Investor CDP 2014 Information Request
Anadarko Petroleum Corporation

Module: Introduction

Page: Introduction

CC0.1
Introduction
Please give a general description and introduction to your organization.

Anadarko Petroleum Corporation is pleased to respond to the Investor CDP 2013 Information Request thereby continuing its tradition of reporting to and supporting the CDP since 2005. CDP has previously recognized Anadarko for its high-quality and comprehensive disclosures in the Carbon Disclosure Leadership Index (CDLI), and Anadarko strives for continued recognition for its transparency and performance. Anadarko's mission is to deliver a competitive and sustainable rate of return to shareholders by developing, acquiring and exploring for oil and natural gas resources vital to the world's health and welfare. Anadarko continues to grow: as of year-end 2013, it reported record sales volumes, including a seven percent year-over-year increase in daily sales volumes. Associated with this continued growth, is an ongoing commitment to enhance and publicly share its environmental performance and mitigate environmental risks, including efforts to reduce air emissions through innovative and cost-effective strategies, as well as continue working with academia and environmental organizations to enhance scientific understanding of the life-cycle greenhouse gas emissions for the company's and industry's operations.

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
Tue 01 Jan 2013 - Tue 31 Dec 2013
Sun 01 Jan 2012 - Mon 31 Dec 2012

CC0.3
Country list configuration

Please select the countries for which you will be supplying data. This selection will be carried forward to assist you in completing your response.

Select country
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.

USD($)

CC0.6
Modules
As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sectors, companies in the oil and gas industry, companies in the information technology and telecommunications sectors and companies in the food, beverage and tobacco sectors should complete supplementary questions in addition to the main questionnaire.
If you are in these sectors (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the 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. If you wish to view the questions first, please see https://www.cdp.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Further Information

Module: Management

Page: CC1. Governance

CC1.1
Where is the highest level of direct responsibility for climate change within your organization?

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

Anadarko's Climate Change Committee has direct oversight over matters pertaining to carbon management at Anadarko. This Committee consists of an interdisciplinary mix of general managers, directors, internal legal counsel, VPs, and Executive VPs that actively assess, organize, and implement actions regarding carbon risks and opportunities. This Committee meets regularly and includes a member of Anadarko's Executive Committee. The Committee reports annually to the Board of Directors' Governance and Risk Committee. Climate Change Committee goals include: i) recommending climate change actions; ii) overseeing implementation of and changes to the GHG Management Plan; iii) developing emission-reduction protocols; iv) conducting GHG inventory efforts; v) approving engagement in research on methane emissions from operations; and vi) identification of carbon-related opportunities.

Additionally, an individual within the corporate HSE structure at Anadarko has direct responsibility for carbon management and provides periodic updates and progress reports to the Climate Change Committee. This position is titled an HSE Advisor.

The company's public Climate Change statement is found on its website as follows:
"The orbital patterns and planet positions that influence predictable cyclical climate patterns documented throughout the Earth's history are well understood. The relationship between these cycles of warming and cooling and atmospheric levels of greenhouse gases (GHG), particularly carbon dioxide (CO2), however, is less clear. Scientific research continues to improve understanding of climate patterns and sensitivities to human activities. At Anadarko, we recognize the need to reduce GHG emissions, particularly CO2 and methane (CH4), which have emerged as concerns in the global community.
Anadarko is committed to responsible environmental stewardship. We frequently go above and beyond regulatory compliance by implementing industry-leading practices and technology, while continually looking for innovative ways to minimize the overall environmental impacts of our activities, including the reduction of GHG emissions."

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
Corporate executive team	Recognition (non-monetary)	Anadarko's involvement in multiple voluntary emission measurement and reduction activities and commitment to transparent carbon-related disclosure, has earned it multiple accolades directly attributed to its executive management and CEO. This recognition is typically shared with and communicated to both internal and external stakeholders via the CEO and executive committee. http://www.utexas.edu/news/2013/09/16/understanding-methane-emissions/ http://www.news.colostate.edu/Release/6889 http://www.anadarko.com/SiteCollectionDocuments/PDF/CO%20Air-Quality%20Proposal/CO%20Governor%20Statement.pdf • 2013 Corporate Social Responsibility - Rockies from Oil and Gas Awards: demonstration of best active CSR program in Rockies • 2013 Corporate Social Responsibility – Gulf Coast from Oil and Gas Awards: Gulf Coast from Oil & Gas Awards: demonstration of best active CSR program in Texas • 2013 Environment Stewardship – Northeast from Oil and Gas Awards: protection of native species and enhancement of wildlife habitats in Pennsylvania • 2013 Earth Day Award from Utah Division of Oil, Gas and Mining (UDOGM) • 2013 Technology Application / Community Relations / Local Government from Colorado Oil and Gas Conservation Commission – Recognized efforts to conserve water through the installation of water pipelines, which eliminated 3.75 million miles of truck traffic and emissions. • Energy Star and LEED Certification for construction of new headquarters in the Woodlands, Texas.
Business unit managers	Monetary reward	Regulatory compliance, which includes GHG regulations, is the expectation, including compliance with air emission requirements. Compliance with GHG rules is linked to performance and goals for individual employees, particularly environmental and sustainability staff that design implementation programs for operations. Additionally, Anadarko has a position dedicated to carbon management; communication and strategy on these issues is linked to compensation for this position. This position is tasked with identifying and evaluating strategies whereby Anadarko can benefit or profit from GHG reductions.
All employees	Monetary reward	When business units implement smart and efficient activities that reduce GHG emissions at Anadarko's operations, financial benefits arise from increased productivity, which can positively impact employees' compensation. Additionally, those assets involved in enhanced oil recovery (EOR) projects that sequester CO2 see direct commercial benefit from their operational emission reductions. Additionally, as GHG management is part of routine regulatory preparedness, compliance with GHG rules is linked to performance and goals for individual employees.
All employees	Other non-monetary reward	Anadarko Safety and Environmental Excellence Presentations (SEEP) is an annual conference for each operation group to present on safety and environmental innovations. The presentations are judged and awards are provided to the winners. Climate related projects are eligible for this award. Many of the environmental projects are energy and air emissions projects

		and are included in this application.

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	Individual/Sub-set of the Board or committee appointed by the Board	All areas of operation (US and international).		Anadarko has developed and follows a comprehensive GHG Management Plan that documents procedures for assessing various carbon-related risks and opportunities and complements Anadarko's Enterprise Risk Management team and culture of efficient risk identification and mitigation. The scope of risks assessed includes regulatory and legislative activities and market and commodity-based mechanisms. Anadarko evaluates risk associated with extreme and adverse weather events. Proactive engagement in various voluntary programs and initiatives is also considered, particularly in light of carbon-related opportunities. The risks and opportunities assessed can have financial, social license to operate, and stakeholder reputation implications for Anadarko.

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

At the corporate level, Anadarko has a process for identifying and evaluating climate change-related actions at the state, regional, federal, and global levels. Anadarko's involvement in multiple climate change-related workgroups affiliated with major industry groups including the American Petroleum Institute (API), the American Exploration and Production Council (AXPC), the Gas Processors Association (GPA), American Natural Gas Association (ANGA) and others, is a crucial first step in monitoring, tracking and evaluating emerging issues. Risks and opportunities are evaluated by teams via issues analysis, strategic internal engagement, and financial modeling to understand potential business impacts. Action plans are developed to either mitigate risks or take advantage of opportunities, which are prioritized depending on the level of risk and opportunity.

Depending on the issue evaluated and the action plan developed, Anadarko takes action at the asset level. Some risk mitigation involves shifts in how operations are performed; in these cases individual asset levels will assess how best to work and evaluate associated risks on a case-by-case basis. Asset level based assessments are conducted in coordination with both corporate and regional HSE teams to ensure consistency and efficiency across Anadarko. In most cases, the corporate HSE team develops procedures and tools for deployment to applicable assets. For example, Anadarko has implemented certain programs across key assets (i.e., liquid gathering systems have been installed to minimize emissions associated with transferring liquids). Another example is a company-wide improvement to enhance the environmental information management system, which will enable Anadarko to better evaluate particular source types or equipment and the effectiveness of current and future programs Anadarko implements, also enabling the company to more effectively evaluate the risk of pending regulations to operations.

