| Change in methodology                   | 0       | No change | 0   | There are no changes in the calculation methodology between 2018 and 2019.   |
| Change in boundary                      | 0       | No change | 0   | There are no changes in the boundary between 2018 and 2019.  |
| Change in physical operating conditions | 0       | No change | 0   | There are no changes in the physical operating conditions between 2018 and 2019.   |
| Unidentified                            | 37,000  | Decreased | 0.3 | Our total Scope 1 and Scope 2 greenhouse gas emissions in the previous year were 11.8 million metric tons CO <sub>2</sub> e, therefore we arrived at 0.3% through $(34,000/11,800,000) * 100 = 0.3\%$ (i.e. a 0.3% increase in emissions).   |

|       |   |           |   |   |
|-------|---|-----------|---|---|
| Other | 0 | No change | 0 | There are no other changes between 2018 and 2019. |
|-------|---|-----------|---|---|

## C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based

## C8. Energy

### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 10% but less than or equal to 15%

### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

|  | Indicate whether your organization undertook this energy-related activity in the reporting year |
|--|---|
| Consumption of fuel (excluding feedstocks)         | Yes   |
| Consumption of purchased or acquired electricity   | Yes   |
| Consumption of purchased or acquired heat          | No  |
| Consumption of purchased or acquired steam         | No  |
| Consumption of purchased or acquired cooling       | No  |
| Generation of electricity, heat, steam, or cooling | No  |

### C8.2a

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

|  | Heating value                   | MWh from renewable sources | MWh from non-renewable sources | Total (renewable and non-renewable) MWh |
|--|---------------------------------|----------------------------|--------------------------------|---|
| Consumption of fuel (excluding feedstock)        | Unable to confirm heating value | 0                          | 44,344,888                     | 44,344,888                              |
| Consumption of purchased or acquired electricity |                                 | 0                          | 3,233,000                      | 3,233,000                               |
| Total energy consumption                         |                                 | 0                          | 47,577,888                     | 47,577,888                              |

## C8.2b

**(C8.2b) Select the applications of your organization’s consumption of fuel.**

|   | Indicate whether your organization undertakes this fuel application |
|---|---|
| Consumption of fuel for the generation of electricity   | Yes   |
| Consumption of fuel for the generation of heat          | No  |
| Consumption of fuel for the generation of steam         | No  |
| Consumption of fuel for the generation of cooling       | No  |
| Consumption of fuel for co-generation or tri-generation | No  |

## C8.2c

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

44,342,835

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**Emission factor**

53.06

**Unit**

kg CO2 per million Btu

**Emissions factor source**

US CFR 40 Part 90

**Comment**

Emissions are calculated per the U.S. Environmental Protection Agency Greenhouse Gas Reporting Program methodology.

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

2,053

**MWh fuel consumed for self-generation of electricity**

2,053

**MWh fuel consumed for self-generation of heat**

0

**Emission factor**

73.96

**Unit**

kg CO2 per million Btu

**Emissions factor source**

US CFR 40 Part 90

**Comment**

Emissions are calculated per the U.S. Environmental Protection Agency Greenhouse Gas Reporting Program methodology.



## C9. Additional metrics

### C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

### C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

|       | Investment in low-carbon R&D | Comment  |
|-------|------------------------------|--|
| Row 1 | Yes                          | Williams participates in Pipeline Research Council, which has a focus area of research on emissions reduction from natural gas pipeline operations. We also participated in U.S. Department of Energy's research efforts to reduce methane emissions, and partnered with Colorado State University to advance methane detection technology. Williams is also a member of the National Petroleum Council, which has funded research and development on carbon capture and storage technology. |

### C-CO9.6a/C-EU9.6a/C-OG9.6a

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

| Technology area                 | Stage of development in the reporting year | Average % of total R&D investment over the last 3 years | R&D investment figure in the reporting year (optional) | Comment  |
|---------------------------------|--|---|--|--|
| Methane detection and reduction | Applied research and development           | 0%  | 0  | Williams is donating technical expertise and equipment to various research organizations to further enhance methane detection technologies. Williams is a partner of METEC, a methane detection pilot facility that is led by Colorado State University, and allows new technology providers to test their |

|   |                                  |         |         |   |
|---|----------------------------------|---------|---------|---|
|   |                                  |         |         | <p>equipment in a controlled, realistic, environment.</p> <p>We also participate in optical gas imaging (OGI) field performance studies to assess the efficacy of OGI in upstream oil and gas applications. The purpose of the field work was to provide a quantitative baseline which can be used to demonstrate equivalency of new leak detection methods with regulatory-approved OGI screening methods. As part of this effort, three camera operators participated in two days of leak simulation and data collection.</p> |
| Other energy efficiency measures in the oil and gas value chain | Applied research and development | ≤20%    | 4,000   | Williams is a member of The Gas Machinery Research Council (GMRC). GMRC focuses research on improving the reliability of compression and compressor efficiency. Research related to reduced maintenance has the potential to yield less blowdowns and therefore less methane emissions.   |
| Infrastructure  | Applied research and development | 81-100% | 213,230 | Williams is a partner of Pipeline Research Council International (PRCI), funding research projects and providing technical expertise to support research and development in pipeline integrity and mechanical reliability.  |

