



Climate Change 2017 Information Request AltaGas Ltd.

Module: Introduction

Page: Introduction

CC0.1

Introduction

Please give a general description and introduction to your organization.

AltaGas Ltd. (AltaGas), a Canadian corporation, is a North American diversified energy infrastructure business with a focus on owning and operating assets to provide clean and affordable energy to its customers. AltaGas' business strategy is underpinned by strong growth in natural gas supply and the growing demand for clean energy. More than 1,600 employees across North America are focused on executing AltaGas' strategy through three business segments:

Gas, which transacts more than 2 Bcf/d of natural gas and includes natural gas gathering and processing, natural gas liquids extraction and separation, transmission, storage, and natural gas marketing, as well as AltaGas' indirectly held one-third interest in Petrogas Energy Corp. (Petrogas). The Gas segment has significant prospects for growth in British Columbia and Alberta.

Power, which includes generation assets located across North America with more than 1,688 MW of gross capacity, all from natural gas and renewable sources, and 20 MW of energy storage; with significant opportunities to expand in California and across the United States, as well as the potential opportunity to develop new gas-fired and renewable generation in Alberta to replace coal.

Utilities, serving over 570,000 customers through ownership of regulated natural gas distribution utilities across North America and a regulated natural gas storage utility in the United States, delivering clean and affordable natural gas to homes and businesses.

AltaGas is focused on maximizing the profitability of its assets; adding services that are complementary to its existing business segments; and growing through the acquisition and development of energy infrastructure, including infrastructure required to provide access to new markets and the potential for higher netbacks to producers in the Western Canadian Sedimentary Basin (WCSB).

As of December 31, 2016, AltaGas' enterprise value exceeded \$10 billion. With the physical and economic links along the energy value chain, together with its experienced and talented workforce, efficient, reliable and profitable assets, market knowledge and financial discipline, AltaGas has provided strong, stable and predictable returns to its investors.

CC0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed

Enter Periods that will be disclosed

Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
Canada
United States of America

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

CAD (\$)

CC0.6

Modules

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The Board of Directors Environment, Occupational Health and Safety Committee ("EOHS Committee") is responsible. The committee makes recommendations to the Board of Directors on AltaGas' policies and procedures with respect to EOH&S.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction project Energy reduction project Efficiency project Other: Governance, Compliance: Safety & Environment	Compensation programs and payouts for the Chief Executive Officer are strongly aligned with the achievement of AltaGas' strategy. Performance of executives forms a foundation on which all decisions to award compensation are based. The compensation program is designed to motivate management to operate the business in a safe, environmentally responsible and cost effective manner, focusing on the longer term, and on providing the superior returns and social value that Shareholders expect.
Environment/Sustainability managers	Monetary reward	Emissions reduction project Other: Compliance (Safety & Environment)	A few of the key performance drivers for the Vice President of Environment, Health, Safety, Security and Sustainability included measurement, reporting and compliance (including meeting emission reduction targets) with regional and federal climate change programs, such as: (i) Alberta's Specified Gas Reporting Regulation, (ii) Alberta's Specified Gas Emitters Regulation, (ii) British Columbia's Greenhouse Gas Reduction Act, Reporting Regulation, (iii) Canada's Greenhouse Gas Emissions Reporting Program, and (iv) California's Global Warming Solutions Act (AB 32 2006) and the United States Environmental Protection Agency's Greenhouse Gas Reporting Program. Other drivers included ensuring AltaGas has a strong integrated Environmental Management System in place, along with supporting procedures, policies, and programs to best protect our employees, the environment, and the communities where we work.
All employees	Monetary reward	Emissions reduction project Emissions reduction target Other: Compliance	Incentive targets are a combination of business profit and individual performance measures. Individual performance targets are determined by employee role. Individual performance objectives must align to AltaGas Core Values, which are presented below: 1. Safety and Environment 2. People 3. Social Responsibility 4. Business Excellence 5. Growth.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Board or individual/sub-set of the Board or committee appointed by the Board	All of the regions that AltaGas owns, operates, or plans to construct assets. This includes broad regions across Canada and the United States.	> 6 years	Climate Change risk management is a key part of AltaGas' risk management process. Our business strategy is to execute opportunities created by the renaissance of natural gas in North America and the increasing global demand for clean energy, by owning and operating a diversified mix of assets in gas, power, and utilities.

CC2.1b**Please describe how your risk and opportunity identification processes are applied at both company and asset level**

Company Level:

Our risk management is governed by the Board of Directors, who are responsible for identifying, and understanding the principal risks associated with AltaGas' business and reviewing and approving the implementation of systems to manage risks. The board of directors receives reports on risk matters from both the committees of the board of directors and from management. The duties and responsibilities of the Board of Directors Audit Committee is the oversight of risk management, including a review of the Corporation's major risks, a review of the method of risk analysis by the Corporation, and review of the strategies, policies and practices in place for risk management. AltaGas actively manages its exposure to risk by focusing on mitigating measures that are required to reduce or eliminate risk to acceptable and manageable levels.

Asset Level:

Risks/opportunities are integrated into long-term and short-term plans as well as the budget for each facility, which includes a price for carbon and regulatory assumptions. This process ensures such costs are included in the planning and or operation of each asset. AltaGas conducts operational assessments at our facilities to highlight emission reduction opportunities and to increase site efficiency. Following annual greenhouse gas reporting, potential improvement opportunities are reviewed and implemented where appropriate.

CC2.1c**How do you prioritize the risks and opportunities identified?**

Risks and opportunities that have been identified at the company and asset level are prioritized by assessing the impact of the risk and opportunity on our overall Strategy. In practice, risks and opportunities are collected and assessed throughout the year following our Risk Management Process and are consulted as the strategic plan is updated each year. Material risks and opportunities surface as our short-term and long-term strategic plan is updated.

High priority is given to opportunities that encourage Strategy implementation. As well, high priority is given to risks that could prevent Strategy implementation.

CC2.2**Is climate change integrated into your business strategy?**

Yes

CC2.2a**Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process**

AltaGas' Strategy is, to execute opportunities created by the renaissance of natural gas in North America and the increasing global demand for clean energy by owning and operating a diversified mix of assets in gas, power and utilities. The core of our Strategy is responding to regulatory and market changes that have resulted from Climate Change and Climate Change management efforts. The reference to "increasing global demand clean energy..." in the AltaGas Strategy is a reference to the demand for lower carbon and low pollution energy. Therefore, climate change is literally integrated into our business Strategy, which assumes regulators and customers will value lower carbon energy (natural gas, Natural Gas liquids (NGL's) or renewable energy) over higher carbon intensive energy. This strategy informs all business decisions.

i) The corporation's overall objective is to generate superior economic returns by investing in low-risk, long-life energy assets. Therefore, AltaGas' strategic direction must be based on an understanding of the short and long term viability of clean energy in our Gas, Power and Utility segments. AltaGas' strategic direction is reviewed and approved by the Board of Directors on an annual basis. Our annual strategic plan is based on key objectives, quantifiable operational and financial targets, and processes for the identification, monitoring and mitigation of principal business risks. Throughout the year and across all businesses, AltaGas continuously assesses economic trends impacting its business and seeks opportunities to generate value for shareholders. Carbon prices (either identified by regulatory bodies, or assumed based on conservative models), changing regulatory requirements, and customer trends are identified by our project teams and incorporated into business and financial models.

ii) In the Gas segment, our growth strategy is seeking growth opportunities and long term viability for future and existing assets. The strategy assumes that lower carbon fuels will be valued by regulators and customers over higher carbon fuels. Therefore, we intend to develop and operate larger gas infrastructure projects, as well as seek to move natural gas and NGL's to key markets. AltaGas is uniquely positioned to establish a western energy hub in northeast British Columbia, through the Ridley Island Propane Export Terminal, allowing for delivery of cleaner burning fuels to overseas markets. However, because business in natural gas and natural gas liquids are not without carbon emissions, AltaGas assumes compliance costs related to mitigating climate change. These compliance costs are generally represented by a carbon price being incorporated into the projects.