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

The primary criteria Anadarko uses to prioritize actions around climate change risks and opportunities are the following: a) regulatory and legislative compliance, b) potential reputational and stakeholder benefit, c) economic costs, and d) time required, and e) resources required.

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

i. Anadarko's business strategy includes operating efficiently, safely, and in an environmentally and socially sustainable manner. Inherent in this strategy is the efficiency of natural gas production, increased capture of its product (methane), and the overall reduction of GHG emissions. By the nature of its business, Anadarko has a vested interest in capturing every molecule of oil and natural gas and ensuring it is fed into the sales line. Anadarko regularly participates in opportunities to improve measurement of and reduce fugitive and vented methane (CH4) emissions common to oil and gas operations. Furthermore, a major component of Anadarko's business strategy is to enhance the production of low-carbon natural gas. This strategy is communicated from the top levels of our executive management through all facets of our organization. Anadarko's commitment to reducing emissions is also evident in other facets of its business. The company has significantly expanded the use of Compressed Natural Gas (CNG) or bi-fuel vehicles throughout its fleet, with more than 400 CNG vehicles currently active. Additionally efforts to reduce diesel fuel in its drilling and completions activities are ongoing with the piloting of LNG or CNG drilling rigs and

dual-fuel fracturing crews.

ii. A major driver to incorporating climate change-related actions into the business strategy is the promotion and increased production of natural gas as a market commodity and alternative to carbon-intensive coal. Inherent in this driver is increasing media attention to the benefits of natural gas as having a significantly lower carbon footprint, particularly for unconventional resources. Additionally, regulations of GHG emissions continue to drive operational shifts and best practices. As a result, Anadarko considers proactive carbon management an integral part of its business strategy. Furthermore, it is always in Anadarko's best interest to operate efficiently and consistently find ways to reduce emissions to enhance its social license to operate. Anadarko is committed to working collaboratively with the public, landowners, government and regulatory agencies to safety and responsibly develop energy resources. The company plays an important role in providing clean-burning natural gas to support Colorado's "Clean Air Clean Jobs Act" and subsequent supporting regulations, several of which were finalized in 2012 and 2013.

iii. Compliance with environmental regulations is integrated into Anadarko's business strategy. GHG emission regulations impacting the oil and natural gas industry are prompting us to develop short-term strategies to: i) immediately manage these risks, ii) mitigate impacts to operations, and iii) comply with all state and federal requirements. These short-term strategies include enhancements to how we manage data and both operational and equipment modifications to reduce and better track GHG emission sources. In 2011, a short-term strategy was the deployment of a comprehensive equipment inventory to assess all potential sources of GHG emissions. In 2013, Anadarko worked with industry, regulators and the EDF to draft proposed air quality regulations in Colorado to detect and address methane leaks, thereby enhancing air quality and building public trust. The rules were approved in early 2014.

iv. Important components of the long-term strategy to operate efficiently and reduce emissions include the implementation of green completions during natural gas drilling and the appropriate data management tools to track and monitor GHG emissions from these and other events. These activities separate saleable natural gas from flowback during well completions and result in significantly reduced vented CH4 emissions before production sales lines can be set up. Anadarko is very involved in testing and is on track to use either green completions or reduced-emission completions (REC) throughout its U.S. onshore operating areas. Greater than 90% of our completions are being done using green completions or REC. Further components of this strategy include strategic involvement in evaluating, mitigating, and communicating the carbon footprint of natural gas production. These activities also include assessing currently published research and studies regarding the carbon footprint of natural gas for its accuracy and relationship to Anadarko's operations. An additional long-term strategy is the continued enhancement of an internal GHG emissions calculation, data system and reporting program that integrates data from key information systems around the company. This system will help Anadarko comply with federal and state regulations and understand what type of data the company currently tracks, and also the environmental influences of the data, and major operational inefficiencies. Anadarko is also evaluating technologies to improve and enhance its ability to monitor and assess emissions from locations.

v. Anadarko's involvement in these activities presents competitive advantages primarily in terms of increasing the natural gas production brought to sales. Anadarko also has a competitive advantage in having learned and adapted to new emission-reducing technologies so that when laws and regulations that require their use are promulgated and finalized, Anadarko is strategically positioned to continue business as usual. These technologies also result in safer work environments. It also creates a stronger relationship with the regulatory agencies as they are developing and implementing programs. In regards to Anadarko's research on the life-cycle carbon footprint of natural gas, having accurate, science-based, peer-reviewed, and publicly available numbers can only provide benefit to Anadarko for communicating to buyers, competitors, and stakeholders the high standard with which it operates and its concerted efforts to reduce methane emissions. Finally, our strategies related to data management will provide a level of detail and data sophistication that will enable the company to comply with regulations, and to achieve value and benefit operationally in a variety of ways, which may not be matched by our competitors.

vi. On November 30, 2010, EPA finalized its GHG Reporting Program (GHGRP) requiring the oil and natural gas industry to calculate and report GHG emissions from specific sources. Immediately, Anadarko's operations management at the highest level approved funding for a comprehensive corporate program to evaluate the requirements and put together a consistent approach for compliance. This initiative reaches into many facets of Anadarko, including HSE, operations, supply chain management, and accounting. This rule has significant implications on how equipment is procured, established, and managed within our organization. Anadarko is working to continually improve its GHG emission inventory beyond the EPA GHGRP requirements.

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
Funding research organizations

CC2.3a

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

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support with major exceptions	Anadarko participates in direct discussion with EPA on it's Greenhouse Gas Reporting Program for the Oil and Gas Sector Anadarko worked with industry, regulators and EDF to draft proposed air quality regulations in Colorado to detect and address methane leaks, thereby enhancing air quality and building public trust.	
Clean energy generation	Support	Supported the State of Colorado in passing Clean Air Clean Jobs Act that promotes clean air quality strategies for Colorado utilities. Anadarko has and is participating with EDF to evaluate and assess the life-cycle methane emissions from natural gas operations (EDF/UT Production Methane Study and EDF/CSU Midstream Methane Study). This will provide key data based on measurements taken directly from oil and gas operating locations to better inform policy makers. ANGA's efforts to expand the use of natural gas based on its carbon footprint.	
Other: 2013 National Emissions	Support with major	Anadarko is participating in direct discussion with EPA on its 2013 National Emissions Inventory, in particular, estimated GHG emissions from the Natural Gas Production sector.	

Inventory	exceptions		

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?
ANGA	Consistent	No public statement. Supporting methane and GHG emission research through grants. Commenting on federal proposed regulations on behalf of natural gas industry.	Participating on various GHG related matters and working groups, including supporting research
API	Consistent	Have various subcommittees and working groups engaged on federal and state matters.	Participating on the API GHG Working Group and Methane Task Force
AXPC	Consistent	Have a committee tracking and work on climate policy.	Participating on Climate Policy Task Group and Air Committee
GPA	Consistent		
NACCSA	Consistent		
TXOGA	Consistent	Track and participate in state level air regulatory and legislative issues.	Participating on Air Committee.
Colorado Petroleum Association	Consistent	Track and participate in state level air regulatory and legislative issues.	Participating on Air Committee.

CC2.3d

Do you publically disclose a list of all the research organizations that you fund?

No

CC2.3e

Do you fund any research organizations to produce or disseminate public work on climate change?

Yes

CC2.3f

Please describe the work and how it aligns with your own strategy on climate change

Anadarko is funding and participating in the EDF/UT Production Methane Study, which is a multistakeholder study, published by the University of Texas in in the Proceedings or the National Academy of Sciences, reporting on methane emissions from natural gas production sites (Phase I $232,500 and Phase II $125,000) . Anadarko is also funding and participating in the EDF/CSU Midstream Methane Study (funded with $200,000).