## C10. Verification

### C10.1

**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

|         | Verification/assurance status                          |
|---------|--|
| Scope 1 | Third-party verification or assurance process in place |

|  |  |
|--|--|
| Scope 2 (location-based or market-based) | Third-party verification or assurance process in place |
| Scope 3                                  | No emissions data provided                             |

## C10.1a

**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.**

---

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 ERM CVS 2020 CDP Assurance Statement Williams\_6Aug.pdf

 Williams\_2019SustainabilityReport\_pages.pdf

**Page/ section reference**

Sustainability Report PDF Page 82

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

## C10.1b

**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.**

---

**Scope 2 approach**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 ERM CVS 2020 CDP Assurance Statement Williams\_6Aug.pdf

 Williams\_2019SustainabilityReport\_pages.pdf

**Page/ section reference**

Sustainability Report PDF Page 82

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

100

## C10.2

**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

No, we do not verify any other climate-related information reported in our CDP disclosure

## C11. Carbon pricing

### C11.1

**(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

No, and we do not anticipate being regulated in the next three years

### C11.2

**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

### C11.3

**(C11.3) Does your organization use an internal price on carbon?**

No, but we anticipate doing so in the next two years

## C12. Engagement

### C12.1

#### (C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

### C12.1a

#### (C12.1a) Provide details of your climate-related supplier engagement strategy.

---

##### Type of engagement

Compliance & onboarding

##### Details of engagement

Included climate change in supplier selection / management mechanism

Climate change is integrated into supplier evaluation processes

##### % of suppliers by number

6

##### % total procurement spend (direct and indirect)

5

##### % of supplier-related Scope 3 emissions as reported in C6.5

0

##### Rationale for the coverage of your engagement

Spending with the skid manufacturing suppliers typically goes through a total cost analysis, which includes the cost of transportation to the final project site. Transportation costs alone may not determine the final award decision, but it is considered it as a factor in the bid selection process.

##### Impact of engagement, including measures of success

A shorter distance between the Williams project site and the skid manufacturing facility results in lower Scope 3 greenhouse gas emissions as well as cost savings for Williams.

##### Comment

Williams' supply chain team is responsible for procuring equipment packages for large natural gas infrastructure projects executed by Williams' engineering services team. During the bid evaluation process, the supply chain team considers several important factors for awarding a decision. One of the important factors is the proximity between the supplier and the installation site, which minimizes transportation costs, reduces associated transportation risks and results in lower emissions.

## C12.1b

**(C12.1b) Give details of your climate-related engagement strategy with your customers.**

---

### **Type of engagement**

Education/information sharing

### **Details of engagement**

Other, please specify

We engage with customers on our Transco Emissions Reduction Program. As part of the approval process, Williams engages with customers to discuss the implementation of the program and answers questions related to costs, recovery and compliance.

### **% of customers by number**

50

### **% of customer - related Scope 3 emissions as reported in C6.5**

0

### **Please explain the rationale for selecting this group of customers and scope of engagement**

Williams submitted a proposal to the Federal Energy Regulatory Commission to execute a voluntary Transco Emissions Reduction Program that is designed to significantly reduce key air pollutants, particularly methane emitted from compressor stations along the Transco Pipeline system. To support the approval process, we are engaging with all customers of Williams' Transco Pipeline, which represent an estimated 50% of our total customers.

### **Impact of engagement, including measures of success**

The Transco Emissions Reduction program is a proposed plan to replace more than 170 units with state-of-the-art equipment and emissions control technology over a seven-year period, significantly reducing key air pollutants. Moving the project forward and developing a recovery mechanism that satisfies interested customers is a key measure of success. The impact of this engagement will also help educate customers on the environmental benefits of the Transco Emissions Reduction Program, including those related to emission reductions. The program is projected to achieve a 55% reduction in methane emissions from the updated compressor units.

