

Module: Introduction

Page: Introduction

0.1

Introduction

Please give a general description and introduction to your organization

Noble Energy, Inc. ("Noble Energy" or "Company") is a leading independent energy company engaged in worldwide oil and gas exploration and production. Founded by Lloyd Noble in 1932, Noble Energy, a Delaware corporation, has been publicly traded on the New York Stock Exchange (NYSE) since 1980 under the ticker symbol NBL. Noble Energy has five core operating areas: the Denver-Julesburg (DJ) Basin (onshore U.S.), the Marcellus Shale (onshore U.S.), the deepwater Gulf of Mexico (offshore U.S.), offshore West Africa, and offshore Eastern Mediterranean. Proved reserves are geographically balanced amongst the international and domestic operations, with 1,184 million barrels of oil equivalent (BOE) proved at the end of 2012. In 2012, gross oil and gas production averaged 241,000 BOE per day (BOE/D). Visit Noble Energy online at www.nobleenergyinc.com.

0.2

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

Sun 01 Jan 2012 - Mon 31 Dec 2012

0.3

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

Israel

United States of America

Equatorial Guinea

0.4

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(\$)

0.6

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 and companies in the information technology and telecommunications 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@cdproject.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.cdproject.net/en-US/Programmes/Pages/More-questionnaires.aspx>.

Module: Management [Investor]

Page: 1. Governance

1.1

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

Senior Manager/Officer

1.1a

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

- i) Vice President (VP) of Environmental, Health, Safety, and Regulatory (EHSR)
 - ii) The VP of EHSR at Noble Energy has the highest level of direct oversight for climate change within the organization. This individual reports to the President and Chief Operating Officer and gives periodic updates to the Board of Directors. This process ensures responsibility and awareness for carbon management goes all the way up to the Chief Executive Officer (CEO) and Board of Directors. The Environmental Engineering Manager oversees the EHS Council which is made up of dedicated representatives from various areas of operations and meets periodically to share experiences, issues and concerns and serve as advisors to foster a safe, healthy and environmentally responsible workplace.
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1.2

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

No

1.2a

Please complete the table

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
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Page: 2. Strategy

2.1

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

2.1a

Please provide further details

i) Scope is company-wide

ii) As part of its commitment to environmental stewardship and social responsibility, reducing GHG emissions is at the forefront of our priority list. Noble Energy's approach to GHG management is to continually improve its methods to accurately calculate and reduce GHGs through business practices and emission reduction projects.

ii, iii, v) The Company's Enterprise Risk Management (ERM) system is a robust process that provides the framework to effectively identify, assess, monitor and mitigate potential business risks. By proactively managing its top risks, Noble Energy reduces the likelihood of surprises and associated losses in its activities and is better positioned to identify and capitalize on opportunities.

iv, vi) Senior executives identify emerging climate change risks, develop the mitigation strategy and report this to the Board of Directors quarterly. In 2011, Noble Energy formed an ERM Committee composed of senior level personnel from various disciplines to assist management in identifying, updating and mitigating risks applicable to its business.

2.2

Is climate change integrated into your business strategy?

Yes

2.2a

Please describe the process and outcomes

i) Noble Energy has an EHS Committee that is committed to driving environmental awareness and reports to the Board of Directors on a quarterly basis. The EHS Committee was established in January 2011 and is chaired by the CEO. The committee assists the Board in determining whether appropriate EHS policies and management systems are in place. This assures compliance with applicable regulations such as the Environmental Protection Agency's ("EPA's") Mandatory Reporting of GHG Rule and others. As part of its commitment to environmental stewardship and social responsibility, reducing GHG emissions is at the forefront of Noble Energy's priority list. Noble Energy's approach to GHG management is to continually improve our methods to accurately calculate and reduce GHGs through business practices and emission reduction projects.

ii) As part of Noble Energy's risk management process, the Company monitors proposed and approved climate change regulations, such as EPA's Mandatory Reporting of GHG Rule and the Hydraulic Fracturing Green Completion Rule.

iii) As part of the commitment to responsible operations and social responsibility, reducing GHG emissions is one of Noble Energy's priorities. The Company's GHG emissions-reduction strategy includes maintaining an accurate emissions database, implementing operational enhancements, proactively maintaining equipment and reducing truck traffic. As an example, the Company is currently operating one LNG rig in Colorado and four dual-fuel (diesel and LNG) rigs across U.S. operations. Compared to a traditional diesel rig, each LNG rig decreases daily fuel costs by between \$1,000 and \$1,500 and reduces overall air emissions. Noble Energy also announced the construction of a \$50 million LNG plant in conjunction with the Company's Keota gas processing plant in rural Weld County. The plant, which is scheduled to be constructed in mid-2014, will produce approximately 100,000 gallons of LNG fuel per day. Noble Energy is also actively pursuing local and national markets for LNG outside of internal drilling operations.

iv) At this time, Noble Energy is unable to determine the extent to which climate change may lead to increased storm or weather hazards affecting its operations, particularly offshore operations and onshore U.S. operations in the DJ Basin and Marcellus Shale, but it does carry insurance.

v) In terms of opportunities, the regulation of GHGs and introduction of formal technology incentives, such as enhanced oil recovery, carbon sequestration and low carbon fuel standards, could benefit the Company in a variety of ways. GHG emissions regulation could reduce the demand for the crude oil the Company produces. At the same time, the burning of natural gas produces lower levels of emissions than other readily available fossil fuels such as oil and coal. Therefore, the use of natural gas may increase should the use of other fossil fuels decrease due to GHG emissions regulation.

vi) Currently, no substantial business decisions have been made that were influenced by climate change driven aspects of Noble Energy's strategy.

2.2b

Please explain why not

2.3

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

Direct engagement

2.3a

On what issues have you been engaging directly?