Anadarko participated in numerous regional air studies including a Garfield County, Colorado Air Emissions Study, 2011-2012, 2012-2013 and 2013-2014 Uintah Basin Wintertime Ozone and Air Quality Studies in Utah, Colorado Front Range Air Emissions Study, and Characterizing Air Emissions from Natural Gas Drilling and Well Completion Operations in Garfield County, Colorado (CSU). The company continues to evaluate other opportunities and requests.

Anadarko has also supported the continued improvement of air emissions, including GHG emissions, inventories. One example is the Western Regional Air Partnership air emissions inventory. This effort has for over a decade demonstrated the ability of industry, government and interest groups to work together to gather better data and information on air emissions.

These efforts demonstrate Anadarko’s commitment to furthering both the availability of tools and measured and verifiable data to understand GHG emissions from the oil and gas industry.

CC2.3h

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?

Anadarko has a Corporate Air Team that is dedicated to continually improving upon the company’s air and GHG systems and processes. This team works closely with the HSE teams which work with the operations teams. Everyday this overall air group is working closely with operations to ensure Anadarko is meeting its objectives and goals in the GHG Management Plan. This includes, ensuring compliance with state and federal regulations, minimizing risk for the company, enhancing product (methane) capture, and minimizing releases. In addition to the HSE team’s efforts, operations works to find cost effective solutions that reduce or eliminate air and GHG emissions as a part of their job.

Further Information

Anadarko supports various trade associations’ efforts to continue to enhance the GHG emission inventory. For example, ANGA is working to fund continued

research to improve upon the science and data regarding air emissions from the oil and gas industry. In 2013, Anadarko worked with industry, regulators and the EDF to draft proposed air quality regulations in Colorado to detect and address methane leaks, thereby enhancing air quality and building public trust. The rules were approved in early 2014. This is an example of how we can work to develop sound regulations that reduce emissions in an economically sound manner. Anadarko continues to engage with EDF and other operators to discuss ideas and strategies to measure, evaluate and reduce methane emissions (i.e., EDF/UT Production Methane Study and EDF/CSU Midstream Methane Study). These efforts are described above.

Page: CC3. Targets and Initiatives

CC3.1
Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?

No

CC3.1e
Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

i. Due to the growing nature of its business, the company's active high-grading and monetization of assets, and the continued enhancement of its emissions data system, Anadarko has not yet implemented an absolute or intensity-based emission reduction target at this time. As the company enhances its air database system and capacity, the appropriateness of setting such a target is being evaluated internally.

ii. Anadarko expects an increase in absolute GHG emissions over the next five years due to development in new geographic areas both domestically and abroad. Anadarko has been calculating annual GHG emissions since 2004 and shows fairly consistent numbers from year to year with a generally increasing trend due to increased exploration and production and data and information enhancement.

CC3.2
Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?

Yes

CC3.2a
Please provide details of how the use of your goods and/or services directly enable GHG emissions to be avoided by a third party

i. Anadarko is among the U.S.'s largest producers of natural gas, which is the lowest-carbon fossil fuel with significant carbon advantages over coal. Thus, the use of natural gas directly and increasingly supports the power industry, industrial sources, and individual consumers in lowering their carbon emission footprint. Examples of this benefit include the purchase of natural gas by a utility that is switching from coal to natural gas-fired power plants and by the operator of a fleet vehicle who is switching from a petrol-powered vehicle to a natural gas-powered vehicle. The direct emissions of this company or commuter will decrease due to the use of natural gas produced by Anadarko. Industrial operators that rely more on natural gas versus coal-based electricity are also achieving GHG emission avoidance. Another reduction in GHG emissions is the use of domestically produced oil. The GHG emissions avoided in transportation as well as from the more rigorous air regulatory regime in the United States, results in domestically produced oil avoiding GHG emissions for our customers.

ii. For a 1000 MW power plant, the annual CO2 emissions associated with burning coal, #4 fuel oil, and natural gas are as follows:
Coal: 2,971,066 metric tons
#4 Fuel Oil: 2,397,178 metric tons
Natural gas: 1,763,510 metric tons
Therefore switching to natural gas from coal results in an annual 41 percent decrease in emissions (1,207,556 metric tons CO2), and switching to natural gas from #4 fuel oil results in an annual 26 percent decrease in emissions (633,668 metric tons CO2).

iii. This estimation uses methods outlined in the API Compendium of GHG Emissions Estimation Methodologies for the Oil and Gas Industry (2004) and associated LHV emission factors for electric utility coal (0.0994 metric tons CO2/10^6 Btu), #4 fuel oil (0.0802 metric tons CO2/10^6 Btu), and pipeline natural gas (0.0590 metric tons CO2/10^6 Btu) as referenced in Table 4-3.

iv. While we have considered originating CERs or ERUs within the framework of the CDM or JI in the past, at this time we do not have any applicable projects.

CC3.3
Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and 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		
To be implemented*		
Implementation commenced*		
Implemented*	13	47144
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)	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, years	Comment
Process emissions reductions	Patrick Draw 12" flare project tied the existing 6" header into the upgraded 12" flare stack, utilize the liquid knock out, tied in the compressor blowdowns.	600	0	7000	21-25 years		
Process emissions reductions	Moxa Compressor removal project involved taking out 16 wellhead compressors, thus reducing air emissions	3467	699072	116000	<1 year		
Transportation: use	At Wattenberg, LACT Units and oil pipeline was constructed to reduce truck traffic. Forty four were built in 2013, saving 59,635 truck loads.	2017	764066	11000000	11-15 years		
Transportation: use	The Wattenberg team constructed a water on demand project that eliminated 215,000 truck trips or 4.3 million miles of driving.	7273	2754662	110000000	21-25 years		
Transportation: use	A pipeline to rail car loadout in Wattenberg eliminated truck traffic from horizontal locations, the total barrels to the rail system was 1,068,437 over 2.5 months.	867	328541	12000000	21-25 years		
Low carbon energy installation	Installation of instrument air compressors			1500000			
Process emissions reductions	Anadarko partnered in the construction of a 525-mile oil pipeline and unloading facility. The White Cliffs pipeline that goes from the DJ Basin to Cushing, Oklahoma, has reduced truck traffic by more than 12 million miles and has reduced associated annual emissions by more than 300 tons.	20296	7687429	78000000	11-15 years		
Process emissions reductions	They initiated a flash gas recovery project at Oakhill Plant, which included removing vent stacks and pits, rerouting BTEX liquids to condensate faiclity, and tying flash gas into the VRU (20,000 scfd recovered).						
Low carbon energy purchase	Southern and Appalachia drilling team used bi-fuel in East Texas replacing 670,000 diesel fuel with 78 MMcf NG.	2709	500000	0	<1 year		
Transportation: use	The Avalon project uses water ponds for supplement water instead of trucking. It is a comprehensive water-management and recycling program, whereby our Marcellus operations eliminated more than 60,000 truck trips and 3 million miles of truck traffic in 2013.	3298	1249207				
Process emissions reductions	Reduced blowdowns in the Ozona area.	3294	20304	0	<1 year		
Process emissions reductions	Eliminated compression at several locations that reduces emissions and fuel gas usage.	1739	102000	0	<1 year		
Process emissions reductions	HUGS3 station reduced one of the units thus reducing fuel usage.	612	36333	0	<1 year		
Process emissions reductions	Use of a Central Booster reduced one unit, thus fuel usage.	965	65518	0	<1 year		
Transportation: use	Northstars converted 70 bath treated wells to electrical chemical pumps, which eliminates emissions and reduces truck traffic.	4	16124	98000	4-10 years		

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Emerging regulations and the potential for regulation of GHG emissions causes Anadarko to more proactively fund technological improvements and advancements as well as best practices that mitigate emissions and reduce our overall footprint. Supporting the State of Colorado in developing and passing its first GHG emission regulation. Early adoption of controls before required dates

Further Information

Employee engagement and financial optimization calculations are also used to drive investment in emissions reduction activities. If employees are effectively educated on the benefits of reducing GHG emissions, including cost, they are more likely to implement changes in equipment and processes during the design phase and during implementation of various projects. Within Anadarko's internal market modeling efforts, assessments are performed around the cost-benefit analysis of repairing and replacing lesser efficient equipment. These calculations typically show significant economic as well as environmental benefits to emission reduction activities.