Regulatory compliance plays a significant role in influencing climate change strategy at AltaGas. Strict emission requirements at our Gas and Power facilities have prompted investment in cleaner technologies such as cogeneration (also reflected in our emissions intensity targets, see 3.1b), natural gas-fired power generation, Carbon Capture and Storage projects, as well as continual operational improvements across the AltaGas Enterprise.

iii) AltaGas has also recognized the opportunities and financial rewards in developing a green energy business. AltaGas is invested in a diversified portfolio of renewable energy assets that reduce the corporations overall carbon footprint and are focused on meeting North America's increasing demand for clean energy. In addition to owning and operating a Green Energy business, AltaGas also manages and sells a portfolio of renewable energy credits (RECs) which are generated from AltaGas' Bear Mountain Wind Park, these credits play an important role in accounting, tracking, and assigning ownership to renewable electricity generation and use.

iv) The most important component of the short term strategy that has been influenced by Climate Change has been the increased value that AltaGas puts on flexibility. While not a new value in our strategy, its importance is increasingly growing as climate change strategies by regulators are quickly evolving.

v) The most important components of the long term strategy that have been influenced by Climate Change is our decision to invest in larger natural gas infrastructure projects, as well as seek to move natural gas and NGL's to key markets, including Asia. Global environmental concerns around greenhouse gas emissions from activities such as burning coal are driving the increase in demand for cleaner burning fuel. This decision is influenced by recent announcements in various jurisdictions that we operate for increased reliance on natural gas and Natural Gas Liquids to address climate change (please consider this as a response to vii in CC2 question pathway response guidance).

vi) Our shift towards sources of clean and renewable power generation continues to be part of AltaGas strategy exhibited by our clean power generation portfolio. Following the termination of the Sundance B PPAs (Coal Power), AltaGas has fully transitioned its Power segment to be a 100 percent clean energy provider. In the fourth quarter of 2016, AltaGas safely commissioned the Pomona Energy Storage Facility, located at AltaGas' existing Pomona facility in Southern California. AltaGas is well positioned to take advantage of this opportunity and The Pomona Energy Storage facility is an example of AltaGas' ability to capitalize on changing demand for clean energy products.

vii & ix) Canada submitted its INDC's (2°C targets) to the UNFCCC, ahead of the 2015 Conference, held in Paris (COP 21). The Paris Agreement came into force on November 4, 2016, however it is not clear whether the U.S. will remain a signatory after the election of President Trump who has previously communicated his intention to withdraw.

Central to Canada's Climate Change framework, is an escalating price on Carbon (\$10 in 2018 rising to \$50 in 2022). The Pan-Canadian framework, which was announced in Q4 of 2016, was identified, accessed, and communicated to the AltaGas Board of Directors. As mentioned in section one above, escalating carbon prices (either identified by regulatory bodies, or assumed based on conservative models), changing regulatory requirements, and customer trends are identified by our project teams and incorporated into forward looking business and financial models. In addition to Carbon Pricing, Canada will also focus on building a smart, integrated clean-electricity system. AltaGas has already seized the opportunities and financial rewards in developing a green energy business. The corporation's sustained objective will be to continue to capitalize on North American Demand for clean energy.

CC2.2c

Does your company use an internal price on carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

AltaGas uses internal prices on carbon that pertain to various aspects of our business and includes Scope 1, Scope 2, and Scope 3 emissions. AltaGas employs internal prices of carbon in our budgeting and forecasting in each of the regulatory jurisdictions where we own and/or operate assets. Carbon tax costs to our business are included in affected project budgets and forecasts. The carbon prices that reflect credits towards our financial exposure to greenhouse gas compliance costs (e.g., offsets) are accounted for and retained following best practice policies. Different carbon prices are used over time and across geographies. When carbon prices are uncertain, we will employ scenarios that consider varying carbon prices. Scenarios have included British Columbia's \$30/tonne CO₂e carbon tax and Alberta's increasing carbon prices (\$20 and 30 tonne CO₂e in years 2016 and 2017, respectively), and the Pan-Canadian carbon pricing scheme (\$10 in 2018 and rising to \$50 in 2022). AltaGas' carbon credit pricing in the offset and the California Cap and Trade markets are subject to confidentiality. Our Commercial teams, in consultation with our Environmental and Regulatory staff, determine the carbon price on a project by project basis. Carbon compliance pricing is internalized (i.e., it is a budget line item) in the economics of the investment decisions that AltaGas makes.

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
Trade associations

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Cap and trade	Support	Nova Scotia Environment Climate Change Unit issued a Cap and Trade Design Options Paper to the public and industry and provided the opportunity to submit comments for the Nova Scotia Environment Climate Change Unit's consideration as they develop this program.	Heritage Gas is supportive of Nova Scotia's commitment in the fight against climate change by adopting a cap and trade program to meet greenhouse gas emissions reduction targets.

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Independent Power Producers Society of Alberta	Consistent	IPPSA's position is supportive of market based solution to reduce GHG emissions from generator in a non-discriminatory way that does not distort the price signal for energy.	AltaGas is not attempting to influence the IPPSA's position on climate change.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Clean Energy BC	Consistent	CEBC is advocating (via website publications and speeches) the following with respect to new climate change policy in BC: Ensure there is opportunity for the Clean Energy sector in BC's new Climate Action Plan; increase demand for electricity. 1. Advocate for increasing use of electricity to power BC industries, transportation, transit, buildings, and homes because it is climate friendly power. 2. Inform the government, opposition parties and public in BC about the value of the clean and renewable energy sector to BC's economy and society. 3. Capitalize upon the new federal government's commitment to green infrastructure and clean energy by working to secure investments helpful to BC.	Via active membership on the board, AltaGas helped develop and approve this position.
BC LNG Alliance	Consistent	The Alliance's position on climate change legislation supports those mechanisms that promote the reduction of GHG emissions in other jurisdictions (such as Asia) through the future use of LNG from BC rather than other hydrocarbons such as coal. This is communicated in speeches and website publications.	Via active membership on the board, AltaGas helped develop and approve this position.

CC2.3f

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?

Statements or positions communicated by AltaGas in direct and indirect activities that influence policy are managed by our use of Key Messages. Key Messages are developed by multi-disciplinary teams including communications staff, senior staff, subject matter experts, impacted or informing business divisions, etc. Key Messages that relate to our climate change strategy are reviewed and approved by team members accountable to the climate change strategy.

Further Information**Page: CC3. Targets and Initiatives****CC3.1**

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Intensity target

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
Int1	Scope 1	23%	15%	Metric tonnes CO2e per unit of production	2014	1.0	2016	Yes, but this target has not been approved as science-based by the Science Based Targets initiative	The Harmattan Natural Gas Processing facility in Alberta, must meet a 15% reduction from base year emissions as required by the provinces Specified Gas Emitters Regulation. Baseline emission intensities are approved by the Director of the Alberta Climate Change Office. The target was surpassed in 2016 (0.797581), resulting in 18283 emission performance credits for the facility. These intensity reduction targets are set and approved by the government of Alberta, as part of the climate change leadership plan and are therefore assumed to be science based.
Int2	Scope 1	6%	3%	Metric tonnes CO2e per unit of production	2015	0.090385	2016	Yes, but this target has not been approved as science-based by the Science Based Targets initiative	The Gordondale Natural Gas Processing facility in Alberta, must meet a 15% reduction from base year emissions as required by the provinces Specified Gas Emitters Regulation. Baseline emission intensities are approved by the Director of the Alberta Climate Change Office. The target was not achieved due to a 10.1% decrease in overall facility production even though overall facility GHG emissions were reduced by 6.6%. These intensity reduction targets are set and approved by the government of Alberta, as part of the climate change leadership plan and are therefore assumed to be science based.

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	9	No change	0	Absolute emissions at the Harmattan Gas Plant were 9 percent lower in 2016 compared to base year.
Int2	Decrease	7	No change	0	Absolute emissions at the Gordondale Gas Plant were 7 percent lower compared to base year.

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Int1	100%	100%	The target was met in 2016
Int2	100%	100%	The target was not achieved due to a 10.1% decrease in overall facility production even though overall facility GHG emissions were reduced by 6.6%.

CC3.2

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

CC3.2a

Please 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	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Product	102-megawatt Bear Mountain Wind Park	Low carbon product and avoided emissions	Other: Ecologo Certification	0.9%	Less than or equal to 10%	Bear Mountain Wind Park provided 136,703 MWh to BC Hydro in British Columbia in 2016. This is an Ecologo certified for Green Power.
Product	195 megawatt Hydroelectric facility	Low carbon product and avoided emissions	Other: Ecologo Certification	5.7%	Less than or equal to 10%	The Forrest Kerr Hydroelectric facility provided 872,881 MWh to BC Hydro in British Columbia in 2016. The project is EcoLogo certified for green power.
Product	66 megawatt Hydroelectric facility	Low carbon product and avoided emissions	Other: Ecologo Certification	1.6%	Less than or equal to 10%	The McLymont Creek Hydroelectric Facility provided 240,159 MWh to BC Hydro in British Columbia in 2016. The project is EcoLogo certified for green power.
Product	16 megawatt Hydroelectric facility	Low carbon product and avoided emissions	Other: Ecologo Certification	0.4%	Less than or equal to 10%	The Volcano Creek Hydroelectric Facility provided 53,647 MWh to BC Hydro in British Columbia in 2016. The project is Ecologo certified for green power.
Group of products		Low carbon product		33%	Less than or equal to 10%	AltaGas' wide array of hydrocarbon based products

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
	Hydrocarbon based products (NGLs, LPG's, Pentane, etc.)		Other: Comparing carbon intensity to hydrocarbons like coal.			provides the opportunity for third-party users to choose less carbon-intensive products which can directly lower the amount of GHG emissions.