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
Mandatory carbon reporting	Support with minor exceptions	Noble Energy is directly engaging with the EPA regarding gas well venting during completions and workovers from hydraulic fracturing [40CFR98.233(g)]. This is part of the EPA Mandatory Greenhouse Gas Reporting Rule, Subpart W. In 2012, Noble Energy staff held a meeting to engage with Subpart W Management at EPA to discuss flowback emission from hydraulically fractured gas wells required under 98.233(g) of the Mandatory Reporting Rule. At this meeting, Noble Energy presented extensive research on an alternative correlation equation methodology to replace Equations W-11A and W-11B in the rule. Currently these equations over-estimate the volume of methane produced during flowback operations due to their methodology. Noble Energy conducted actual methane flowback measurements in the Denver-Julesburg basin and developed a more representative correlation equation and methodology for estimating flowback methane	We support technical changes to flowback emission calculation methodologies for hydraulically fractured gas wells required by EPA 40CFR98.233(g). We believe this updated calculation will more accurately estimate the volume of methane produced during flowback operations.

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
		emissions.	

2.3b

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

2.3c

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?

2.3d

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

2.3e

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

2.3f

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

2.3g

Please provide details of the other engagement activities that you undertake

2.3h

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?

Noble Energy has a process for tracking current and proposed climate change legislation and regulation at the state, regional, federal, and international levels. We use several internal and external resources to assess legislative changes and their potential impact to our business. As a leading independent energy company, the Company is fully engaged in public discussions on pending U.S. energy policy legislation. We approach governmental engagement as an opportunity to solve problems for the public good.

2.3i

Please explain why you do not engage with policy makers

Page: 3. Targets and Initiatives

3.1

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

No

3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
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3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
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3.1c

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

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
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3.1d

Please provide details on your progress against this target made in the reporting year

ID	% complete (time)	% complete (emissions)	Comment
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3.1e

Please explain (i) why not; and (ii) forecast how your emissions will change over the next five years

i) Changes in the Company's calculation methodology were made in 2012 to achieve compliance with EPA's Mandatory Greenhouse Gas Reporting Rule. Due to these methodology changes, year-over-year performance comparisons cannot be made. Going forward, our 2012 GHG data will serve as the baseline for performance comparisons and targets.

ii) Based on new Noble Energy operations due to come online in 2013, we expect emissions to increase. However, the exact percentage is unknown at this time.

3.2

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

No

3.2a

Please provide details (see guidance)

3.3

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

Yes

3.3a

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	0	
To be implemented*	0	
Implementation commenced*	0	
Implemented*	6	19960
Not to be implemented	0	

3.3b

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 Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
Fugitive emissions reduction	A voluntary maintenance program has been developed using specially designed Infrared cameras and travelling to all Noble Energy-operated onshore facilities to survey sites and detect fugitive emissions. Once fugitive Scope 1 emissions are identified, they are repaired on site or scheduled for repair. In 2012, two full-time employees were hired to manage the program. The Company surveyed nearly 600 sites and identified approximately 1,000 occurrences.	11400	85000	200000	1-3 years
Process emissions reductions	Noble Energy has developed EcoNodes, which are facilities that use advanced engineering to consolidate up to 32 wells on to one pad to reduce physical drilling space and minimize air emissions, water consumption and road use. EcoNode facilities reduce land use (e.g., pads, roads, rights-of-way, facilities) by 60 to 80				

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
	<p>percent across activities in the DJ Basin, compared to industry standards. In 2013, even greater land-use reductions are anticipated by continued consolidation and technology application. EcoNodes capture nearly all gas emissions and transport recycled or sourced water to the worksites via pipeline. In 2012, the Company eliminated 42,000 water truck trips by transferring 28 percent of fracturing water via underground pipelines. In 2013, it is projected that 60 percent of all hydraulic fracture water will be transferred by pipe, eliminating approximately 14,500 truck trips per month. Trips will also be reduced through the expanded use of water recycling and startup of an oil transport pipeline. Over the next decade, these initiatives will reduce oil and hydraulic fracture water truck trips by nearly 226 million road miles and eliminate 722,000 tons of CO2 emissions. The overall goal of this voluntary program is to both increase production yields while reducing operating costs and minimizing our environmental impacts. The project is expected to be permanent and the last the lifetime of the well (30-50 years). Noble Energy has not yet determined savings and total costs of this project.</p>				
Process emissions reductions	<p>In Wattenberg, Colorado, the majority of flash gas is flared and all flowbacks for horizontal wells are flared as opposed to vented. Flaring is the preferred option for managing flash gas since it results in less GHG emissions compared to venting flash gas. This initiative was mandatory and reduces Noble Energy's Scope 1 emissions. The expected lifetime of the activity is for as long as Noble Energy has operations in Wattenberg.</p>				
Process emissions reductions	<p>The Company is currently operating one LNG rig in Colorado and four dual-fuel (diesel and LNG) rigs across the U.S. operations. Each LNG rig reduces daily fuel costs by between \$1,000 and \$1,500 and reduces overall air emissions compared to traditional diesel rigs. This initiative reduces Noble Energy's Scope 1 emissions and is scheduled to last the lifetime of Noble Energy's operations.</p>				
Process emissions reductions	<p>Noble Energy participates in a voluntary U.S. Vapor Recovery Unit (VRU) program. Vapor recovery units are commonly used to capture fumes for further use, while reducing flaring and volatile organic compound (VOC) emissions. Noble Energy continues to optimize its vapor recovery program to capture, rather than combust, oil tank vapors and, with new designs in forward development areas, will exceed the regulatory requirement to reduce VOCs by 90 percent from tank batteries in</p>	8500	200000	2156400	4-10 years

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
	Colorado. The lifetime of this project is expected to be as long as Noble Energy has operations in this area.				
Transportation: fleet	We have voluntarily continued to convert trucks in our fleet to run on compressed natural gas (CNG). By the end of 2012, Noble Energy converted 33 trucks in the DJ Basin to run on CNG, which was more than twice the number of conversions in 2011 and now represents more than 10 percent of the total fleet. The company's goal is to convert all the trucks in its fleet to CNG as fueling station accessibility allows. This initiative results in Scope 1 emissions reductions, and the lifetime of the trucks is seven to ten years.	60	88000	396000	4-10 years