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	Page/Section reference	Attach the document
In mainstream financial reports (complete)	27, 37	https://www.cdp.net/sites/2014/45/745/Investor CDP 2014/Shared Documents/Attachments/CC4.1/APC_2013_Annual_Report.pdf
In voluntary communications (complete)	All	https://www.cdp.net/sites/2014/45/745/Investor CDP 2014/Shared Documents/Attachments/CC4.1/CO Governor Statement.pdf
In voluntary communications (complete)	All	https://www.cdp.net/sites/2014/45/745/Investor CDP 2014/Shared Documents/Attachments/CC4.1/2014 Climate Change Website Text.docx
In voluntary communications (complete)	All	https://www.cdp.net/sites/2014/45/745/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Anadarko.pdf

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any 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 risks 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
	Anadarko has international operations in developing non-Annex I countries party to the Kyoto Protocol. Usually						International agreements may require capital equipment upgrades or replacement. If these agreements	Regulatory risk is managed by internal teams via Anadarko's internal risk	Costs of compliance depend on the regulation or law in question and timing of requirements. Costs associated with this risk

International agreements	these countries limit their involvement in climate change regulation to hosting emission reduction projects, but they may choose at any time to implement internal or international agreements regarding emission limits and operational controls, which present inherent risk to Anadarko's operations in these countries. Additionally, Anadarko has an aviation fleet subject to EU ETS aviation requirements for compliance with the Kyoto Protocol that subject us to some financial risk.	Inability to do business	1 to 3 years	Direct	Unknown	High	prohibit our equipment from use, we suffer potential loss of revenue. Resources are required, both labor and management systems, to manage data and provide documentation to officials. Costs are associated with noncompliance in the form of fines or litigation. Anadarko's aviation fleet is subject to the EU ETS, and may pay compliance fees in the future.	management process. This process includes assessing the business implications of various regulatory risks and modeling financial implications using detailed cost estimates of various components of compliance. This risk is built into the development process for new assets in international communities as well.	continue to change as regulations are issued, revised and expanded over time. These costs are difficult to ascertain as Anadarko modifies its operational approach to continue to avoid and minimize methane emissions through operational system design (i.e., constructing liquids gathering systems, eliminating sources of leaks, constructing operations without tanks).
Air pollution limits	Any limits on GHG emissions can present considerable risk to Anadarko's operations and how operations are conducted. These limits may require that Anadarko purchase new equipment to decrease emissions and/or implement new processes to reduce routine emission releases to the atmosphere. Specifically, the GHG tailoring rule, revisions to the EPA NSPS regulation for oil and gas facilities, potential actions by the BLM, and potential state regulations, will significantly impact existing Anadarko facilities as well as newly constructed	Increased capital cost	Up to 1 year	Direct	Virtually certain	High	To cope with EPA's tailoring rule, we changed new and existing facilities to reduce impacts at operational cost or reduced efficiency. For the NSPS Subpart OOOO, we evaluated low-bleed devices and flaring at every completion event. Labor and systems are required to manage data and provide documentation. Costs are associated with noncompliance in the form of fines or litigation. In 2014, Colorado	Regulatory risk is managed by internal teams via Anadarko's internal risk management process. This process includes assessing the business implications of various regulatory risks and modeling financial implications using detailed cost estimates of various components of compliance. Emission reduction mandates in their emerging form, particularly under the federal Clean Air Act permitting and NSPS programs and emerging state	Costs of compliance depend on the regulation or law in question as well as the timing of compliance. Costs associated with the GHG tailoring rule and the final oil and gas NSPS regulation and State of Colorado regulation are currently being assessed as these regulations are in their infancy. Anadarko is assessing the potential impact of EPA's proposed revisions to the NSPS

	facilities that have the potential to emit over a certain threshold.						finalized regulations to detect and address methane, and we are evaluating associated costs.	regulations, are also being managed and mitigated by Anadarko's regional HSE air teams with support from Legal and the Corporate air team.	regulation and other states adopting the Colorado 2014 air quality regulations to detect and address methane leaks.
Carbon taxes	Depending where a carbon tax is implemented, it can present significant direct costs to Anadarko. If a carbon tax is implemented at the utility or consumer level, the tax does not present immediate risk to Anadarko. If the tax is imposed at the upstream production level, however, in regards to carbon content of the oil and gas that Anadarko produces, this type of mandate can present significant risk to Anadarko's business.	Increased operational cost	1 to 3 years	Direct	About as likely as not	Medium-high	Carbon taxes present financial implications regarding the carbon intensity of the fuel that Anadarko produces. If a tax is imposed on the upstream oil and gas industry, Anadarko may likely pay higher costs for its oil production than for its natural gas production, due to the larger carbon content of coal. Given that natural gas production is currently abundant, there has been some shift in our portfolio to producing more cost-effective oil, which may be more heavily taxed in this situation.	The potential for carbon tax risk is managed by internal teams via Anadarko's internal risk management process. This process includes assessing the business implications of various regulatory risks and modeling financial implications using detailed cost estimates of various components paying a carbon tax.	Actual costs of a carbon tax imposed on an oil and gas producer depend on the regulation or law in question. Costs associated with this risk are unknown at this time until further details are discerned in finalized policies with a specific carbon price.
	Much like air pollution limits, cap and trade schemes present considerable potential risk to Anadarko's						Cap and trade schemes have financial implications regarding both capital equipment costs and resource and labor costs. Resources are required, both labor and management systems, to manage data required and	Regulatory risk is managed by internal teams via Anadarko's internal risk management process. This process	Actual costs of compliance depend on the regulation or law in question as

Cap and trade schemes	operations and how operations are conducted. These limits may require that Anadarko purchase new equipment to decrease emissions and/or implement new processes to reduce routine emission releases to the atmosphere	Increased operational cost	1 to 3 years	Direct	About as likely as not	Medium-high	provide associated documentation to officials. Additional cost is associated with the purchase of allowances for compliance or investment in emission reduction projects in developing countries. Costs are also associated with noncompliance in the form of fines or litigation in some cases.	includes assessing the business implications of various regulatory risks and modeling financial implications using detailed cost estimates of various components of compliance.	well as the timing of compliance. Costs associated with this risk are unknown at this time until further details are discerned in finalized policies that impact Anadarko.
Emission reporting obligations	Continued revisions to EPA's GHGRP presents a risk to Anadarko in managing and reporting GHG emissions input data and calculations required for reporting. These requirements present a cost to operations necessary for collecting data and developing the required systems for compliance. Anadarko continues to implement improvements to its equipment inventory and emissions data system for compliance with this regulation, at significant cost to operations. Anadarko is also working to meet state reporting obligations, for example reviewing and commenting on the State of Colorado's GHG emission inventory. The overlapping regulatory requirements continue to expose the company to regulatory risk. The agencies can rely on	Increased operational cost	Up to 1 year	Direct	Virtually certain	High	The GHGRP and 2014 Colorado regulations to detect and address methane leaks require capital equipment for necessary monitoring data collection. Additional cost implications include resources, both labor to collect necessary data and management systems, to efficiently manage, calculate, and report data. Costs are associated with noncompliance in the form of fines or litigation in some cases.	Regulatory risk is managed by internal teams via Anadarko's internal risk management process. This process includes assessing the business implications of various regulatory risks and modeling financial implications using detailed cost estimates of various components of compliance. Risk is also being managed via continued involvement in various workshops and dedicated technical workgroups to understanding the implications of these rules. The risk associated with the GHGRP and 2014 Colorado regulations to detect and address methane leaks	In addition to all of the upfront internal costs, we have spent nearly $300,000 in 2013 to prepare for and report to the GHGRP, as well as make necessary technology revisions and changes in anticipation of 2014 reporting.