CC3.3

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

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	2	76170
To be implemented*	1	11034
Implementation commenced*		
Implemented*	1	3942
Not to be implemented		

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Processes	Harmattan's operational efficiency was significantly higher in 2016 than in 2015. The following reasons have been identified as primary	3942	Scope 1	Voluntary	365660	1500000	4-10 years	Ongoing	The overall reduction in total scope 1 emission was 3942 CO2e, but the intensity reduction was

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	contributors: - Flared volumes were reduced through the replacement of defective equipment and enhanced flare awareness amongst operations. -The gas-fired rental compressor was replaced with an electric drive compressor.								significantly higher which resulted in Harmattan applying for 18,283 EPC's from the government.

CC3.3c**What methods do you use to drive investment in emissions reduction activities?**

Method	Comment
Compliance with regulatory requirements/standards	Compliance is the foundation of how we do business. In addition to complying with laws and regulations, AltaGas has a set of core values that applies to all areas of our organization. AltaGas tries to meet and exceed emission reduction activities that are required by regulators.
Internal finance mechanisms	At AltaGas we are always looking at opportunities to improve shareholder value, while effectively managing risk. Carbon prices employed by internal finance mechanisms can signal considerations for emissions reduction activities.
Financial optimization calculations	AltaGas' objective is to generate superior economic returns by investing in low-risk energy assets.
Employee engagement	All employees are welcome to identify GHG reduction efforts.
Internal incentives/recognition programs	Financial incentives are linked to GHG reduction targets.

Further Information**Page: CC4. Communication****CC4.1****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)**

Publication	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	2016 AltaGas Annual Report pages: 8,9,11,18,21,23,24,28,43,45,61,121	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC4.1/2016 Annual Report web_0.pdf	AltaGas' Annual Report has multiple sections that touch on AltaGas' strategy and key messages that relate to climate change.
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	2016 Annual Information Form: Sections: AltaGas Strategy pages 16-18, & Environmental Regulations pages 74-78	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC4.1/AIF 2016 (FINAL)_1.pdf	Our key strategy is identified as "execute opportunities created by the renaissance of natural gas in North America and the increasing global demand for clean energy by owning and operating a diversified mix of assets in gas, power and utilities". As well, climate change mitigation obligations and risk management is identified in the "Environmental Regulation" section.
In other regulatory filings	Complete	Environment Canada publishes GHG data by facility for AltaGas under its Greenhouse Gas Reporting Program. Excel summary attached. Tabs 1 and 2 (Gordondale and Harmattan)	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC4.1/AltaGas GHG Summary Environment Canada.xlsx	Published facility information released annually by Environment Canada.
In other regulatory filings	Complete	2016 AltaGas Turin AEOR Verification Report - All pages.	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC4.1/Turin GHG Assertion 2016.pdf	Assertion of geologically sequestered CO2 and reduced fuel consumption as a result of Acid Gas injection.
In other regulatory filings	Complete	2016 AltaGas Bantry AEOR Verification Report - All pages.	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC4.1/Bantry GHG Assertion 2016.pdf	Assertion of geologically sequestered CO2 and reduced fuel consumption as a result of Acid Gas injection.

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
International agreements	As a signatory to the United Nations Framework Convention on Climate Change (the UNFCCC) and as a participant to the Copenhagen Agreement (a non-binding agreement created by the UNFCCC), the Government of Canada announced on January 29, 2010 that it will seek a 17 percent reduction in GHG emissions from 2005 levels by 2020. In May 2015, Canada submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC, ahead of the 2015 United Nations Climate Change Conference, held in Paris (COP 21). As a result, the Government of Canada will replace the 17percent reduction target established in the Copenhagen Agreement with its INDC of 30 percent reduction below 2005 levels by 2030. INDCs were communicated prior to the COP 21 and constitute the actions and targets that individual countries will	Increased operational cost	>6 years	Direct	More likely than not	Low	As International agreements evolve, increased regulation is expected to be the tactic that will be employed by signatories of the Paris Agreement to meet its reduction commitments. It remains unclear how federal regulations and provincial/state regulations will interact and which of the two will set precedent. Near term impact on AltaGas as a result of the Pan-Canadian Carbon Tax announcement is estimated at less than ~\$4M.	AltaGas continuously monitors proposed changes to environmental policy and regulations in order to identify, quantify, and manage material risks. Where risks are material, we comment on proposals independently, as well as through our industry associations.	There are no incremental costs associated with management of this risk; it is seen as an inherent part of management.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	undertake to help keep global temperatures from rising more than 2° Celsius and to pursue efforts to limit below 1.5° Celsius. The UNFCCC adopted the Paris Agreement on December 12, 2015 and both Canada and the U.S. are signatories. The Paris Agreement came into force on November 4, 2016, however it appears the U.S. will withdraw from the agreement.								
Cap and trade schemes	Assembly Bill No. 32 ("AB32"), the Global Warming Solutions Act of 2006, requires California to reduce its GHG emissions to 1990 levels by 2020, a reduction of approximately 15 percent below emissions expected under a business as usual scenario. The California Air Resources Board (ARB) designed the California cap-and-trade program to meet the requirements of AB32. The cap-and-trade is a market based regulation designed to reduce GHG emissions from multiple sources by setting a cap on GHG emissions. The program began in 2013 with a cap that declines at	Increased operational cost	3 to 6 years	Direct	Virtually certain	Low	Financial implications are dependent on facility operating demand. The cap and trade auction floor price is known to have increased on an average of 5.92% annually since Cap and Trade Inception. Based on 2016 output the financial implication of the Cap and Trade scheme in California is estimated at ~\$6.7M.	Under our current contracted Tolling Agreements, AB32 related costs are recovered through each electricity buyer. It's expected that similar tolling agreements will be negotiated once the existing agreements expire, where GHG related costs will be recovered through electricity purchasers. AltaGas' operating natural gas-fired power generation facilities in California met or exceed all federal and state	Current cost management is built into operating cost. It is estimated that 3-4 staff members are required to manage administration and compliance activities. Total cost is estimated at ~\$400,000. Changes to AB32 post-2020, could require AltaGas, in addition to complying with GHG monitoring, reporting and verification requirements applicable to its operations, to comply with stricter emissions standards which

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	approximately 3 percent per annum.							emissions requirements associated with AB32 and California's cap-and-trade program	has potential to increase cost.
Uncertainty surrounding new regulation	<p>Following the ratification of the Paris agreement, domestic governments are gearing up to implement regulatory changes that will allow for those countries to meet their committed reduction targets. Generally speaking, the framework for how countries are planning to meet or exceed these obligations has been released, but the details associated with these impending changes remains unclear. Canada has announced its Pan-Canadian Clean Growth plan, which will price carbon at a rate of \$10 per tonne of CO₂e starting in 2018 and rising to \$50 per tonne by 2022. Provinces will choose a system by putting a direct price on carbon pollution or they can adopt a cap-and-trade system. Provinces that do not currently price carbon are currently evaluating which carbon pricing system will work best for them. For AltaGas, the vast majority of our assets are within provinces</p>	Increased capital cost	1 to 3 years	Direct	Very likely	Medium-high	<p>The majority of AltaGas operated facilities are within jurisdictions that currently price carbon and because AltaGas currently maintains an active leak detection and repair program the near term financial implications of pending regulatory change is expected to be less than ~ \$4M.</p>	<p>AltaGas continuously monitors proposed changes to environmental policy and regulations in order to identify, quantify, and manage material risks. Where risks are material, we comment on proposals independently, as well as through our industry associations. Because of uncertainty surrounding new regulations AltaGas will continue to focus on investing in, and operating infrastructure to provide clean and affordable energy to our customers.</p>	<p>Additional costs would be incurred to comply with GHG monitoring and reporting requirements to: (a) comply with stricter emissions standards for internal combustion engines; (b) take additional steps to control system leaks; (c) install new emissions controls on AltaGas equipment or replace old equipment. Management cost would be included in the annual operating budgets. The capital expense to meet the potential regulation changes cannot be determined at this time.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	that currently have a system for pricing carbon. In addition to the Pan-Canadian Clean Growth framework, there are competing initiatives both at the provincial and federal levels regarding the reduction of methane. While the expected target reduction is known, the details regarding the anticipated path forward for achieving this goal have yet to be released. AltaGas maintains an active leak detection and repair program, which reduces methane venting from its operations. As for the United States it remains uncertain if the current administration will carry forward with Paris commitments.								
Carbon taxes	AltaGas Alberta facilities currently operate under Alberta's Specified Gas Emitters Regulation ("SGER") under the Climate Change and Emissions Management Act. The regulation applies to large emitter facilities (LFE) with direct emissions totalling 100,000 tonnes or more of carbon dioxide equivalent per annum, requiring a large emitter to achieve a 15% emission	Increased operational cost	1 to 3 years	Direct	Virtually certain	Low-medium	In 2016 AltaGas paid ~3 M in Carbon Taxes.	To mitigate the risk around carbon pricing, AltaGas forecasts expected future carbon pricing and incorporate this into our strategic plans. AltaGas also focuses on GHG reduction performance, energy efficiency, and technology deployment. An example of this is	Management costs are dependent on the level of activity in any given year and are incorporated in operational budgets. AltaGas, in addition to complying with GHG monitoring, reporting and verification will incur higher operating costs as a result of increased