3.3c

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

Method	Comment
Compliance with regulatory requirements/standards	By complying with regulatory requirements, costly fines are avoided and operations are altered to be more efficient, thereby increasing production and revenue. Also, emissions reduction projects help Noble Energy stay ahead of future regulations.
Dedicated budget for other emissions reduction activities	A budget of approximately \$2.8 million is used for emissions reduction activities such as fleet conversion, vapor recovery units, and infrared cameras. These projects often provide proven economic value to the business units.
Employee engagement	Noble Energy has an environmental engineering group dedicated to implementing emission reduction activities and exploring new opportunities. The group works to reduce emissions at the corporate and field level to maximize the potential of the reduction activities. On Noble Energy's internal website, employees can submit ideas for emission reduction activities that are reviewed by the environmental engineering group.
Partnering with governments on technology development	As part of its GHG emissions reduction strategy, Noble Energy continues to support the expanded use of CNG and LNG, and partners with the government when appropriate. CNG fueling stations are essential infrastructure to enhance the ability of natural gas cars, trucks and vehicle fleets to grow throughout Colorado. In 2012, four natural gas fueling stations were

Method	Comment
	opened by Mansfield Energy Corp. and ZeitEnergy, partially funded through a Congestion Mitigation and Air Quality Improvement (CMAQ) grant with matched funds from Noble Energy and other partners. Additionally, the company has committed \$5 million over five years to two Weld County school districts to support the conversion and purchase of new CNG school buses. This project not only helps local school districts replace aging buses, it also helps the region expand the market for CNG. The lower cost of CNG could save the districts an average of \$3,500 per bus each year. The first seven buses will be delivered in early 2013. Throughout this commitment, the Company will work with local and federal agencies to secure matching funds to convert as many buses as possible.

3.3d

If you do not have any emissions reduction initiatives, please explain why not

Page: 4. Communication

4.1

Have you published information about your company'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)	p. 30, 68-69	https://www.cdproject.net/sites/2013/95/13395/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation1/NBL_10K.pdf
In voluntary communications (underway) – previous year attached	p. 34-35	https://www.cdproject.net/sites/2013/95/13395/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation2/NBL_2011SR.pdf

Module: Risks and Opportunities [Investor]

Page: 5. Climate Change Risks

5.1

Have you identified any climate change risks (current or future) 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

5.1a

Please describe your risks driven by changes in regulation

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
RR1	Air pollution limits	The commercial risk associated with the exploration and production of fossil fuels lies in the uncertainty of government-imposed climate legislation, including cap and trade schemes and other regulations. Currently there are new and proposed regulations (such as the Clean Air Act) to require air pollution limits for equipment used in the industry's daily operations and specifically apply to Noble Energy's operations. Failure to comply may result in the issuance of notices of non-compliance and possible penalties.	Increased operational cost	1-5 years	Direct	Virtually certain	Medium
RR2	Carbon taxes	Currently there is draft legislation in the U.S. Congress that could impose a carbon tax. The commercial risk associated with the	Increased operational	Unknown	Direct	About as likely as not	Low-medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		exploration and production of fossil fuels lies in the uncertainty of government imposed climate taxes that may affect Noble Energy, its suppliers, and its customers. The cost of meeting these requirements may have an adverse impact on Noble Energy's financial condition, results of operations, and cash flow.	cost				
RR3	Cap and trade schemes	The commercial risk associated with the exploration and production of fossil fuels lies in the uncertainty of government-imposed climate legislation, including cap and trade schemes. A regulation such as this may have an adverse impact on Noble Energy's financial condition, results of operations and cash flows, and could reduce the demand for Noble Energy's products. Several draft bills imposing a cap and trade system have been unsuccessfully introduced, but the idea continues to be discussed.	Increased operational cost	Unknown	Direct	About as likely as not	Medium-high
RR4	Emission reporting obligations	The commercial risk associated with the exploration and production of fossil fuels lies in the certainty of government-imposed emission reporting obligations. An example includes the Final Mandatory Reporting of GHGs Rule, with which Noble Energy has been working to comply.	Increased operational cost	Current	Direct	Virtually certain	Medium
RR5	Uncertainty surrounding new regulation	On August 16, 2012, EPA finalized the federal New Source Performance Standards for the Crude Oil and Natural Gas Production, Transmission and Distribution source category (NSPS OOOO). NSPS OOOO regulates volatile organic compound (VOC) and sulfur dioxide (SO2) emissions throughout the upstream supply chain (production, processing, transmission, storage, and distribution). Regulated activities include flowback from hydraulic fracturing/refracturing of gas wells, natural gas compressors, natural gas driven pneumatic controllers, storage tanks, fugitive emissions from components (e.g. valves, etc), and sweetening units (e.g. amine units). On April 12, 2013, EPA proposed amendments to the storage tank provisions of NSPS OOOO and various other technical errors in the August 16, 2012 final rule. EPA expects to finalize these amendments by July 31, 2013. Also on August 16, 2012, EPA finalized amendments to the federal National Emission Standards for Hazardous Air Pollutants for the Oil and Natural Gas Production Facilities (NESHAP HH) and Natural Gas Transmission and Storage source (NESHAP HHH) categories that may trigger	Increased operational cost	1-5 years	Direct	Virtually certain	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		new compliance requirements for certain equipment (e.g. glycol dehydration units). Noble Energy must work to comply with any new rules passed.					

5.1b

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk and (iii) the costs associated with these actions

RR2, RR3 RR4, RR5 i) The cost of meeting regulatory requirements may have an adverse impact on Noble Energy's financial condition, results of operations and cash flows, and could reduce the demand for its products. RR1, RR4 i) There are also financial implications for non-compliance. For example, companies who do not report to the Final Mandatory Reporting of GHGs Rule could be fined up to \$37,500 per day of non-compliance.

RR5 ii) Commercial risks associated with the exploration and production of fossil fuels lie in the uncertainty of climate change legislation and regulations that may affect Noble Energy, its suppliers and its customers. RR1, RR2, RR3, RR4, RR5 ii) We actively monitor current and proposed climate change legislation and expect that some combination of performance standards, taxes, tradable emissions credits, and production limitations will become a reality in most areas where we operate in the United States. To monitor and mitigate these risks, Noble Energy has created an Environmental Engineering group that maintains an annual GHG inventory and drives efficiency and emission reduction projects. Additionally, this team has developed software for tracking and calculating GHG emissions as part of compliance with regulations.