	different emission factors and calculations. Anadarko is working through trade association efforts to argue for consistent calculation methodologies.							are further managed by a dedicated compliance implementation team working to analyze and streamline compliance activities across the country.	
Uncertainty surrounding new regulation	Uncertainty regarding GHG emissions state and federal regulations and legislative activity presents risk to Anadarko in regards to the preparatory risk management and policy analysis required to prepare for such laws and rules. Proposed regulations are often very different from finalized regulations, which subsequently go through extensive corrections and amendments. The ups and downs of the regulatory process (and stringency and impact of these regulations to industry) provide for a challenging environment to mitigate new and pending potential risks. US federal land managers (i.e., BLM) may take a greater role in tracking methane loss for royalty purposes. This added layer of regulation may make compliance more complex. Uncertainty, increased complexity and overlapping and inconsistent regulations continue to pose a risk to all oil and gas companies, as well as most other businesses.	Increased operational cost	Up to 1 year	Direct	Virtually certain	Medium	Uncertainty regarding regulation presents cost to Anadarko in terms of the resources and labor taken to assess regulations and laws that may or may not ever be implemented and many of which will certainly undergo significant revisions and amendment.	Regulatory risk is managed by internal teams via Anadarko's internal risk management process. This process includes assessing the business implications of various regulatory risks and modeling financial implications using detailed cost estimates of various components of compliance.	Actual costs of regulatory uncertainty range depending on the type of regulations in question and its potential impact to Anadarko.

CC5.1b

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

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

Uncertainty of physical risks	The uncertainty of physical risks makes predictions about how operations will be impacted very difficult. For example, without a better understanding of how permafrost in Alaska may be impacted by climate change, we are not always able to sufficiently prepare for potentially negative impacts to operations that may prohibit exploration and production activities. Hurricanes and cyclones impacting offshore operations can present risk due to potential shut-ins of facilities to prepare for such storms.	Reduction/disruption in production capacity	Up to 1 year	Direct	Likely	Unknown	If heaters fail in extreme cold, piping failure may occur, requiring shut-ins and blowdowns to avoid safety hazards, resulting in loss of production/revenue. When hurricanes cross operationas, costly procedures and resources are deployed to ensure the safety of employees and contractors. Production may be halted, resulting in loss of revenue. If operations are damaged, production may be further delayed until repairs and safety checks have been implemented, resulting in further losses.	Regulatory risk is managed by internal teams via Anadarko's internal risk-management process. There is currently no formal process in place to manage risk associated with uncertainty in physical impacts. The risks associated with extreme weather events at offshore locations is actively assessed and modeled at Anadarko. These procedures are executed when possible weather events become more likely from storm tracking information from NOAA and other sources.	There are currently no costs associated with the uncertainty of physical risks to Anadarko. Actual costs of cyclones are event specific, dependent on the resources necessary for preparation, the impact to production, and any potential damage to infrastructure in the storm's aftermath.

CC5.1c

Please describe your 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
								Anadarko's is managing reputational risk in coordinated efforts among investor relations, public and government affairs and HSE to provide improved science-based and peer-reviewed data to the public. These efforts may include participation in studies partnering	

Reputation	Data uncertainty has recently caused the carbon footprint of natural gas production to come under scrutiny. This issue, coupled with related public concerns, present reputational risk to Anadarko, a major producer of natural gas.	Wider social disadvantages	1 to 3 years	Direct	Likely	Medium-high	The public domain lacks robust data regarding GHGs emitted during natural gas production, and many studies and media reports cite outdated and unrepresentative sources. This data influences the EPA National GHG Emissions Inventory and academic studies. This data may unfavorably portray Anadarko, and the industry as a whole. Financial implications include increased regulatory pressure, reputational concerns stemming from public outcry, and funding necessary to manage reputational risk.	with NGOs, government, academic communities, and other industry groups to better inform information available to the public. Anadarko is currently finalizing participation in the second phase of a study with other industry operators and the EDF to fund a study conducted by the University of Texas to measure methane emissions from natural gas exploration and production activities. The results of phase I of this study have already proven to reduce some of the uncertainty and poor use of data in the public domain regarding GHG emissions from the oil and gas sector. Anadarko is also participating in the EDF/CSU Midstream Methane Study, which is an assessment of mid-stream operations methane emissions. We also continue to look for opportunities to expand upon the information available for water use within the industry and the sharing and improvement of water technologies and practices.	Costs associated with reputational risk have yet to be specifically quantified as options for risk mitigation are currently being explored.
	While highly							Anadarko's portfolio was designed to be balanced in regards to product mix, including large volumes of natural gas, and diverse in terms of geography.	

Changing consumer behaviour	unlikely in the foreseeable future, if consumer preferences were to shift away from the use of fossil fuels to much more expensive alternatives in response to climate change, the demand for petroleum products may decline, thereby causing a decrease in revenues from Anadarko's crude oil production.	Reduced demand for goods/services	Unknown	Indirect (Supply chain)	Unknown	Unknown	Financial implications of changing consumer behavior include potential decreased revenues from the production of crude oil as consumers become concerned with higher carbon fuels and drive markets toward embracing lower carbon products and fuels.	Anadarko anticipates that natural gas demand may increase as consumer preferences shift away from more carbon-intensive fuels, particularly as end users seek greater energy security, recoil from volatile oil prices, and refining demand lowers. The company also worked with the State of Colorado, EDF, Xcel Energy (utility), and other natural gas operators to pass the Colorado Clean Air Clean Jobs Act and subsequent regulations that support the public utilities reducing overall air emissions, including by increasing the use of natural gas sourced electric generating units.	Costs associated with shifting consumer attitudes have not been quantified as Anadarko considers itself well-balanced given its existing production portfolio and expects cost implications to be minimal.

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any 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 other climate-related developments

CC6.1a

Please describe your 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
	Anadarko could have opportunity in regards to its overseas operations that are in non-Annex II countries party to the Kyoto						. International agreements present financial implications associated with the generation and potential sale of carbon credits, particularly CERs under	Anadarko conducts feasibility assessments to evaluate emission reduction	Costs associated

International agreements	Protocol. These countries typically host emission reduction projects, and Anadarko's operations could potentially be applicable to a variety of approved methodologies under the Clean Development Mechanism (CDM) of the Kyoto Protocol to generate these certified emission reduction (CER) credits.	New products/business services	Up to 1 year	Direct	About as likely as not	Low	the CDM of the Kyoto Protocol. While the credits vary in price depending on market indicators, a rough estimate of $5/CER is appropriate. For a project that reduces 100,000 tonnes of CO2e annually, the project developer could expect up to generate up to $5,000,000 in CERs over the crediting period (10 years) of the project.	opportunities and their associated carbon market value per international agreements. These studies typically assess the cost-benefit of such activities and any significant barriers to implementation. These studies are helpful in understanding the likelihood of successfully developing a project.	with conducting these projects depend on the capital infrastructure required as well as the logistical and administrative costs of developing, validating, and verifying a project per international agreement rules.
Cap and trade schemes	Similar to international agreements, Anadarko has opportunities in cap and trade programs to develop emission reduction projects and potentially earn carbon credits that may be banked for investment or sold in a cap and trade market. Anadarko already has two emission reduction projects that may potentially qualify under a cap and trade scheme.	New products/business services	1 to 3 years	Direct	About as likely as not	Low	Cap and trade schemes present financial implications associated with the generation and potential sale of carbon credits. These credits may be generated in a variety of programs, such as California's AB32 cap and trade program. Anadarko has generated credits for emission reductions from CO2 sequestration associated with enhanced oil recovery (EOR) at two assets, Salt Creek and Monell, that could potentially be used in a cap and trade market and may be accepted in the future within AB32.	Anadarko has been managing this opportunity by developing protocols for calculating the emissions reductions that take place at both the Salt Creek and Monell EOR fields. These emission reductions have been previously verified and credits have been registered by the American Carbon Registry (ACR), of which Anadarko is a founding member.	Verifying emission reduction credits requires some administrative cost, both for the validation of methodologies and the verification of emission reductions achieved.
							Emission		