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>reduction from an established emission intensity baseline target. The emission stringency target will increase to 20% in 2017 relative to the baseline emissions intensity established for the facility. SGER imposes a carbon price of \$20/t CO₂e in 2016 rising to \$30/t CO₂e. Owners of facilities that do not achieve the necessary reduction targets can achieve compliance by: (i) making facility enhancements to reduce GHG emissions, (ii) purchasing Alberta-based offsets or emission performance credits, or (iii) contributing to the Alberta governments Climate Change and Emissions Management fund. The province of British Columbia introduced a carbon tax in 2008, which imposes a tax on CO₂ emissions from the combustion of fossil fuels. Currently, the carbon tax is set at \$30 per tonne of carbon dioxide equivalent (CO₂e). Alberta's Carbon tax legislation will take effect January 1, 2017; the carbon levy will be applied to fuels at a rate of \$20/tonne. One year later, the levy will increase to \$30/tonne.</p>							<p>our Harmattan Facility meeting its reduction targets in 2016 and applying for 18,283 Emission performance credits. Compliance cost associated with a price on carbon are partially mitigated through our offset generating projects.</p>	<p>carbon pricing legislation. AltaGas' cost of management is estimated to be \$1M+ for all of its operating areas.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	The majority of the facilities in the Gas processing division of AltaGas qualify for Carbon Tax exemption until 2023, as the provincial government focuses on Methane reduction initiatives. An increase in emission reduction targets /compliance cost and raising Carbon taxes could increase AltaGas operating cost.								
Emission reporting obligations	By law, AltaGas is required to report emissions from those facilities that we own and/or operate which exceed the prescribed regulated emission reporting thresholds in each operating district. All regulated facilities throughout Canada and the USA submit air pollution data to various governing agencies including: Environment Canada, The United States Environmental Protection Agency, California Air Resources Board ("ARB"), the British Columbia Ministry of Environment, Alberta Environment, etc.	Other: Increased regulatory reporting burden or regulatory enforcement action	Up to 1 year	Direct	Virtually certain	Low-medium	In 2016 AltaGas estimates that it paid more than \$~400,000 to quantify, verify (where required), and report our emissions inventory. We expect this cost will increase as calculation methodology becomes more complex and additional transparency is expected.	AltaGas has a well-diversified portfolio of infrastructure which expands across three main business segments: Gas, Power, and Utilities. The Corporate VP of Environment, Health, Safety, Security, and Sustainability and his team work closely with the groups responsible for each business division's emission reporting requirements. The Gas division subscribes to an Emissions Inventory software tool called Emissions Manager that is updated annually and is used to	The management overhead is built into General and Administrative expenses. There is one full time employee at the corporate level responsible for the annual emissions inventory. There are also a wide range of emission managers across the businesses that are responsible for entering data so that AltaGas remains compliant. Estimated management cost is \$250,000.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								aid in managing regulatory reporting duties. In addition to the management methods identified above, AltaGas staff continuously monitors proposed changes to environmental policy and regulations and actively liaises with local government bodies through industry associations.	

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) precipitation	A change in the amount of precipitation could impact the economic performance of our Northwest Hydro Facilities (195 MW Forrest Kerr hydro facility, 16 MW Volcano Creek hydro facility, 66 MW McLymont Creek hydro facility). A decrease in precipitation	Reduction/disruption in production capacity	Unknown	Direct	Unlikely	Low	Business interruptions resulting from change in mean precipitation could impact revenue and increase operating cost. The exact financial impact depends on the affected facilities, market conditions, etc.	AltaGas designed these facilities based on hydrological studies and models that incorporated climate change predictions. Hydrological studies and data are also used throughout operations to confirm that sufficient water flow is available to generate adequate electricity to	Significant capital investments have been made to diversify our portfolio of assets and reduce our overall exposure to physical climate change risk. In the last few years, AltaGas has made more than \$2.0B (est.) in capital investments, to diversify our power

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	will result in lower snowpack and decreased river flows, lowering power production and decreasing financial performance.							determine the economic viability of its projects. We have legal contracts in place that address incidents of Force Majeure, in order to protect AltaGas.	generation assets.
Other physical climate drivers	Changes to the wind pattern and/or quantity, could impact the economic performance of our wind projects (102 MW Bear Mountain Wind Park and our 29MW Busch Ranch wind facility which we have a 50% ownership interest in).	Reduction/disruption in production capacity	Unknown	Direct	Unlikely	Low	Increased downtime as a result of extreme weather patterns, although negative and potentially significant are difficult to estimate. As with any extended outage there would be an impact on facility revenue. The exact financial impact of this risk depends on the affected facility (s), market conditions, etc.	AltaGas' wind power projects may be subject to significant variations in wind which could affect the amount of power generated. AltaGas relies on wind studies and data to confirm that sufficient wind flows are available to generate adequate electricity to determine the economic viability of its projects. There can be no assurance that the long-term historical weather patterns will remain unchanged and annual and seasonal variations from the long-term average can be significant.	Significant capital investments have been made to diversify our assets and reduce our overall exposure to physical climate change. In the last few years, AltaGas has made more than \$2.0B (est.) in capital investments, to diversify our power generation assets.
Change in temperature extremes	Abnormally cold weather can reduce	Reduction/disruption in production capacity	Unknown	Direct	Likely	Low-medium	Weather conditions can affect	AltaGas is a geographically diverse energy	Generally, the cost of management is

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	and disrupt production capacity at our gas and power facilities. During periods of extreme high or low temperatures, wind is often negligible, leading to reduced power production at our wind farms. Extreme temperatures, both high and low place additional stress on field equipment, gas and power plants, leading to increased maintenance requirements.						operational uptime due to equipment failure, which could result in significant cost to replace or repair. The financial implications will vary depending on the extent of the damage to production equipment.	business with a focus on investing in, and operating infrastructure to provide, clean and affordable energy to our customers in North America. We have a well-diversified portfolio which expands across three main business segments: Gas, Power and Utilities, thereby reducing exposure to physical climate risks.	integrated into existing operational budgets.
Change in precipitation extremes and droughts	As a result of extreme precipitation we have experienced producer wells being shut in due to flooding, which has resulted in decreased gas throughput (through our facilities), as well as lower production volumes. Extreme droughts conditions in California could impact	Inability to do business	Unknown	Direct	Likely	Low	Our natural gas-fired power plants in California risk facing increased costs of water to maintain operations. Flooding and decrease gas throughput would decrease revenues but the scope of this loss is unknown.	AltaGas communicates extreme weather condition updates to employees and contractors, via our internal website on a regular basis. We have incident, emergency and crisis management systems in place, in order to ensure an effective response to reduce injuries and impact to operations.	Costs for emergency planning and managing the business resumption process are embedded in many departments and do not represent a significant additional cost.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	ground water levels limiting our ability to access sufficient water resources to meet operational needs.							AltaGas also has comprehensive insurance coverage in place, to mitigate some physical climate change risks.	

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	AltaGas recognizes the importance of its image in the community. Being viewed as part of the community is critical to the organization's success and is a key component of AltaGas' sustainability framework. Reputation is central to AltaGas' relationships in the communities that we operate and directly affects our ability to do business, both today and in the future.	Inability to do business	1 to 3 years	Direct	More likely than not	Medium-high	The financial impact is the potential of having reduced operations, the inability to do business, and get new projects permitted and or approved. This has a potentially negative financial impact which is difficult to quantify.	We manage this risk through increased communication with customers, regulators, investors and our key stakeholders about the company's plans to focus on investing in, and operating infrastructure to provide, clean and affordable energy.	AltaGas devotes a significant number of resources towards building long-term relationships, as well as protecting reputational risks. Costs of these activities are embedded in a wide range of departments, divisions and project management teams across AltaGas.