RR4 iii) Noble Energy has a specific budget allocated for the management of annual GHG emissions. The budget is approximately \$450,000 to measure, monitor, calculate and report annual GHG emissions. The cost of meeting GHG requirements may have some impact on Noble Energy's financial condition, results of operations and cash flows.

In 2013, Noble Energy has continued to report its GHG emissions in accordance with the Environmental Protection Greenhouse Gas Reporting Program. The EPA defined calculation methods required the implementation of additional monitoring, recordkeeping, reporting and data management systems in a very short time period. RR1, RR2, RR3, RR5 iii) The costs of managing these risks including monitoring regulatory requirements and developments.

5.1c

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

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
PR1	Tropical cyclones (hurricanes and typhoons)	Physical risks are primarily related to extreme weather events, which some research suggests may increase in intensity with rising global temperatures. The extent to which climate change may lead to increased storm or weather hazards affecting the Company's operations, specifically offshore operations, is difficult to identify at this time.	Inability to do business	Unknown	Direct	Unlikely	Low
PR2	Induced changes in natural resources	Physical risks are primarily related to extreme weather events, which some research suggests may increase in intensity with increasing global temperature. This could result in changes in natural resources availability and quality causing price increases, shortages, and possible disruptions to production. The extent to which climate change may lead to changes in natural resources affecting the Company's operations is difficult to identify at this time.	Reduction/disruption in production capacity	Unknown	Direct	Virtually certain	High
PR3	Change in mean (average) temperature	Physical risks are primarily related to extreme weather events, which some research suggests may increase in intensity with increasing global temperature. The extent to which climate change may lead to increased temperature affecting the Company's operations is difficult to identify at this time.	Reduction/disruption in production capacity	Unknown	Indirect (Supply chain)	More likely than not	Medium

5.1d

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; and (iii) the costs associated with these actions

PR1, PR2 PR3 i) Extreme weather conditions increase the Company's operating costs, and damage resulting from extreme weather may not be fully insured. Potential increased meta-ocean design criteria to operate under harsher storm conditions could require more robust design of equipment that may increase costs. Also, the selection of projects and contractors for offshore operations could require specialized facilities, equipment, and personnel to operate safely under harsher

storm conditions. Additionally, any severe weather increase in areas of the Company's operations could potentially have an effect on the ability for Noble Energy to conduct its normal exploration and production activities. This has the potential to have implications on hydrocarbon production and affects the Company's financial situation. We are also currently monitoring and assessing the risks that Noble Energy could face due to a potential lack of water availability and other changes in natural resource availability and quality.

PR1, PR2, PR3 ii) Noble Energy has developed an Incident Management System (IMS) to facilitate the Company's response to various natural disasters including hurricanes, tornadoes and other emergency situations. The Deepwater Horizon event in the Gulf of Mexico changed how the oil and gas industry approaches emergency response. Industry lessons learned from the incident have been used to improve not just Noble Energy's spill response and planning activities, but broader emergency preparedness plans and processes as well. The Company's main focus in 2011 was on improving its emergency response processes and plans. The Company conducted a baseline assessment to determine what procedures were in place and what enhancements were needed and strengthened its relationships with its emergency response contractors, enabling it to more closely align contract requirements to the specific needs of our operations.

Over the next three years, the Company plans to transition its emergency response planning to an All Hazard approach. The effort will require a comprehensive hazard vulnerability assessment to be undertaken at the business unit level. With this approach, planning can then focus on addressing the identified risks specific to each business unit. This process will create a comprehensive preparedness, response and recovery architecture, using the National Fire Protection Administration (NFPA) 1600 - Standard on Disaster/ Emergency Management and Business Continuity Programs. NFPA 1600 is a broad based consensus standard developed for applicability both domestically and internationally, for government, the private sector, and non-governmental organizations.

Through this process, we will revise existing plans to conform to a common response model based on the premises of the Incident Command System (ICS). As part of the ICS model, Noble Energy will develop new plans to address hazards not presently addressed; train personnel in ICS; secure resources to mitigate risks and enhance preparedness capability; establish contracts for support during emergency response and recovery activities; test plans, personnel and equipment through exercises; and capture and implement corrective actions identified through the testing process.

PR1, PR2, PR3 iii) Costs of the systems described above for managing this risk include the capital needed to develop and install the system and employee time.

5.1e

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

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OR1	Reputation	Shifting consumer attitude and education on hydrocarbon production and use as an energy source and GHG emissions could present some broad reputational risks to the industry. There were climate change related	Reduced stock price (market valuation)	Unknown	Direct	Unknown	Medium-high

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		shareholder resolutions filed in 2012 that affected the oil and gas industry.					
OR2	Changing consumer behaviour	Shifting consumer attitude and education on hydrocarbon production and use as an energy source and GHG emissions could present some broad reputational risks to the industry.	Reduced demand for goods/services	Unknown	Indirect (Supply chain)	About as likely as not	Medium-high

5.1f

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; (iii) the costs associated with these actions

OR2 i) Changes in consumer behavior are difficult to assess at this time pending national and international legislation and regulation but could affect consumer demand of fossil fuels. This may have an adverse impact on Noble Energy's financial condition, results of operations and cash flows if a decrease in demand of fossil fuels occurs. OR1 i) Noble Energy's reputational risks associated with climate change could affect shareholder investments, the degree to which cannot be estimated at this time.

OR1, OR2 ii) These risks are mitigated by maintaining an accurate GHG inventory and participating in voluntary reporting programs such as CDP and STAR. OR2 ii) We are publishing our second annual sustainability report in 2013.

OR1 iii) The costs associated with mitigating reputational risks are tied in with the Corporate Climate Policy. OR2 iii) The costs associated with mitigating consumer behavior risks are tied in with our Corporate Social Responsibility budgets.