	Emission reporting obligations	In reporting GHG emissions data under EPA's GHGRP, the government has access to improved data surrounding oil and gas production. Anadarko hopes that this availability of improved data from industry will improve knowledge and public perception of GHG emissions from the oil and natural gas industry.	Wider social benefits	Up to 1 year	Direct	Very likely	Low	reporting obligations may reduce financial burden associated with providing credible data to the public. Rather than disclosing emissions through various voluntary mechanisms, required reporting under the EPA GHGRP features a centralized database for public review. The accessibility of this site may decrease costs associated with other avenues of public disclosure. Having this data publicly accessible also reduces the social cost of stakeholders concerned with our carbon footprint.	Anadarko is currently reviewing the ways it discloses emissions data to the public in light of required reporting to EPA under the GHGRP and intends to subsequently streamline this process, ensuring consistent use of calculation methods, and avoided duplication of effort.	The financial opportunity associated with required emission reporting is currently undefined as Anadarko continues to assess ways of optimizing the use of EPA-reported data.
		Voluntary agreements provide opportunities for Anadarko to report and disclose action on climate change. These actions are positive for Anadarko in that they enable the						Financial implications associated with voluntary agreements may include	Anadarko is involved in a variety of voluntary agreements, including those with ACR and The Climate Registry (TCR), both of which Anadarko is a founding member. Anadarko also is actively involved in the EPA Natural Gas STAR program. We are also participating in two of the EDF methane emission evaluation projects (EDF/UT Production	There are minimal costs of involvement in voluntary agreements. Some nominal costs are associated with those programs requiring membership, such as TCR

Voluntary agreements	company to show factual and current operational data regarding GHG emissions. Participation in voluntary agreements also highlights Anadarko's commitment to transparency regarding climate change.	Wider social benefits	Up to 1 year	Direct	More likely than not	Low	increased shareholder investment as investors become comfortable with the positive and environmentally proactive actions taken by Anadarko.	Methane Study and EDF/CSU Midstream Methane Study). Anadarko participates in these voluntary agreements and studies as avenues for disclosing and reporting its GHG emissions as well as emission reductions to the greater public. Anadarko also comments and provides feedback on ways to make these programs more robust by suggesting improvements to reporting guidelines and providing participation on workgroups.	and ACR, which Anadarko participates in. The EDF/UT Production Methane Study cost a total of $357,500 for participation and $200,000 for participation in the EDF/CSU Midstream Methane Study (to date).
Air pollution limits	Federal regulation of coal-fired power plants has and may continue to result in conversions of coal-fired units to natural gas fired units. This will be a positive outcome for Anadarko as a natural gas producer.	Increased demand for existing products/services	Up to 1 year	Direct	Very likely	Medium	Regulators increased and continued focus on GHG emissions from electric generating units has and will continue to increase the demand for natural gas in the United States and other countries. Financial implications are increased sale of product.	Anadarko is engaged in reviewing and preparing for the federal GHG emission regulations of electric generating units. The company's engagement in Clean Air Clean Jobs Act in Colorado is an example of its management of this opportunity.	There is minimal cost of tracking and evaluating federal regulation of electric generating units.

CC6.1c

Please describe the 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
							Some studies debate GHG emission benefits of natural gas over coal and impacts	Anadarko has been working	Anadarko is contributing funds directly to the University of Texas to

Reputation	Current debate surrounds the GHG emission implications of natural gas production, which has resulted in much criticism of the oil and gas industry both domestically and abroad. Anadarko has an opportunity to engage this discussion with robust and verifiable data that can better inform this debate and also lend credibility to and bolster Anadarko's reputation as a transparent and responsible operator.	Wider social benefits	Up to 1 year	Direct	Very likely	Medium	of hydraulic fracturing. Often asked about these studies when exploring new regions and countries, we provide measured data to inform stakeholders about GHG emissions from natural gas production, rather than relying on estimates. This approach provides transparency and bolsters Anadarko's reputation, which translates to improved license to operate, reduced operational costs, and faster time to production.	with the EDF and several other operators to fund a groundbreaking study conducted by the University of Texas to measure methane emissions from natural gas production. Anadarko is also participating in efforts through API to provide improved data to EPA. Anadarko has expanded these efforts to fund phase 2 of the EDF/UT Production Methane Study and EDF/CSU Midstream Methane Study.	support the EDF Production Methane Study. Anadarko also pays membership fees to industry organizations to participate in conversations with regulators about how to improve GHG emissions data from the oil and gas sector. Anadarko is funding the EDF/CSU Midstream Methane Study and is considering other requests to support improved methane emission data enhancement efforts.
Changing consumer behaviour	As a provider of low-carbon natural gas, Anadarko is positioned to provide a lower carbon footprint to consumers, thereby creating competitive advantage and increased revenues.	Increased demand for existing products/services	Unknown	Direct	Likely	Medium-high	As a producer of low-carbon natural gas, we expect demand for natural gas to increase in a carbon-constrained economy, therefore providing additional revenue to Anadarko, particularly if demand increases so much that natural gas prices increase as well.	Anadarko is currently monitoring demand for natural gas and continues to invest in research and expanded production of natural gas. Anadarko's business strategy focuses on positioning itself as a major supplier of natural gas well into the future.	Currently, there are no specific costs associated with actions around increased research into and production of natural gas. Activities underway now are considered business as usual.

CC6.1e

Please explain why you do not consider your company to be exposed to opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

Anadarko has not identified any opportunities driven by physical climate parameters. There is a lack of data on how physical climate impacts may positively impact the oil and natural gas production and processing industry, resulting in little consideration of related opportunities at this time. Moderate seasonal weather patterns and events represent business as usual for Anadarko's operations and do not provide enhanced business opportunities.

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)

Base year	Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
Sun 01 Jan 2012 - Tue 31 Jan 2012	13189415	716248

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
US EPA Mandatory Greenhouse Gas Reporting Rule

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

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

Further Information

Page: CC8. Emissions Data - (1 Jan 2012 - 31 Dec 2012)

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

13189415

CC8.3
Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

716248

CC8.4
Are there are 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 Scope 2 emissions excluded from this source	Explain why the source is excluded
GHG emissions from all international facilities and small onshore facilities exempt from reporting to EPA.	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	Anadarko has decided to streamline its GHG calculation and reporting with EPA GHGRP requirements. Reporting in compliance with the EPA GHGRP is resource intensive and additional voluntary reporting is challenging. Anadarko has initiated efforts to collect data in order to calculate GHG emissions for international facilities and small domestic facilities not applicable to report to EPA in the future.

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 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
More than 20% but less than or equal to 30%	Data Gaps Assumptions Extrapolation	Several onshore facilities are not applicable to report to EPA because they fall below EPA's reporting threshold or are not included within the physical boundaries of reporting defined by EPA. During the 2013 year, calculated emissions were primarily based on actual data instead of previous years where calculations were based on assumptions and extrapolations. The current uncertainty range primarily represents international operations that are not calculated or reported at this time.	More than 10% but less than or equal to 20%	Data Gaps	Electricity data is not available for international operations at this time.