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Opportunities driven by changes in regulation
- Opportunities driven by changes in physical climate parameters
- Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
General environmental regulations, including planning	AltaGas falls under regulatory regimes that incentivize investments in projects that reduce carbon emission. AltaGas has been, and continues to be, well positioned to develop a portfolio of offset projects that have provided a supply of emission offsets and emission performance credits (with revenue streams or otherwise net project savings), which are used to reduce AltaGas' annual greenhouse	New products/business services	1 to 3 years	Direct	Virtually certain	Medium	Greenhouse gas emission regulations provide AltaGas with the opportunity to generate emission offset credits and emission performance credits. AltaGas currently uses internally generated credits to minimize its greenhouse gas compliance costs and exposure. In 2016, AltaGas facilities generated 137300 tonnes of CO ₂ e credits (value: ~\$2.7M).	We manage this opportunity by developing offset projects at facilities that we own and operate. Before construction of a new facility, or retrofitting an older facility, an efficiency review is conducted to best determine operational benefits from emission reduction projects.	Managing a portfolio of greenhouse gas assets and liabilities requires the time and effort of 3 FTEs (Full Time Equivalents) at a cost of ~\$325,000. Offset projects undertaken to date have cost in excess of ~\$10MM.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	gas compliance cost. Should other jurisdictions advance with similar regulations, AltaGas would be well positioned to take advantage of those offset project opportunities.								
Renewable energy regulation	The Government of Alberta will move forward with phasing out coal-fired electricity generation by 2030. As part of coal phase out the government plans to offer incentives for investing in renewable power generation.	Increased production capacity	1 to 3 years	Direct	Likely	Low-medium	AltaGas has significant opportunity to develop new gas-fired and renewable generation in Alberta as the Government of Alberta moves forward with phasing out coal-fired electricity generation by 2030. Financial implication cannot be estimated at this time.	The phase out of coal-generated electricity presents opportunities to construct new renewable energy projects as well as capitalize on the renaissance of natural gas through gas-fired power generation.	Following the termination of the Sundance B PPAs (coal fired power), AltaGas has fully transitioned its Power segment to be a 100 percent clean energy provider with approximately 74 percent and 26 percent of generation capacity from gas-fired and renewables sources, respectively. Continued enhancements have been made to AltaGas' \$1 billion investment in the Northwest Hydro Facilities, including numerous

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
									operational and mechanical facility improvements focused on increased efficiency and reliability. The continued improvements particularly at Forrest Kerr enhance value by positioning the assets to operate under a wider variety of environmental conditions. In 2016 the facilities showed productivity growth of greater than 15 percent.
Other regulatory drivers	Canada has emphasizes the need for methane reduction. The anticipated emissions target for oil and gas operations is a 45% decrease from current baseline by 2025.	Reduced operational costs	3 to 6 years	Direct	Likely	Low-medium	Neither the provincial or federal governments have yet to enact regulations. Therefore, we cannot accurately estimate the potential impact to our operations.	Methane reduction initiatives will be managed using the following approaches: (i) applying new emissions design standards to new facilities, (ii) developing a 5 year voluntary initiative on methane reduction and verification. The 5 year initiative on methane reduction is	The planning phase and identification of potential opportunities are expected to be integrated into existing operational budgets. Capital expense cannot be calculated at this time.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								incentivized by the Government of Alberta for proactively planning and reducing methane from leaks, venting, and flaring.	
Renewable energy regulation	The State of California amended their Renewable Portfolio Standard ("RPS"), increasing the RPS standard to a 50 percent renewables target by 2030. The CAISO has yet to announce the anticipated additional generation required to meet the 50 percent RPS.	Increased production capacity	>6 years	Direct	Likely	Medium	Opportunities to develop and own additional power generation are likely to arise with the growing North American demand for cleaner energy sources such as natural gas, solar, wind, and hydro. AltaGas has significant opportunities to expand its generating assets in California. It is expected that up to 15,000 megawatts (MW) will need to be replaced in California due to retirements over the next decade. Financial implications cannot be estimated at this time.	Opportunities to develop and own additional power generation are likely to arise with the growing North American demand for cleaner energy sources such as natural gas, solar, wind, and hydro.	Due to the speculative outlook regarding the State of California's future power requirements, including future capacity requirements for fast ramping natural gas fired power generation, we cannot accurately estimate the potential impact to our operations.

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) temperature	AltaGas owns power plants that provide baseload and peaking electricity. Increased temperatures will increase demand for electricity. Therefore, there should be an increase in demand for electricity produced at AltaGas owned and operated facilities, resulting in increased revenues.	Increased demand for existing products/services	1 to 3 years	Direct	More likely than not	Medium	Increased revenues due to increased demand. At this time we have not been able to quantify the value of this opportunity.	Additional growth in the power division will be driven by advancing AltaGas' significant and growing portfolio of renewable energy projects and pursuing further gas-fired generation opportunities. For the coming years, AltaGas has approximately 1,253 MW of power generation projects under development.	We have invested \$110 MM in power plants that provide baseload electricity and \$575MM in power plants that provide peaking electricity.
Change in mean (average) temperature	As part of its climate change adaptation strategy, BC Hydro has undertaken internal studies and worked with some of the world's leading scientists in climatology, glaciology, and hydrology to determine how climate change affects water supply and the seasonal timing of reservoir inflows, and what we can expect in the future. The	Increased production capacity	>6 years	Direct	More likely than not	Low-medium	Geographical variability in glacier melt, stream flow projections, and median precipitation make it difficult to quantify the value of this opportunity.	AltaGas designed these facilities based on hydrological studies and models that incorporated climate change predictions. Hydrological studies and data are also used throughout operations to confirm that sufficient water flow is available to generate adequate electricity to determine the economic viability of its projects.	The management component of this opportunity is integrated into existing operational budgets.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	published document titled "the potential impacts of climate change on BC Hydro-Managed Water Resources", predicts Precipitation in winter, spring, and fall will likely increase in all of BC Hydro's watersheds under all emission scenarios, which will likely see a modest increase in annual water supply for hydroelectric generating facilities.								

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behavior	Consumers, driven by increased awareness of climate change and other environmental issues, are gradually making a shift to cleaner burning fuel and/or renewable energy for their energy	Increased demand for existing products/services	1 to 3 years	Direct	More likely than not	Medium	AltaGas is positioned to meet growing energy demand by supplying the market with clean, renewable electricity generation as well as deliver clean and affordable natural gas to our end-use customers. It is	To take advantage of this opportunity, AltaGas continues to make investments in renewable energy in Canada and the United States, as part of a long term strategy to reduce the carbon intensity of our power	AltaGas will continue to diversify its energy business with a focus on investing in, and operating infrastructure to provide, clean and affordable energy to our customers in North America. In the last few years AltaGas has invested

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	choices. As consumers make a switch to cleaner burning fossil fuels and/or renewable energy, AltaGas will be well positioned to take advantage of the increasing demand for these types of energy.						difficult at this time to provide an exact monetary figure associated with this opportunity.	generation. Heritage Gas offers customers the ability to switch from CO2e intensive heating fuel (bunker crude) to clean energy, such as natural gas.	\$2.0B (est.) in capital investments in renewable power generation assets and has various projects ongoing or being evaluated.

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Tue 01 Jan 2008 - Wed 31 Dec 2008	1178156
Scope 2 (location-based)	Tue 01 Jan 2013 - Tue 31 Dec 2013	244256
Scope 2 (market-based)	Thu 01 Jun 2017 - Thu 01 Jun 2017	

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
Canadian Association of Petroleum Producers, Calculating Greenhouse Gas Emissions, 2003
US EPA Mandatory Greenhouse Gas Reporting Rule
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009
Other

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Specified Gas Emitters Regulation;
Western Climate Initiative: Quantification Method 2013 Addendum to Canadian Harmonization Version;
California Mandatory Greenhouse Gas Reporting Regulation.

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Other: Electricity Generation and GHG Emission Details for Alberta	950	Other: g CO2 eq / kWh	Environment Canada's National Inventory Report
Other: Electricity Generation and GHG Emission Details for British Columbia	21.2	Other: g CO2 eq / kWh	Environment Canada's National Inventory Report
Other: Electricity Generation and GHG Emission Details for Saskatchewan	800	Other: g CO2 eq / kWh	Environment Canada's National Inventory Report
Other: California eGrid State Data	555.4	lb CO2e per MWh	US EPA eGrid 2014 Data File
Other: Alaska eGrid State Data	878.09	lb CO2e per MWh	US EPA eGrid 2014 Data File

Further Information

Attachments

[https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/Copy of egrid2014 data v2.xlsx](https://www.cdp.net/sites/2017/29/629/Climate%20Change%202017/Shared%20Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/Copy%20of%20egrid2014%20data%20v2.xlsx)
[https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/2017NIR - PT1 - April 13 2017.pdf](https://www.cdp.net/sites/2017/29/629/Climate%20Change%202017/Shared%20Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/2017NIR-PT1-April132017.pdf)
[https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/2017NIR - PT3 - April 13 2017.pdf](https://www.cdp.net/sites/2017/29/629/Climate%20Change%202017/Shared%20Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/2017NIR-PT3-April132017.pdf)
[https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/2017NIR - PT2 - April 13 2017.pdf](https://www.cdp.net/sites/2017/29/629/Climate%20Change%202017/Shared%20Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/2017NIR-PT2-April132017.pdf)

Page: CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO₂e

1643943

CC8.3

Please describe your approach to reporting Scope 2 emissions

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure		

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO₂e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
250379		

CC8.4

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

CC8.4a

Please 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	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
SEMCO Energy Gas Company	No emissions excluded	Emissions are relevant but not yet calculated		Location based scope 2 emissions for SEMCO Energy Gas Company are relevant but are not tracked. Using revenue to express data coverage AltaGas is able to report ~78% coverage of scope 2 emissions.