5.1g

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

5.1h

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

5.1i

Please explain why you do not consider your company to be exposed to risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Page: 6. Climate Change Opportunities

6.1

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

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

Opportunities driven by changes in other climate-related developments

6.1a

Please describe your opportunities that are driven by changes in regulation

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
RO1	Cap and trade schemes	The burning of natural gas produces lower levels of air emissions than other readily available fossil fuels, such as oil and coal, and represents approximately 60% of the Company's energy portfolio. If Noble Energy's customers are subject to a cap and trade scheme, it could increase the demand for natural gas. Noble Energy might be able to directly benefit from selling in a cap and trade market. In addition, if cap and trade was implemented in the transportation sector, natural gas may prove to be a more attractive fuel. This may also increase the market demand for natural gas.	Investment opportunities	Unknown	Direct	About as likely as not	Medium-high
RO2	Emission reporting obligations	Emission reporting obligations allow Noble Energy to identify areas of improvement for efficiency and emissions. These activities give Noble Energy the opportunity to reduce operating costs and potentially increase revenues.	Reduced operational costs	Unknown	Direct	More likely than not	Medium-high

6.1b

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions

RO1 i) Through these opportunities, the use of natural gas may increase should the use of other fossil fuels decrease due to climate change regulation. Since natural gas is a cleaner-burning alternative to other readily available fossil fuels, such as oil and coal, we believe there are many opportunities for growth within the natural gas market. In addition, financial gains could result from cap and trade and increasing operational efficiencies. RO2 i) Due to emission reporting obligations, Noble Energy can identify areas of improvement for efficiency, thus reducing operational costs. It could also spark better operational practices to lower emissions.

RO1, RO2 ii) Because Noble Energy's portfolio is approximately 60% natural gas, we are well-positioned for an increase in demand of natural gas. Furthermore, should renewable resources, such as wind or solar power, become more prevalent, natural gas-fired electric plants may provide an alternative backup to maintain consistent energy supply. For example, we are developing resources for Israel to switch from coal-fired to natural gas-fired electricity, creating a growing demand for Noble Energy's products. Increased natural gas discoveries by Noble Energy are allowing for GHG reduction through conversion of power plants from other fuels to natural gas.

Natural gas is proving also to be an attractive transportation fuel. Natural gas vehicles are cleaner than traditional gasoline or diesel vehicles, resulting in 70-90 percent less carbon monoxide, 75-95 percent less nitrogen oxide, and 20-30 percent less carbon dioxide emissions. Additionally, natural gas is significantly less

expensive: on average, natural gas is over one-third less expensive than gasoline and between 25-42 percent cheaper than diesel. A critical barrier to converting vehicles to natural gas is the lack of necessary infrastructure. We are actively working with our industry peers, trade associations, local governments and the public to advocate for infrastructure and vehicle conversion.

In Colorado, we have partnered with Weld County Smart Energy and industry peers to provide the seed demand for natural gas fueling stations. We currently have 33 super-duty trucks running on compressed natural gas (CNG) in the Wattenberg region. As additional fueling stations come online, we will convert trucks operating within a reasonable radius to CNG, until all 300 of the Company's trucks have been converted or replaced with CNG trucks. Additionally, Noble Energy's Denver, Colorado office has two CNG fueled vehicles available for its employees to borrow on a weekly basis.

Noble Energy seeks to employ new, more environmentally friendly technologies to reduce the amount of GHGs emitted. For example, the Company is currently operating one LNG rig in Colorado and four dual-fuel (diesel and LNG) rigs across U.S. operations. Compared to a traditional diesel rig, each LNG rig decreases daily fuel costs by between \$1,000 and \$1,500 and reduces overall air emissions. Noble Energy is working with its contractors and suppliers to educate them about the benefits of converting to LNG.

RO1, RO2 iii) Noble Energy continues to support CNG and LNG, and fueling stations are an essential infrastructure needed to enhance the ability of natural gas cars, trucks and vehicle fleets to grow throughout Colorado. In 2012, four natural gas fueling stations were opened by Mansfield Energy Corp. and ZeitEnergy, partially funded through a Congestion Mitigation and Air Quality Improvement (CMAQ) grant with matched funds from Noble Energy and other partners. Other costs include employee time and resources in researching and implementing more efficient technologies.

6.1c

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

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
PO1	Change in mean (average) temperature	With increasing global temperature, line freeze events and production equipment maintenance issues will decrease. This will reduce equipment downtime and operational costs for Noble Energy. Also, warmer temperatures increase the amount of air conditioning needed that is potentially powered by energy from natural gas.	Reduced operational costs	Unknown	Direct	Unknown	Medium
PO2	Change in mean (average) temperature	With increasing global temperature, line freeze events and production equipment maintenance issues will decrease, causing an increase in production capacity for Noble Energy.	Increased production capacity	Unknown	Direct	Unknown	Medium

6.1d

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions

PO1 i) There is potential to reduce operational costs. With freezing weather, the likelihood of equipment downtime increases. Line freezes and other issues caused by freezing weather cause equipment to shut-down and require maintenance. With less equipment downtime, operational costs decrease as well. PO2 i) Another financial implication is an increase in production capacity. In some instances, equipment downtime can mean a cessation in production. Another example would be more reliable operation by vapor recovery units (“VRUs”), which results in more gas being recovered and sold, as opposed to being routed to a backup flare when VRUs are down for maintenance purposes. It has the potential to improve financials by requiring more air conditioned cooling in warmer weather. With the increasing trend of replacing coal with natural gas as an energy generator, future energy demand will benefit the natural gas industry.

PO1, PO2 ii) It is difficult to manage this sort of opportunity at this time. The continued promotion of natural gas as a reliable, cleaner energy source will increase the opportunity.

PO1, PO2 iii) Noble Energy is unsure of the costs of this opportunity at the present time.