CC8.6

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

No third party verification or assurance

CC8.7

Please indicate the verification/assurance status that applies to your reported Scope 2 emissions

No third party verification or assurance

CC8.8

Please identify if any data points other than emissions figures have been verified as part of the third party verification work undertaken

Additional data points verified	Comment

CC8.9

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

No

Further Information

Page: CC8. Emissions Data - (1 Jan 2013 - 31 Dec 2013)

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

14478082

CC8.3

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

875805

CC8.4

Are there are 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 Scope 2 emissions excluded from this source	Explain why the source is excluded
GHG emissions from all international facilities and small onshore facilities exempt from reporting to EPA.	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	Anadarko has decided to streamline its GHG calculation and reporting with EPA GHGRP requirements. Reporting in compliance with the EPA GHGRP is resource intensive and additional voluntary reporting is challenging. Anadarko has initiated efforts to collect data in order to calculate GHG emissions for international facilities and small domestic facilities not applicable to report to EPA in the future.

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 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
More than 20% but less than or equal to 30%	Data Gaps Assumptions Extrapolation	Several onshore facilities are not applicable to report to EPA because they fall below EPA's reporting threshold or are not included within the physical boundaries of reporting defined by EPA. During the 2013 year, calculated emissions were primarily based on actual data instead of previous years where calculations were based on assumptions and extrapolations. The current uncertainty range primarily represents international operations that are not calculated or reported at this time.	More than 10% but less than or equal to 20%	Data Gaps	Electricity data is not available for international operations at this time.

CC8.6

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

Third party verification or assurance complete

CC8.6a

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

Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Limited assurance	https://www.cdp.net/sites/2014/45/745/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Anadarko CY2013 CDP VOS 06052014 checked.pdf	All	ISO14064-3	14

CC8.7

Please indicate the verification/assurance status that applies to your reported Scope 2 emissions

No third party verification or assurance

CC8.8
Please identify if any data points other than emissions figures have been verified as part of the third party verification work undertaken

Additional data points verified	Comment

CC8.9
Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

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 CO2e

CC9.2
Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2013 - 31 Dec 2013)

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 CO2e

CC9.2
Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division
By GHG type

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

Business division	Scope 1 emissions (metric tonnes CO2e)
Rockies	12569962
Southern	1486852
GOM	421269

CC9.2c
Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	12659755
CH4	1816754
N2O	1573

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

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 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted for CC8.3 (MWh)

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 emissions (metric tonnes CO2e)
US Rockies	665966
US Southern	50282

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2013 - 31 Dec 2013)

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 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted for CC8.3 (MWh)

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 emissions (metric tonnes CO2e)
US Rockies	793243
US Southern	82561

Further Information

Page: CC11. Energy

CC11.1
What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

CC11.2

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

Energy type	MWh
Fuel	
Electricity	1829621
Heat	13952
Steam	3043
Cooling	5474

CC11.3

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

Fuels	MWh

CC11.4

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

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comment

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?

Increased

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	Comment
Emissions reduction activities			
Divestment			
Acquisitions			
Mergers			
Change in output			
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other	9.4	Increase	(1) Anadarko's growth in existing assets and acquisition of additional assets contributed to overall emission increases. (2) EPA's GHGRP requirements to utilize actual data over estimated and assumed data resulted in an additional increase of emissions between 2012 and 2013.

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	Metric	Metric	% change from	Direction of change	Reason for change

figure	numerator	denominator	previous year	from previous year	
1.05	metric tonnes CO2e	unit total revenue	1.5	Increase	The intensity rates stayed fairly consistent between 2012 and 2013. Anadarko's growth in existing assets and acquisition of additional assets contributed to overall emission increases. EPA's GHGRP requirements to utilize actual data over estimated and assumed data resulted in an additional increase of emissions between 2012 and 2013.

CC12.3

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
2777	metric tonnes CO2e	FTE employee	0.4	Increase	Anadarko has increased staff over the past few years. Anadarko's growth in existing assets and acquisition of additional assets contributed to overall emission increases. EPA's GHGRP requirements to utilize actual data over estimated and assumed data resulted in an additional increase of emissions between 2012 and 2013.

CC12.4

Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.058	metric tonnes CO2e	barrel of oil equivalent (BOE)	3.1	Increase	The metric of metric tonnes of CO2e per BOE has remained relatively consistent. For 2013 data, Anadarko's growth in existing assets and acquisition of additional assets contributed to overall emission increases. EPA's GHGRP requirements to utilize actual data over estimated and assumed data resulted in an additional increase of emissions between 2012 and 2013.

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
European Union ETS	Tue 01 Jan 2013 - Tue 31 Dec 2013	0	0	1906	Other: Operation of Anadarko's aviation fleet within the UE

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

Anadarko participated for the first time in the EU ETS in 2010 for its aviation fleet. Anadarko's continued strategy is to comply with the EU ETS as required.

CC13.2

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

No

Further Information

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 primary data	Explanation
Purchased goods and services	Relevant, calculated	15687	GHG Protocol, "GHG emissions from transport of mobile sources", version 2.5 (2013) – Calculation Tool		Anadarko uses many contractors for various activities related to its operations, particularly for drilling, completing, working over, and testing of wells. The fuel burned during these contracted activities are Scope 3 GHG emissions.
Capital goods					
Fuel-and-energy-related activities (not included in Scope 1 or 2)					
Upstream transportation and distribution	Relevant, not yet calculated				The transportation and distribution of produced crude oil and natural gas result in fugitive emissions as well as combustion emissions due to the burning of fuel to move products.
Waste generated in operations	Relevant, not yet calculated				The disposal of waste generated by oil and natural gas production requires energy consumption that contributes to Anadarko's total Scope 3 GHG emissions.
Business travel	Relevant, calculated	9634	EU ETS EUROCONTROL estimation tool for small emitters as approved by EU ETS Directive and Part 4 of Annex XIV to Decision 2007/589/EC. . Emissions are calculated using the amount of fuel consumption based on aircraft type, nautical miles flown, and an emission factor of 3.150 kg CO2/kg fuel.	100.00%	The travel required by business globally contributes to Anadarko's Scope 3 total GHG emissions, mostly through fleet aircraft fuel consumption.
Employee commuting					
Upstream leased assets					
Downstream transportation and distribution	Relevant, not yet calculated				The transportation and distribution of produced crude oil and natural gas result in fugitive emissions as well as combustion emissions due to the burning of fuel to move products.
Processing of sold products	Relevant, not yet calculated				The processing of produced crude oil and natural gas at refineries and gas processing facilities results in GHG emissions to the atmosphere.
Use of sold products	Relevant, not yet calculated				The ultimate combustion of produced end products, whether it be fuel in cars or natural gas for heating, results in GHG emissions to the atmosphere.
End of life treatment of sold products					
Downstream leased assets					
Franchises					

Investments					
Other (upstream)					
Other (downstream)					

CC14.2
Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance underway for the reporting year but not yet complete - last year's statement attached

CC14.2a
Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of Scope 3 emissions verified (%)
Reasonable assurance			ISO14064-3	

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
Business travel	Change in output	18	Increase	More international flights were conducted in 2013 than in 2012, perhaps due to an increase in business abroad.

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 suppliers

CC14.4a
Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Anadarko regularly works with suppliers to procure low-GHG emitting equipment and technology to reduce emissions and ensure compliance with all applicable regulations. This engagement takes place via industry groups, workshops and trainings, and face to face direct interaction. Prioritization of engagement depends on the location for which equipment is being procured, regulations that may be applicable there, and cost. Success is measured by showing reductions in GHG emissions and maintaining compliance with all applicable regulations.

CC14.4b
To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend	Comment

CC14.4c
If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details

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
David McBride	VP, Health Safety & Environment	Environment/Sustainability manager

Further Information

Module: Oil & Gas

Page: OG0. Reference information

OG0.1
Please give the gas types included in "All nonconventional gas"

Hydrocarbon group	Gas types in this group

OG0.2
Please give the oil types included in "All conventional oil"

Hydrocarbon group	Oil types in this group

OG0.3
Please give the oil types included in "All nonconventional oil"

Hydrocarbon group	Oil types in this group

Page: OG1. Production & reserves by hydrocarbon type - (1 Jan 2012 - 31 Dec 2012)

OG1.1
Is your organization involved with oil & gas production or reserves?