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 2% but less than or equal to 5%	Assumptions Extrapolation Metering/ Measurement Constraints	GHG Emissions are calculated using standard methods published by the appropriate regulatory agencies in which we operate. Emissions are generally a result from fuel combustion, flaring, venting, and fugitive emission sources. Fuel/Flare volumes are metered using standard industrial meters, which are known to have an associated level of uncertainty. Fugitive emissions in some cases are not directly measured and are calculated using site component counts, which can also introduce uncertainty with respect to fugitive emission assertion and result in the over or under reporting of this emission source.
Scope 2 (location-based)	Less than or equal to 2%	Assumptions Metering/ Measurement Constraints Other: Published Emission Factors	AltaGas Scope 2 emissions are calculated using the most recently published provincial or state average grid factors. Using average grid factors has the potential to introduce uncertainty.
Scope 2 (market-based)			

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Harmattan Verification .pdf	Pages 1-3	Alberta Specified Gas Emitters Regulation (SGER)	23
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/11115577-RPT-5-Alberta Verification Report 36.pdf	Pages 1-3	Alberta Specified Gas Emitters Regulation (SGER)	6

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/BC Gas Facilities.pdf	Pages 1-7	ISO14064-3	7
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/2016 PNG LFO Verification Statement and Conflict of Interest (3).pdf	Pages 1,2,4,9,14,15,16	ISO14064-3	2
Annual process	Underway but not complete for reporting year – previous statement of process attached	Third party verification/assurance underway	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/2015 Blythe VerificationStrmnt.pdf	Pages 1-2. The annual California GHG verification deadline is September 1st. The 2015 verification statements have been included for review. 2016 statements can be made available after September 1.	California Mandatory GHG Reporting Regulations (CARB)	21
Annual process	Underway but not complete for reporting year – previous statement of process attached	Third party verification/assurance underway	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/VerificationStatement Hanford Energy.pdf	Pages 1-2. The annual California GHG verification deadline is September 1st. The 2015 verification statements have been included for review. 2016 statements can be made available after September 1.	California Mandatory GHG Reporting Regulations (CARB)	1
Annual process	Underway but not complete for reporting year – previous	Third party verification/assurance underway	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Verification Stmt Henrietta.pdf	Pages 1-2. The annual California GHG verification deadline is September 1st. The 2015	California Mandatory GHG Reporting Regulations (CARB)	1

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
	statement of process attached			verification statements have been included for review. 2016 statements can be made available after September 1.		
Annual process	Underway but not complete for reporting year – previous statement of process attached	Third party verification/assurance underway	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Verification_Stmnt_AltaGas_Ripon_2016-08-31IRexec.pdf	Pages 1-2. Actual percentage reported scope 1 emissions verified is 0.35%. Rounded to 1% for inclusion. The annual California GHG verification deadline is September 1st. The 2015 verification statements have been included for review. 2016 statements can be made available after September 1.	California Mandatory GHG Reporting Regulations (CARB)	1
Annual process	Underway but not complete for reporting year – previous statement of process attached	Third party verification/assurance underway	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Verification Pomona.pdf	Pages 1-2. Actual percentage of reported scope 1 emissions verified is 0.10%. Rounded to 1% for inclusion. The annual California GHG	California Mandatory GHG Reporting Regulations (CARB)	1

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
				verification deadline is September 1st. The 2015 verification statements have been included for review. 2016 statements can be made available after September 1.		
Annual process	Underway but not complete for reporting year – previous statement of process attached	Third party verification/assurance underway	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Verification Tracy.pdf	Page 1 and 2. The annual California GHG verification deadline is September 1st. The 2015 verification statements have been included for review. 2016 statements can be made available after September 1.	California Mandatory GHG Reporting Regulations (CARB)	9

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/29/629/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Harmattan Verification .pdf	Pages 1-3. Cogeneration power verified as per the attached.	ISO14064-3	42

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Renewable energy products	Renewable Energy Certificates (REC) generated from the AltaGas Bear Mountain wind farm are verified through an assurance process. Western Renewable Energy Generation Information System (WREGIS) tracks renewable energy generation from units that register in the system by using verifiable data. Once verification is confirmed the renewable energy certificates are issued.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

Further Information

AltaGas total scope 1 emissions that were verified equals 71%.

Page: [CC9. Scope 1 Emissions Breakdown - \(1 Jan 2016 - 31 Dec 2016\)](#)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO ₂ e
Canada	944354
United States of America	699589

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC9.2a**Please break down your total gross global Scope 1 emissions by business division**

Business division	Scope 1 emissions (metric tonnes CO2e)
AltaGas - Gas Division	872201
AltaGas - Power Division	526513
AltaGas - Utilities	245229

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1**Do you have Scope 2 emissions sources in more than one country?**

Yes

CC10.1a**Please break down your total gross global Scope 2 emissions and energy consumption by country/region**

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Canada	245164		324223.30	
United States of America	5215		19497.08	

CC10.2**Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)**

By business division

CC10.2a**Please break down your total gross global Scope 2 emissions by business division**

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
AltaGas - Gas Division	242453	
AltaGas - Power Division	4389	
AltaGas - Utilities	3537	

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

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

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	0
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

6503138

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	6493677
Diesel/Gas oil	1264
Motor gasoline	8197

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
Contract with suppliers or utilities, with a supplier-specific emission rate, not backed by electricity attribute certificates	25704	0.02	Power purchased and consumed from BC Hydro, the utility provider in the province of British Columbia is low carbon generated electricity. 98 percent of grid electricity in British Columbia is generated from clean power sources.

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
343720	204314	3501000	1551000	6517	Renewable facilities owned and operated by AltaGas (Hydro plants and wind farms) power themselves when in operation. The power consumed on-site is taken prior to the sales meter, therefore renewable power consumption at these facilities is estimated. The power is used as per seasonal requirements for heating, lighting, maintenance, etc.

Further Information

Page: CC12. Emissions Performance

CC12.1

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

Decreased

CC12.1a

Please 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

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	6.02	Decrease	In 2016 AltaGas applied for 18,283 Emission Performance Credits and 119017 Offset credits from the Government of Alberta as a result of emission reduction activities. AltaGas' combined S1 and S2 emissions from the previous year was 2,279,836 tCO ₂ e. Therefore, $137300/2279836*100=6.02$
Divestment	14.01	Decrease	Property Divestment in our Gas Division in 2016 resulted in a decrease of 14% in our gross global emissions. The divestment accounted from a 319447 tCO ₂ e reduction in S1 and S2 emissions. Therefore, $319447/2279836*100=14.01$
Acquisitions	7.69	Increase	AltaGas acquired three gas fired power generating facilities in California, the facilities accounted for an additional 175276 tCO ₂ e of S1 and S2 emissions. Therefore, $175276/2279836*100=7.69$
Mergers			
Change in output	24.93	Decrease	Overall, across each business there were relative changes in output. There was a 24.9 percent decrease in production across the Power, Gas and Utilities. Calculated as such, $1711395-2279836/2279836*100=24.9$
Change in methodology			
Change in boundary			

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Change in physical operating conditions			
Unidentified			
Other			

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.00086	metric tonnes CO2e	2190000000	Location-based	17	Decrease	The percent change in the emission intensity figure is primarily due to a reduction in the gross S1 and S2 emissions from 2015 to 2016. Gross revenue remained relatively unchanged.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
1156.05	metric tonnes CO2e	full time equivalent (FTE) employee	1632	Location-based	11	Decrease	FTE is taken from the annual information form and is based on the number of full time employees as of December 31, 2016. The percent change is primarily due to workforce reduction as well as a reduction in gross S1 and S2 emissions.

Further Information

Page: CC13. Emissions Trading**CC13.1****Do you participate in any emissions trading schemes?**

Yes

CC13.1a**Please complete the following table for each of the emission trading schemes in which you participate**

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
Alberta Emissions Trading Regulation	Fri 01 Jan 2016 - Sat 31 Dec 2016	495675	6726	484118	Facilities we own and operate
California's Greenhouse Gas Cap and Trade Program	Fri 01 Jan 2016 - Sat 31 Dec 2016	0	222000	526513	Facilities we own and operate

CC13.1b**What is your strategy for complying with the schemes in which you participate or anticipate participating?**

AltaGas applies a multi-pronged strategy for complying with the schemes in which we participate.

- First, AltaGas has made significant investments in energy efficiency and sequestration projects (in Alberta) which generate a long-term supply of emission offset credits and emission performance credits, which we use to offset a portion of our greenhouse gas compliance costs.
- Second, the commercial agreements we put in place to purchase third party generated emission offsets or emission performance credits include language that requires the seller to either compensate or replace any offset(s) and/or credit(s) that are revoked by the Regulator.
- Third, we include language in our commercial agreements requiring third parties to deliver their emission offsets or emission performance credits just a few weeks prior to the actual GHG compliance deadline in order to reduce our inventory carrying costs.
- Fourth, all activities associated with emissions trading and compliance, are managed internally, rather than through third parties.