6.1e

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

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OO1	Reputation	Shifting consumer attitudes and increased education on the lower amount of GHG emissions associated with natural gas production and use as an energy source could present some broad reputational opportunities to Noble Energy.	Increased demand for existing products/services	Unknown	Indirect (Supply chain)	More likely than not	Medium-high
OO2	Changing consumer behaviour	Shifting consumer attitudes and increased education on hydrocarbon production and use as an energy source, and GHG emissions could present some broad reputation opportunities to the industry. For example,	Increased demand for existing products/services	Unknown	Indirect (Supply chain)	More likely than not	Medium-high

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		Noble Energy is currently educating consumers about the emissions reduction benefits of changing fleets to LNG.					

6.1f

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions

RO1, RO2 i) Natural gas will be an economically feasible bridge fuel until renewable sources can be deployed over the next several decades. If consumer attitudes shift and realize the benefits of Natural Gas, Noble Energy may financially benefit from the increased demand of natural gas during this transition period.

RO1, RO2 ii) Noble Energy monitors demand for natural gas and continues to research production opportunities. We also look for opportunities to educate consumers and suppliers about the lower emissions associated with natural gas.

RO1, RO2 iii) Costs include employee time and resources in monitoring, researching, and educating activities.

6.1g

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

6.1h

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

6.1i

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

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading [Investor]

Page: 7. Emissions Methodology

7.1

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 - Mon 31 Dec 2012	2078600	61630

7.2

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

IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2003
Other

7.2a

If you have selected "Other", please provide details below

Title 40 Part 98 - Mandatory Greenhouse Gas Reporting - Subpart W

7.3

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

Gas	Reference
CO2	IPCC Second Assessment Report (SAR - 100 year)
CH4	IPCC Second Assessment Report (SAR - 100 year)
N2O	IPCC Second Assessment Report (SAR - 100 year)

7.4

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

Fuel/Material/Energy	Emission Factor	Unit	Reference
Natural gas	1.39	Other: Scf/hour/component low continuous bleed pneumatic device	Subpart W

Fuel/Material/Energy	Emission Factor	Unit	Reference
Natural gas	37.3	Other: Scf/hour/component high continuous bleed pneumatic device	Subpart W
Natural gas	13.3	Other: Scf/hour/component pneumatic pumps	Subpart W

Page: 8. Emissions Data - (1 Jan 2012 - 31 Dec 2012)

8.1

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

Operational control

8.2

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

2078600

8.3

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

61630

8.4

Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions which are not included in your disclosure?

No

8.4a

Please complete the table

Source	Scope	Explain why the source is excluded

8.5

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 Metering/ Measurement Constraints	The Gas Research Institute/U.S. EPA "Methane Emissions from the Natural Gas Industry" study [GRI/EPA 1996], which is the seminal natural gas industry GHG emission estimation project and the basis for most industry standard emission factors, produced an industry wide methane emission inventory uncertainty of about 33% at a 90% confidence interval. Similarly, the EPA has +30% upper bound/-25% lower bound uncertainty estimates (95% confidence interval) for methane and non-energy CO2 emissions from natural gas systems [EPA 2007]. For petroleum systems, the EPA methane emission estimate uncertainty has a -24% lower	More than 20% but less than or equal to 30%	Data Gaps Assumptions Data Management	Electricity consumption data relied on area-average rates. Some areas electricity data were not completely available.

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
		bound and +148% upper bound [EPA 2007]. These uncertainties are for the entire GHG emissions inventories; uncertainties for individual estimates are generally higher.			

8.6

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

No third party verification or assurance

8.6a

Please indicate the proportion of your Scope 1 emissions that are verified/assured

8.6b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document

8.6c

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission
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8.7

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

No third party verification or assurance

8.7a

Please indicate the proportion of your Scope 2 emissions that are verified/assured

8.7b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
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8.8

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

No

8.8a

Please provide the emissions in metric tonnes CO2

Page: 9. Scope 1 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

9.1

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

Yes

9.1a

Please complete the table below

Country/Region	Scope 1 metric tonnes CO2e
United States of America	1303600
Israel	83400
Equatorial Guinea	691600

9.2

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

By activity

9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
-------------------	--

9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
----------	--	----------	-----------

9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
----------	--

9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Combustion	626800
Flaring	522200
Fugitive	260700
Mobile	40200
Venting	628700

9.2e

Please break down your total gross global Scope 1 emissions by legal structure

Legal structure	Scope 1 emissions (metric tonnes CO2e)
-----------------	--

Page: 10. Scope 2 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

10.1a

Please complete the table below

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 (MWh)
United States of America	60490	70041	0
Israel	810	902	0
Equatorial Guinea	330	371	0

10.2

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

By business division

10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 emissions (metric tonnes CO2e)
Corporate office buildings	21470
Field offices and operations	40160

10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions (metric tonnes CO2e)
----------	--

10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions (metric tonnes CO2e)
----------	--

10.2d

Please break down your total gross global Scope 2 emissions by legal structure

Legal structure	Scope 2 emissions (metric tonnes CO2e)
-----------------	--

Page: 11. Energy

11.1

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

More than 5% but less than or equal to 10%

11.2

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	550004
Electricity	71310
Heat	0

Energy type	MWh
Steam	0
Cooling	0

11.3

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

Fuels	MWh
Diesel/Gas oil	470869
Motor gasoline	24246
Natural gas	46853
Jet gasoline	8036

11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comments
No purchases or generation of low carbon electricity, heat, steam or cooling		

Page: 12. Emissions Performance

12.1

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

Decreased

12.1a

Please complete the table

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	1.3	Decrease	This decrease occurred due to continued and increased use of Vapor Recovery Units
Divestment	6.0	Decrease	Partial year due to divestment of assets in Oklahoma, Texas, Wyoming, and Kansas
Acquisitions			
Mergers			
Change in output	22.6	Increase	Percent increase correlated to increased oil and gas production
Change in methodology	16.6	Decrease	Domestic onshore operations now use U.S. EPA Subpart W methodology
Change in boundary	1.0	Increase	Noble Energy now has operations in West Virginia and Pennsylvania
Change in physical operating conditions			
Unidentified			
Other			

12.2

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.000507	metric tonnes CO2e	unit total revenue	9.5	Decrease	Noble Energy's increased horizontal drilling program in Northern Colorado and larger production volumes from international assets has increased revenue in 2012. A change in methodology also contributes to a decreasing intensity figure.