## C12.1d

**(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.**

One of Williams’ main tools for engaging stakeholder on climate change is the company’s annual Sustainability Report, which provides detailed information regarding our initiatives to reduce greenhouse gas emissions as well as relevant performance metrics. We also provide public information about greenhouse emission reduction practices through voluntary disclosures like the CDP climate change questionnaire. We engage with communities, nongovernmental organizations, industry associations and government entities to conduct collaborative research, listen to different perspectives and share our position related to climate change. Williams maintains ongoing partnerships with industry groups and trade associations, which collectively engage member oil and gas companies in climate-related discussions and identify opportunities to collaborate on strategies and industry commitments. Examples include the Interstate Natural Gas Association of America, GPA Midstream and the American Petroleum Institute. We are also implementing mechanisms for evaluating increased transparency on climate change management in our supply chain. We take stakeholder feedback seriously and work to develop appropriate responses. In recent years, some of Williams’ investors have asked for more insight into our sustainability practices, including those related to climate change. With this feedback in mind, Williams is working to increase transparency related to our practices and performance. In 2019, we engaged several of Williams’ institutional investors regarding our ESG reporting. In response to the feedback we received, we are working to align our reporting with recommendations set by the Task Force on Climate-related Financial Disclosures and Sustainability Accounting Standards Board.

### C12.3

**(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

- Direct engagement with policy makers
- Trade associations
- Funding research organizations

### C12.3a

**(C12.3a) On what issues have you been engaging directly with policy makers?**

| Focus of legislation            | Corporate position | Details of engagement   | Proposed legislative solution   |
|---------------------------------|--------------------|---|---|
| Regulation of methane emissions | Support            | Williams participated in a series of studies championed by the Environmental Defense Fund to better understand methane emissions from the entire U.S. natural gas supply chain. In addition to providing funding for both studies, we also provided requested facility data, hosted measurement crews at our facilities and actively participated | The results of these studies provide greater insight into actual methane emission sources and magnitudes, and highlight the need for updated emission factors standards for the U.S. Environmental Protection Agency greenhouse gas emissions inventory. These new datasets can be used by industry and governing agencies when assessing reduction |

|   |         | on the project’s technical and steering committees.   | targets and potential reduction strategies   |
|---|---------|---|--|
| Other, please specify<br>Regulation of carbon emissions | Support | The National Petroleum Council’s energy infrastructure study, co-chaired by the Chief Executive Officer of Williams Companies, calls on Congress to clarify the National Environmental Protection Act permit process and develop a national climate change policy. In response to the study, bipartisan action was taken by Congress and the Executive Branch, including mechanisms to expedite the permitting process for large infrastructure projects. These actions represent positive steps in the effective regulation of carbon emissions. | The Council made several recommendations to overcome challenges associated with reducing carbon emissions, including clarifying greenhouse gas assessments under the National Environmental Policy Act and enacting a comprehensive national policy to reduce greenhouse gas emissions. Notably, one of the key findings of the study was that even in low-carbon, high-renewable demand scenarios, natural gas will continue to play a leading role in meeting our nation’s energy demand through 2040. |

### C12.3b

**(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

### C12.3c

**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

**Trade association**

Interstate Natural Gas Association of America (INGAA)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association’s position**

Protecting and improving the environment is a top priority for natural gas and pipeline companies. INGAA’s members deliver clean, abundant and affordable natural gas throughout North America. Natural gas is the cleanest burning fossil fuel. As demand for energy increases, expanded use of natural gas can help improve air quality across the country, especially when used to replace more polluting energy sources. Compared with other primary energy sources, natural gas emits significantly fewer pollutants — and the



natural gas industry continues to invest in even cleaner-burning technologies. Natural gas pipelines make these environmental benefits possible.

**How have you influenced, or are you attempting to influence their position?**

Williams' Senior Vice President of Corporate Strategic Development is an INGAA Board of Director.

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**Trade association**

GPA Midstream

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

GPA Midstream does not take a public position on climate change.

**How have you influenced, or are you attempting to influence their position?**

Williams' Senior Vice President of Engineering Services was a member of GPA's Board of Directors in 2019. In 2020, Williams Chief Operating Officer became a member of GPA's Board of Directors. In 2018, the GPA Midstream Association presented an award to Williams' Chief Executive Officer for efforts to elevate the association's advocacy presence.

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**Trade association**

American Petroleum Institute (API)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

API and its members are committed to delivering solutions that reduce the risks of climate change while meeting society's growing energy demand. We support global action that drives greenhouse gas emission reductions and economic development. The oil and gas industry is part of the global solution, and plays a vital role in developing and deploying technologies and products that continue to reduce greenhouse gas emissions while advancing human and economic prosperity by extending the benefits of modern life.