CC13.2**Has your organization originated any project-based carbon credits or purchased any within the reporting period?**

Yes

CC13.2a**Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period**

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
Credit origination	Other: Acid Gas Injection	AltaGas Bantry Acid Gas Injection Offset Project	Other: ISO 14064-3	42407	42407	Not relevant	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
Credit origination	Other: Acid Gas Injection	AltaGas Turin Acid Gas Injection Offset Project	Other: ISO 14064-3	76610	76610	Not relevant	Compliance
Credit origination	Energy efficiency: own generation	Harmattan Sour Gas Plant with Cogeneration Unit	Other: ISO 14064-3	18283	18283	Not relevant	Compliance

Further Information

Allowances allocated for the Alberta Emission Trading Regulation have been converted to absolute emissions. Our Harmattan Gas plant met its emission reduction target and applied for 18,283 emission performance credits.

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Not relevant, explanation provided				AltaGas' strategy for greenhouse gas management is to continuously reduce GHG emissions from our operating facilities. Measurement and monitoring at facilities that are under our operational control are the focus so we can apply new technology and find energy efficiency improvements.
Capital goods	Not relevant, explanation provided				Tracking these emissions is not material to our GHG management efforts. Scope 3 emissions from major capital goods on an annual basis is not a meaningful metric for our business.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Not relevant, explanation provided				Our 50% interest in the Power Purchase Agreement for the Sundance Units 3 and 4 was terminated in 2016. Therefore this emission source is no longer relevant to AltaGas.
Upstream transportation and distribution	Not relevant, explanation provided				At AltaGas, our business activities are services offered within the upstream transportation and distribution location. Management of our Scope 1 emissions plays a large role in the management of Scope 3 emissions for users further down the value chain. Scope 3 GHG emissions associated

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					with upstream transportation and distribution of AltaGas' energy resources are not material.
Waste generated in operations	Not relevant, explanation provided				AltaGas is required to track all waste generated in operations. The waste generation information has been reviewed and the emissions associated with waste generation are not material to our GHG management efforts.
Business travel	Not relevant, explanation provided				AltaGas has historically reported in error its fleet vehicle emissions as business travel. The emissions associated with our fleet come from a third party company that manages our fleet information. The associated emissions from our fleet have been included in Scope 1 emissions summary.
Employee commuting	Not relevant, explanation provided				Tracking these emissions is not material to our GHG management efforts.
Upstream leased assets	Not relevant, explanation provided				Tracking these emissions is not material to our GHG management efforts.
Downstream transportation and distribution	Not relevant, explanation provided				Tracking these emissions is not material to our GHG management efforts.
Processing of sold products	Not relevant, explanation provided				Our products are generally consumed by downstream users and are typically not processed
Use of sold products	Relevant, calculated	6468024	EPA Mandatory Greenhouse Gas Reporting Subpart NN reporting rules for US based Utilities. WRI GHG protocol tool for stationary combustion was applied to Canadian based Utilities. Calculated by multiply natural gas volumes supplied to customers by relevant emission factors.	0.00%	Emissions are calculated based on the quantity of gas sold to residential and business customers (energy units) by our Utility Businesses (fully owned subsidiaries of AltaGas).
End of life treatment of sold products	Not relevant, explanation provided				Our products are generally consumed by downstream users. Typically there is no product to be considered at the "end of life."
Downstream leased assets	Not relevant, explanation provided				We do not lease downstream assets.
Franchises	Not relevant, explanation provided				We do not have franchises.
Investments					

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
	Not relevant, explanation provided				Tracking these emissions is not material to our GHG management efforts.
Other (upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

No third party verification or assurance

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Other: Termination of the Sundance B Unit 3 and Sundance B Unit 4 Power Purchase Arrangements	100	Decrease	Our 50% interest in the Power Purchase Agreement for the Sundance Units 3 and 4 was terminated in 2016. Therefore this emission source is no longer relevant to AltaGas.
Business travel	Change in methodology	100	Decrease	AltaGas incorporated fleet emission information into Scope 1 emissions for 2016 rather than accounting for it in Scope 3.
Use of sold products	Change in boundary	47	Increase	AltaGas incorporated all of its Utility Business into this category in 2016.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our customers
Yes, other partners in the value chain

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Engagement is prioritized for our stakeholders that are presented an opportunity to avoid GHG emissions (such as customers of our renewable electricity, or new natural gas customers fuel switching from heating oil). In addition, priority is given to engagement with customers and suppliers that could be indirectly impacted by GHG laws and regulations, to the extent such changes result in reductions in the use of natural gas by customers or limit the operations of, or increase the costs of goods and services acquired from AltaGas suppliers, such as pipelines and natural gas producers.

Further Information**Module: Sign Off****Page: CC15. Sign Off**

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Charles Lyons	Vice President of Environment, Health, Safety, Security, and Sustainability	Environment/Sustainability manager

Further Information**Module: Oil & Gas****Page: OG0. Reference information**

OG0.1

Please identify the significant petroleum industry components of your business within your reporting boundary (select all that apply)

Exploration, production & gas processing

Further Information**Page: OG1. Production, reserves and sales by hydrocarbon type - (1 Jan 2016 - 31 Dec 2016)**

OG1.1

Is your organization involved with oil & gas production or reserves?

No

OG1.7

In your economic assessment of hydrocarbon reserves, resources or assets, do you conduct scenario analysis and/or portfolio stress testing consistent with a low-carbon energy transition?

Further Information

Page: OG2. Emissions by segment in the O&G value chain - (1 Jan 2016 - 31 Dec 2016)

OG2.1

Please indicate the consolidation basis (financial control, operational control, equity share) used to report the Scope 1 and Scope 2 emissions by segment in the O&G value chain. Further information can be provided in the text box in OG2.2

Segment	Consolidation basis for reporting Scope 1 emissions	Consolidation basis for reporting Scope 2 emissions
Exploration, production & gas processing	Operational Control	Operational Control

OG2.2

Please provide clarification for cases in which different consolidation bases have been used and the level/focus of disclosure. For example, a reporting organization whose business is solely in storage, transportation and distribution (STD) may use the text box to explain why only the STD row has been completed

AltaGas' Gas segment includes natural gas gathering and processing, natural gas liquids extraction and separation, transmission, storage, and natural gas marketing. All of these services are consolidated under AltaGas' Gas Segment; therefore Gas Processing is the most appropriate consolidation segment.

OG2.3

Please provide masses of gross Scope 1 carbon dioxide and methane emissions in units of metric tonnes CO2 and CH4, respectively, for the organization's owned/controlled operations broken down by value chain segment

Segment	Gross Scope 1 carbon dioxide emissions (metric tonnes CO2)	Gross Scope 1 methane emissions (metric tonnes CH4)
Exploration, production & gas processing	685427	6881

OG2.4

Please provide masses of gross Scope 2 GHG emissions in units of metric tonnes CO2e for the organization's owned/controlled operations broken down by value chain segment

Segment	Gross Scope 2 emissions (metric tonnes CO2e)	Comment
Exploration, production & gas processing	242453	

Further Information

Page: OG3. Scope 1 emissions by emissions category - (1 Jan 2016 - 31 Dec 2016)

OG3.1

Please confirm the consolidation basis (financial control, operational control, equity share) used to report Scope 1 emissions by emissions category

Segment	Consolidation basis for reporting Scope 1 emissions by emissions category
Exploration, production & gas processing	Operational Control

OG3.2

Please provide clarification for cases in which different consolidation bases have been used to report by emissions categories (combustion, flaring, process emissions, vented emissions, fugitive emissions) in the various segments

AltaGas breaks down its emissions inventory into the following categories:

- Combustion
- Flaring
- Process Gas Incineration
- Fugitive
- Vented

Depending on how an organization defines formation CO₂, this emission source could be classified as a "process" emission. Formation CO₂ has been reported in the vented emissions section below.

OG3.3

Please provide masses of gross Scope 1 carbon dioxide and methane emissions released into the atmosphere in units of metric tonnes CO₂ and CH₄, respectively, for the whole organization broken down by emissions category

Emissions category	Gross Scope 1 carbon dioxide emissions (metric tonnes CO ₂)	Gross Scope 1 methane emissions (metric tonnes CH ₄)
Combustion	593387	1648
Flaring	30783	219
Process emissions	0	0
Vented emissions	61166	809
Fugitive emissions	91	4212

OG3.4

Please describe your organization's efforts to reduce flaring, including any flaring reduction targets set and/or its involvement in voluntary flaring reduction programs, if flaring is relevant to your operations

AltaGas follows regulatory targets of 0.5% of throughput at each individual facility.