12.3

Please describe your gross 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
977	metric tonnes CO2e	FTE employee	13.6	Decrease	Due to an increase in output and a decrease in emissions from methodology changes, total emissions remained very similar. With an increase in employee count for 2012, the intensity figure decreased.

12.4

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
0.023	metric tonnes CO2e	barrel of oil equivalent (BOE)	17.9	Decrease	Due to an increase in output and a decrease in emissions from methodology changes, total emissions remained very similar. An

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
					increase in production for 2012 caused the intensity figure to decrease.

Page: 13. Emissions Trading

13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

13.1a

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

13.1b

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

13.2

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

No

13.2a

Please complete the table

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits retired	Purpose, e.g. compliance

Page: 14. Scope 3 Emissions

14.1

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

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Purchased goods and services	Relevant, not yet calculated				
Capital goods	Relevant, not yet calculated				
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, not yet calculated				
Upstream transportation and distribution	Relevant, not yet calculated				
Waste generated in operations	Relevant, not yet calculated				

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Business travel	Relevant, not yet calculated				
Employee commuting	Relevant, not yet calculated				
Upstream leased assets	Relevant, not yet calculated				
Investments	Not evaluated				
Downstream transportation and distribution	Relevant, not yet calculated				
Processing of sold products	Relevant, not yet calculated				
Use of sold products	Relevant, not yet calculated				
End of life treatment of sold products	Not relevant, explanation provided		Product life cycle ends prior to when products are sold.		
Downstream leased assets	Not relevant, explanation provided		Noble Energy does not have any downstream leased assets at the current time.		
Franchises	Not relevant, explanation provided		Noble Energy does not have any franchises at the current time.		
Other (upstream)	Not evaluated				
Other (downstream)	Not evaluated				

14.2

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

No third party verification or assurance

14.2a

Please indicate the proportion of your Scope 3 emissions that are verified/assured

14.2b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
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14.3

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

No, we don't have any emissions data

14.3a

Please complete the table

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
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14.4

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

14.4a

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

Where possible, we work with our supply chain to promote CNG and LNG. For example, in 2012, we partnered with one of our water haulers in the DJ Basin, Renewable Fiber, to finance 10 LNG trucks to haul freshwater. These trucks will help the company reduce costs and lower emissions. Natural gas vehicles are cleaner than traditional gasoline or diesel vehicles, resulting in 70-90 percent less carbon monoxide, 75-95 percent less nitrogen oxide, and 20-30 percent less carbon dioxide emissions. Additionally, natural gas is significantly less expensive: on average, natural gas is over one-third less expensive than gasoline and between 25-42 percent cheaper than diesel.

14.4b

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
---------------------	------------------	---------

14.4c

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
------------------------------	---------------------

14.4d

Please explain why not and any plans you have to develop an engagement strategy in the future

Module: Oil & Gas

Page: OG0 Reference information

OG0.1

Please enter the dates for the periods for which you will be providing data. We ask for historic data for the year ending in 2007 to the year ending in 2012 and a forecast for the year ending in 2013. The years given as column headings in subsequent tables correspond to the year ending dates selected below

Year ending	Date range
2012	Thu 01 Jan 2009 - Mon 31 Dec 2012

OG0.2

Please give the gas types included in "All nonconventional gas"

Hydrocarbon group	Gas types in this group
All nonconventional gas	Coalbed methane Shale gas Tight gas

OG0.3

Please give the oil types included in "All conventional oil"

Hydrocarbon group	Oil types in this group
-------------------	-------------------------

Hydrocarbon group	Oil types in this group
All conventional oil	Light & medium oils Natural gas liquids inc condensate

OG0.4

Please give the oil types included in "All nonconventional oil"

Hydrocarbon group	Oil types in this group
All nonconventional oil	Shale oil

Page: OG1 Production & reserves by hydrocarbon type

OG1.1

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

Yes

OG1.2

Please provide values for annual production of each 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 2013 are forward-looking estimates

Product	2007	2008	2009	2010	2011	2012	2013 single estimate	2013 low estimate	2013 high estimate
Natural gas liquids inc condensate			48000000	57000000	60000000	49000000	53000000	52000000	54000000
Light & medium oils			29000000	19000000	26000000	39000000	47000000	46000000	49000000

OG1.3

Please provide values for reserves by hydrocarbon types (in units of BOE) for 2012. Please indicate if the figures are for reserves that are proved, probable or both proved and probable. The values required are aggregate values for the reporting organization

Product	Country/region	Reserves (BOE), 2012	Date of assessment	Proved/Probable/Proved+Probable
Natural gas liquids inc condensate	United States of America	331000000	Mon 29 Apr 2013	Proved
Natural gas liquids inc condensate	Equatorial Guinea	120000000	Mon 29 Apr 2013	Proved
Natural gas liquids inc condensate	Israel	375000000	Mon 29 Apr 2013	Proved
Natural gas liquids inc condensate	Rest of world	2000000	Mon 29 Apr 2013	Proved
Light & medium oils	United States of America	244000000	Mon 29 Apr 2013	Proved
Light & medium oils	Equatorial Guinea	100000000	Mon 29 Apr 2013	Proved
Light & medium oils	Israel	3000000	Mon 29 Apr 2013	Proved
Light & medium oils	Rest of world	10000000	Mon 29 Apr 2013	Proved

OG1.4

Please explain which listing requirements or other methodologies you have used to provide reserves data in OG1.3. If a company cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this

Our policies regarding internal controls over the recording of reserves estimates require reserves to be in compliance with the Securities and Exchange Commission (SEC) definitions and guidance and prepared in accordance with Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the Society of Petroleum Engineers.

The SEC's reserves rules expanded the technologies that a company can use to establish reserves. The SEC now allows use of techniques that have been proved effective by actual production from projects in the same reservoir or an analogous reservoir or by other evidence using reliable technology that establishes reasonable certainty. Reliable technology is a grouping of one or more technologies (including computational methods) that has been field tested and has been demonstrated to provide reasonably certain results with consistency and repeatability in the formation being evaluated or in an analogous formation. We used a combination of production and pressure performance, wireline wellbore measurements, simulation studies, offset analogies, seismic data and interpretation, wireline formation tests, geophysical logs and core data to calculate our reserves estimates, including the material additions to the 2012 reserves estimates.