**How have you influenced, or are you attempting to influence their position?**

In 2019, Williams joined the API Environmental Partnership, which provides a forum for participants to share information, analyze best practices and research technological breakthroughs aimed at responsibly developing natural gas and oil resources. Williams participated in the working group that expanded the commitments to be inclusive of midstream, transmission and storage operations, expanding opportunities for enhanced

reduction opportunities and collaboration. Williams actively engages at the API Midstream Committee and Natural Gas Subcommittee level, encouraging API to adopt and advocate for policies that support natural gas use to improve air and water quality, support continued deployment of renewables, and grow the domestic clean energy economy and advance domestic energy independence. Our President and Chief Executive Officer is on the Board for API, and was involved in discussions with API regarding the findings in the National Petroleum Council leadership role.

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### **Trade association**

Marcellus Shale Coalition

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association's position**

The Marcellus Shale Coalition understands that the climate continues to change and that the associated risks require broad based, collaborative action. We recognize that affordable, reliable energy sources — including and especially natural gas, are essential to sustaining and improving modern-life and economic prosperity, as well as combating global poverty. The Marcellus Shale Coalition remains committed to safely developing clean-burning American natural gas, finding ways to efficiently utilize this abundant and home grown energy resource to power the economy while also providing the unparalleled air quality improvements in Pennsylvania and the nation. Any dialogue about the climate must be an honest discussion, including accounting for the full lifecycle and associated impacts of all energy resources in a fact-based manner.

### **How have you influenced, or are you attempting to influence their position?**

Williams is a Board-level member of the organization, with the Vice President of the Ohio River Supply Hub as the current representative. Several Williams employees participate on Marcellus Shale Coalition technical committees. These technical committees frequently discuss and influence reasonable approaches to regulations that impact greenhouse gas emissions.

## **C12.3d**

### **(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

Yes

## **C12.3f**

### **(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

Williams maintains active memberships in trade associations to help amplify the industry voice and collectively work on public policy priorities. These associations have varied positions on key public policy issues that are often, but not always, aligned with those of Williams. Williams

discloses all expenditures of corporate funds to these associations used for non-deductible lobbying and political expenditures. Government support for energy infrastructure and natural gas markets in the United States is an important component of the future growth of the company. Williams works with government stakeholders and regulatory agencies at the federal, state and local levels on policies that impact our current and future operations. Our government affairs and outreach team educates policymakers and other government stakeholders on our projects and policy positions.

The primary function of the Williams environmental, social and governance (ESG) Steering Committee is to coordinate and integrate the numerous functions across the company that comprise and actively promote Williams' ESG efforts. We discuss initiatives to coherently communicate to all parts of the market — shareholders and the many, diverse stakeholders — what Williams is already doing, and has done for decades, as well as what still needs to be done to adapt to a rapidly evolving competitive environment in which ESG concerns have quickly and dramatically risen in prominence. The committee develops and oversees the company's sustainability initiatives that are increasingly important to shareholders and all pertinent stakeholders. Specific responsibilities include:

- Ensure coordination between all relevant functions across the company;
- Identify and amplify ESG-impactful initiatives in existing operations;
- Drive an ESG perspective into all facets of Williams' corporate DNA;
- Align internal and external communications regarding sustainability with one of the emerging frameworks important to our current and potential investors and stakeholders;
- Ensure proper cadence and messaging with Williams executive team and board of directors;
- Identify new lines of business, operations initiatives and processes that will advance Williams' prospects with influential shareholders and stakeholders; and
- Promote highly visible, external facing deliverables including, but not limited to:
  - Williams' annual Sustainability Report
  - Relevant ratings and rankings response packages
  - Shareholder / proxy organization questionnaires

## C12.4

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

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**Publication**

In voluntary sustainability report

**Status**

Complete

### Attach the document

 Williams\_2019SustainabilityReport\_pages.pdf

### Page/Section reference

PDF pages 16-20, 58-62 and 66-67

### Content elements

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

### Comment

## C15. Signoff

### C-FI

**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

n/a.

### C15.1

**(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

|       | Job title                     | Corresponding job category    |
|-------|-------------------------------|-------------------------------|
| Row 1 | Chief Executive Officer (CEO) | Chief Executive Officer (CEO) |

## Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

|                             | I am submitting to | Public or Non-Public Submission |
|-----------------------------|--------------------|---------------------------------|
| I am submitting my response | Investors          | Public                          |

**Please confirm below**

I have read and accept the applicable Terms