In addition to applicable regulatory targets AltaGas also reviews findings associated with Emission Verification. In 2016, our Harmattan Gas plant reduced flare volumes by replacing defective equipment and increasing flare awareness amongst operations. These changes in part increased the operational efficiency of the facility in 2016, which in turn allowed the facility to meet its emission reduction targets.

Further Information

Page: **OG4. Transfers & sequestration of CO2 emissions - (1 Jan 2016 - 31 Dec 2016)**

OG4.1

Is your organization involved in the transfer or sequestration of CO2?

Yes

OG4.2

Please indicate the consolidation basis (financial control, operational control, equity share) used to report transfers and sequestration of CO2 emissions

Activity	Consolidation basis
Transfers	
Sequestration of CO2 emissions	Operational Control

OG4.3

Please provide clarification for cases in which different consolidation bases have been used (e.g. for a given activity, capture, injection or storage pathway)

AltaGas has no transfers in or out of the organization. All transfers occur between AltaGas facilities.

OG4.4

Using the units of metric tonnes of CO2, please provide gross masses of CO2 transferred in and out of the reporting organization (as defined by the consolidation basis). Please note that questions of ownership of the CO2 are addressed in OG4.6

Transfer direction	CO2 transferred – Reporting year
CO2 transferred in	0
CO2 transferred out	0

OG4.5

Please provide clarification on whether any oil reservoirs and/or sequestration system (geological or oceanic) have been included within the organizational boundary of the reporting organization. Provide details, including degrees to which reservoirs are shared with other entities

All geological sequestration activities carried out by AltaGas are associated with our Acid Gas injection wells.

OG4.6

Please explain who (e.g. the reporting organization) owns the transferred emissions and what potential liabilities are attached. In the case of sequestered emissions, please clarify whether the reporting organization or one or more third parties owns the sequestered emissions and who has potential liability for them

AltaGas owns the sequestered emissions and potential liabilities.

OG4.7

Please provide masses in metric tonnes of gross CO₂ captured for purposes of carbon capture and sequestration (CCS) during the reporting year according to capture pathway. For each pathway, please provide a breakdown of the percentage of the gross captured CO₂ that was transferred into the reporting organization and the percentage that was transferred out of the organization (to be stored)

Capture pathway in CCS	Captured CO ₂ (metric tonnes CO ₂)	Percentage transferred in	Percentage transferred out
Gas stream separation from natural gas purification	76610	0%	0%
Gas stream separation from natural gas purification	42407	0%	0%
Gas stream separation from natural gas purification	1075	0%	0%

OG4.8

Please provide masses in metric tonnes of gross CO₂ injected and stored for purposes of CCS during the reporting year according to injection and storage pathway

Injection and storage pathway	Injected CO ₂ (metric tonnes CO ₂)	Percentage of injected CO ₂ intended for long-term (>100 year) storage	Year in which injection began	Cumulative CO ₂ injected and stored (metric tonnes CO ₂)
Acid gas injection (CO ₂ and H ₂ S co-injected into a production reservoir)	76610	100%	2007	1030159
Acid gas injection (CO ₂ and H ₂ S co-injected into a production reservoir)	42407	100%	2009	230375
Acid gas injection (CO ₂ and H ₂ S co-injected into a production reservoir)	1075	100%	2010	20798

OG4.9

Please provide details of risk management performed by the reporting organization and/or third party in relation to its CCS activities. This should cover pre-operational evaluation of the storage (e.g. site characterization), operational monitoring, closure monitoring, remediation for CO₂ leakage, and results of third party verification

The acid gas injection schemes all have Class III disposal approvals that are issued by the Alberta Energy Regulator (AER). Injection and disposal wells are classified to identify those wells that require increased levels of monitoring and surveillance based on the type of the fluids injected.

Class III disposal wells are required to:

- hydraulically isolate host zone
- cement across all useable groundwater zones
- Conduct casing logs to confirm isolation and cement returns
- Complete annulus pressure test
- Complete annual packer isolation test
- monitor wellhead pressure and follow pressure limitations

Each approval also requires an annual acid gas disposal report be submitted to AER which captured disposal volumes and operating pressures.

Further Information

Page: OG5. Emissions intensity - (1 Jan 2016 - 31 Dec 2016)**OG5.1****Please provide estimated emissions intensities (Scope 1 + Scope 2) associated with current production and operations**

Year ending	Segment	Hydrocarbon/product	Emissions intensity (metric tonnes CO2e per thousand BOE)	% change from previous year	Direction of change from previous year	Reason for change
2016	Exploration, production & gas processing	Natural gas liquids (NGL)	7.65	15	Decrease	Generally speaking, AltaGas maintained volumes and decreased emission as a result of asset divestment and emission reduction initiatives. This resulted in a 15% reduction in intensity.

OG5.2**Please clarify how each of the emissions intensities has been derived and supply information on the methodology used where this differs from information already given in answer to the methodology questions in the main information request**

Total Emissions from the gas segment were summed and then divided by thousand BOE (total Gas dispositions from AltaGas operated facilities).

Further Information**Page: OG6. Development strategy - (1 Jan 2016 - 31 Dec 2016)****OG6.1****For each relevant strategic development area, please provide financial information for the reporting year**

Strategic development area	Describe how this relates to your business strategy	Sales generated	EBITDA	Net assets	CAPEX	OPEX	Comment
Other: See comments							AltaGas does not currently have this information available.

OG6.2**Please describe your future capital expenditure plans for different strategic development areas**

Strategic development area	CAPEX	Total return expected from CAPEX investments	Comment
Other: See comments			AltaGas does not currently have this information available.

OG6.3

Please describe your current expenses in research and development (R&D) and future R&D expenditure plans for different strategic development areas

Strategic development area	R&D expenses – Reporting year	R&D expenses – Future plans	Comment
Other: See Comments			AltaGas does not currently have this information available.

Further Information

Page: OG7. Methane from the natural gas value chain

OG7.1

Please indicate the consolidation basis (financial control, operational control, equity share) used to prepare data to answer the questions in OG7

Segment	Consolidation basis
Exploration, production & gas processing	Operational Control

OG7.2

Please provide clarification for cases in which different consolidation bases have been used

AltaGas uses operational control in an effort to reduce all emissions at its facilities.

OG7.3

Does your organization conduct leak detection and repair (LDAR), or use other methods to find and fix fugitive methane emissions?

Yes

OG7.3a

Please describe the protocol through which methane leak detection and repair, or other leak detection methods, are conducted, including predominant frequency of inspections, estimates of assets covered, and methodologies employed

AltaGas completes fugitive emissions surveying, using infrared fugitive emission detection and or acoustic leak detection devices when necessary. AltaGas' Fugitive Emission Management Program identifies potential sources of fugitive emissions in the Methane value chain, accurately quantifies emissions/leak rates, completes cost/benefit analysis per leak source and tracks repairs using corrective action tracking.

AltaGas' Leak Detection and Repair Program procedure was developed to:

- Ensure all applicable components are being tested, reported and tracked on an annual basis;
- Track all repairs using a "Repair Tracking Form" provided in the LDAR Report, and;
- Confirm all regulations and best management practices are being followed.

Leak Detection is executed across AltaGas' operations annually and a decision tree is used to determine how leaking components are addressed. It is estimated that annually approximately 50% or more of the assets in the Gas segment are covered under this program annually.

All areas in which the Gas Division operates have regulatory requirements associated with the management of fugitive emissions. AltaGas' LDAR procedure was developed to meet or exceed jurisdictional requirements.

OG7.4

Please indicate the proportion of your organization's methane emissions inventory estimated using the following methodologies (+/- 5%)

Methodology	Proportion of total methane emissions estimated with methodology	What area of your operations does this answer relate to?
Direct detection and measurement	10% to <25%	All
Engineering calculations	5% to <10%	All
Source-specific emission factors (IPCC Tier 3)	50% to <75%	All
IPCC Tier 1 and/or Tier 2 emission factors	25% to <50%	All

OG7.5

Please use the following table to report your methane emissions rate

Year ending	Segment	Estimate total methane emitted expressed as % of natural gas production or throughput at given segment	Estimate total methane emitted expressed as % of total hydrocarbon production or throughput at given segment
2016	Exploration, production & gas processing	0.09%	0.09%

OG7.6

Does your organization participate in voluntary methane emissions reduction programs?

No

OG7.7

Did you have a methane-specific emissions reduction target that was active (ongoing or reached completion) in the reporting year and/or were methane emissions incorporated into targets reported in CC3?

Yes, methane emissions were incorporated into targets reported in CC3

OG7.7b

If methane emissions were incorporated into targets reported in CC3 (but not detailed as a separate target), please indicate which target ID(s) incorporate methane emissions, and specify the portion of those targets that is comprised of methane

All AltaGas' targets in CC3 are total greenhouse gas emissions including methane. Approximately 9% of those targets is comprised of Methane.

Further Information

AltaGas is not currently participating in voluntary methane emission reduction programs, but is evaluating different technologies to determine applicability across assets.

CDP: [D][-,][D2]