Page: OG1. Production & reserves by hydrocarbon type - (1 Jan 2013 - 31 Dec 2013)

OG1.1
Is your organization involved with oil & gas production or reserves?

Page: OG2. Emissions by segment in the O&G value chain - (1 Jan 2012 - 31 Dec 2012)

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

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

OG2.3
Please provide masses of gross Scope 1 GHG emissions in units of metric tonnes CO2e for the organization's owned/controlled operations by value chain segment. The values required for 2014 are forward-looking estimates

Segment	Gross Scope 1 emissions (metric tonnes CO2e) - Reporting year	Gross Scope 1 emissions (metric tonnes CO2e) - 2014 estimate

OG2.4
Please provide masses of gross Scope 2 GHG emissions in units of metric tonnes CO2e for the organization's owned/controlled operations by value chain segment. The values required for 2014 are forward-looking estimates

Segment	Gross Scope 2 emissions (metric tonnes CO2e) – Reporting year	Gross Scope 2 emissions (metric tonnes CO2e) – 2014 estimate

Page: OG2. Emissions by segment in the O&G value chain - (1 Jan 2013 - 31 Dec 2013)

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

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

OG2.3

Please provide masses of gross Scope 1 GHG emissions in units of metric tonnes CO2e for the organization's owned/controlled operations by value chain segment. The values required for 2014 are forward-looking estimates

Segment	Gross Scope 1 emissions (metric tonnes CO2e) - Reporting year	Gross Scope 1 emissions (metric tonnes CO2e) - 2014 estimate

OG2.4

Please provide masses of gross Scope 2 GHG emissions in units of metric tonnes CO2e for the organization's owned/controlled operations by value chain segment. The values required for 2014 are forward-looking estimates

Segment	Gross Scope 2 emissions (metric tonnes CO2e) – Reporting year	Gross Scope 2 emissions (metric tonnes CO2e) – 2014 estimate

Page: OG3. Scope 1 emissions by emissions category - (1 Jan 2012 - 31 Dec 2012)

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

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

OG3.3

Please provide masses of gross Scope 1 GHG emissions released into the atmosphere in units of metric tonnes CO2e for the whole organization broken down by emissions categories: combustion, flaring, process emissions, vented emissions, fugitive emissions. The values required for 2014 are forward-looking estimates

Category	Gross Scope 1 emissions (metric tonnes CO2e) – Reporting year	Gross Scope 1 emissions (metric tonnes CO2e) – 2014 estimate

Page: OG3. Scope 1 emissions by emissions category - (1 Jan 2013 - 31 Dec 2013)

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

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

OG3.3

Please provide masses of gross Scope 1 GHG emissions released into the atmosphere in units of metric tonnes CO2e for the whole organization broken down by emissions categories: combustion, flaring, process emissions, vented emissions, fugitive emissions. The values required for 2014 are forward-looking estimates

Category	Gross Scope 1 emissions (metric tonnes CO2e) – Reporting year	Gross Scope 1 emissions (metric tonnes CO2e) – 2014 estimate

Page: OG4. Transfers & sequestration of CO2 emissions - (1 Jan 2012 - 31 Dec 2012)

OG4.1

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

Page: OG4. Transfers & sequestration of CO2 emissions - (1 Jan 2013 - 31 Dec 2013)

OG4.1

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

Page: OG5. Sales and emissions intensity of production by hydrocarbon type - (1 Jan 2012 - 31 Dec 2012)

OG5.1

Please provide values for annual sales of the hydrocarbon types (in units of BOE) for the years given in the following table. The values required are aggregate values for the reporting organization. The values for 2014 are forward-looking estimates

Product	Sales (BOE) - Reporting year	Sales (BOE) - 2014 estimate

OG5.2

Please provide estimated emissions (Scope 1 + Scope 2) intensities for the a) exploration, production and gas processing, b) storage, transportation and distribution, and c) refining associated with different hydrocarbon types based on the current production and operations

Year ending	Hydrocarbon type	Emissions intensity: exploration, production & gas processing (metric tonnes CO2e per thousand BOE)	Emissions intensity: storage, transportation & distribution (metric tonnes CO2e per thousand BOE)	Emissions intensity: refining (metric tonnes CO2e per thousand BOE)

OG5.3
Is your organization involved in the extraction of bitumen from oil sands?

OG5.4
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

Page: OG5. Sales and emissions intensity of production by hydrocarbon type - (1 Jan 2013 - 31 Dec 2013)

OG5.1
Please provide values for annual sales of the hydrocarbon types (in units of BOE) for the years given in the following table. The values required are aggregate values for the reporting organization. The values for 2014 are forward-looking estimates

Product	Sales (BOE) - Reporting year	Sales (BOE) - 2014 estimate

OG5.2
Please provide estimated emissions (Scope 1 + Scope 2) intensities for the a) exploration, production and gas processing, b) storage, transportation and distribution, and c) refining associated with different hydrocarbon types based on the current production and operations

Year ending	Hydrocarbon type	Emissions intensity: exploration, production & gas processing (metric tonnes CO2e per thousand BOE)	Emissions intensity: storage, transportation & distribution (metric tonnes CO2e per thousand BOE)	Emissions intensity: refining (metric tonnes CO2e per thousand BOE)

OG5.3
Is your organization involved in the extraction of bitumen from oil sands?

OG5.4
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

Page: OG6. Development strategy - (1 Jan 2012 - 31 Dec 2012)

OG6.1
For each relevant capital allocation area, please provide financial information for the reporting year

Capital allocation area	Sales generated	Earnings Before Interest, Taxation, Depreciation, Amortization (EBITDA)	Net assets	Capital expenditure	Comment

OG6.2
Please describe your future capital expenditure plans for different capital allocation areas

Capital allocation area	Capital Expenditure	Total return expected from capital expenditure investments	Comment

OG6.3
Please describe your current expenses in research and development (R&D) and future R&D expenditure plans for different capital allocation areas

Capital allocation area	R&D expenses – Reporting year	R&D expenses – Future plans	Comment

Page: OG6. Development strategy - (1 Jan 2013 - 31 Dec 2013)

OG6.1
For each relevant capital allocation area, please provide financial information for the reporting year

Capital allocation area	Sales generated	Earnings Before Interest, Taxation, Depreciation, Amortization (EBITDA)	Net assets	Capital expenditure	Comment

OG6.2
Please describe your future capital expenditure plans for different capital allocation areas

Capital allocation area	Capital Expenditure	Total return expected from capital expenditure investments	Comment

OG6.3
Please describe your current expenses in research and development (R&D) and future R&D expenditure plans for different capital allocation areas

Capital allocation area	R&D expenses – Reporting year	R&D expenses – Future plans	Comment

Page: OG7. Methane from the natural gas value chain - approach & quantification

OG7.1
Please indicate the consolidation basis (financial control, operational control, equity share) used to prepare data to answer the questions in OG7 and OG8

Segment	Consolidation basis

OG7.1a
Please provide clarification for cases in which different consolidation bases have been used

OG7.2
Does your organization have written operating procedures and/or policies covering the reduction of methane leakage and venting?

OG7.3
Has your organization set quantitative or qualitative goals for reducing methane leakage and venting?

OG7.4
Has your organization published a policy position on the regulation of methane emissions?

OG7.5
Does your organization inventory and quantify the methane emissions associated with your operations?

Page: OG8. Methane from the natural gas value chain - control measures

OG8.1
Are reduced emission completions relevant to your operations?

OG8.2
Is liquids unloading (de-watering) of natural gas wells relevant to your operations?

OG8.3
Does your organization have a program for identifying and replacing or retrofitting high-bleed rate pneumatic controllers powered by natural gas (i.e. controllers that vent more than 6 standard cubic feet per hour)?

OG8.4
Are natural gas compressors relevant to your operations?

OG8.5
Is associated gas relevant to your organization?