Internally, the Audit Committee of the Company's Board of Directors reviews significant reserves changes on an annual basis. Externally, each field representing

more than 1 percent of total proved reserves, as well as a selection of smaller fields, which combined represent over 80 percent of our proved reserves, are audited by Netherland, Sewell & Associates, Inc. (NSAI), a third-party petroleum consulting firm, on an annual basis.

OG1.5

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

No

OG1.5a

Please explain the techniques you have most commonly used and their relative energy intensity

Page: OG2 Emissions by segment in the O&G value chain

OG2.1

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

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

OG2.2

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

Noble Energy is only involved in the exploration, production, and gas processing segment of the petroleum industry. This is due to economical, equipment, and expertise reasons.

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 2013 are forward-looking estimates

Segment	2007	2008	2009	2010	2011	2012	2013 single estimate	2013 low estimate	2013 high estimate
Exploration, production & gas processing			2330200	2734000	2045300	2078600	2400000	2100000	2600000

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 2013 are forward-looking estimates

Segment	2007	2008	2009	2010	2011	2012	2013 single estimate	2013 low estimate	2013 high estimate
Exploration, production & gas processing			151300	99000	75800	61630	62000	61000	65000

Page: OG3 Scope 1 emissions by emissions category

OG3.1

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

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

OG3.2

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

OG3.3

Please provide masses of gross Scope 1 GHG emissions released to 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 2013 are forward-looking estimates

Category	2007	2008	2009	2010	2011	2012	2013 single estimate	2013 low estimate	2013 high estimate
Combustion			1056000	1275000	789500	626800	800000	700000	850000
Flaring			254000	362500	382600	522200	600000	500000	650000
Process emissions			0	0	0	0	0	0	0
Vented emissions			828000	915000	691600	628700	700000	650000	750000
Fugitive emissions			145000	170000	168200	260700	300000	250000	350000

Page: OG4 Transfers & sequestration of CO₂ emissions

OG4.1

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

No

OG4.2

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

Activity	Consolidation basis

OG4.3

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

OG4.4

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

Transfer direction	2007	2008	2009	2010	2011	2012

OG4.5

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

OG4.6

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

OG4.7

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

Capture pathway in CCS	Captured CO ₂ (metric tonnes CO ₂)	Percentage transferred in	Percentage transferred out
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OG4.8

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

Injection and storage pathway	Injected CO ₂ (metric tonnes CO ₂)	Percentage of injected CO ₂ intended for long-term (>100 year) storage	Year in which injection began	Cumulative CO ₂ injected and stored (metric tonnes CO ₂)
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OG4.9

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

Page: OG5 Sales and emissions intensity of production by hydrocarbon type

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 2013 are forward-looking estimates

Product	2007	2008	2009	2010	2011	2012	2013 single estimate	2013 low estimate	2013 high estimate
Other: Natural Gas			47450000	47815000	49640000	47450000	51000000	50000000	52000000
Light & medium oils			23360000	24090000	24090000	33945000	41000000	39000000	43000000
NGL/condensate			5840000	6935000	7300000	7665000	9000000	8000000	10000000

OG5.2

Please provide estimated emissions intensities for the exploration, production and gas processing 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)
2011	Natural gas liquids inc condensate	28
2011	Light & medium oils	28
2012	Natural gas liquids inc condensate	23
2012	Light & medium oils	23

OG5.3

Please provide estimated emissions intensities for a) storage, transportation and distribution and b) refining associated with different hydrocarbon types based on current operations

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

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

Total emissions for both hydrocarbon types associated with exploration and production are combined and then divided by total oil and gas production volumes.

Page: OG6 Strategy for development of renewable and clean energy technologies

OG6.1

Does your organization have a strategy for the development of renewable and clean energy technologies?

No

OG6.1a

Please provide details

OG6.1b

Financial contribution of renewable and clean energy technologies, including CCS - sales generated

Technology area	2009	2010	2011	2012

OG6.1c

Financial contribution of renewable and clean energy technologies - Investment (capital expenditure + research & development)

Technology area	2009	2010	2011	2012
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OG6.1d

Financial contribution of renewable and clean energy technologies - Earnings Before Interest, Taxation Depreciation, Amortization (EBITDA)

Technology area	2009	2010	2011	2012
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OG6.1e

Financial contribution of renewable and clean energy technologies - net assets

Technology area	2009	2010	2011	2012
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OG6.1f

Financial contribution of renewable and clean energy technologies - please provide a short description of the technologies

Technology area	Please provide short description of technology
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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
Production	Operational Control
Processing	Operational Control

OG7.1a

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

OG7.2

Does your company have written operating procedures and/or policies covering the reduction of methane leakage and venting?

Yes

OG7.2a

Please attach the relevant document(s) in the further information field or describe how the written procedures/policies cover these emissions sources

We have the IR camera program in our Northern Colorado operations with over 8,000 wells. One of our environmental goals is to reduce methane leakage. Once leaks are detected, they are repaired by personnel on site. If a repair is extensive, the appropriate vendor is contacted from Noble Energy to address the leakage.

OG7.3

Has your company set quantitative or qualitative goals for reducing methane leakage and venting?

No

OG7.3a

Please describe

OG7.4

Has your company published a policy position on the regulation of methane emissions?

No

OG7.4a

Please attach the document

OG7.5

Does the company inventory and quantify the methane emissions associated with your operations?

Yes

OG7.5a

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

Methodology	Proportion of total methane emissions estimated with methodology	What area of your operations does this answer relate to?
Direct detection and measurement	0< to <5%	All
Engineering calculations	>75%	All
Source-specific emission factors (IPCC Tier 3)	>75%	All

Methodology	Proportion of total methane emissions estimated with methodology	What area of your operations does this answer relate to?
IPCC Tier 1 and/or Tier 2 emission factors	0< to <5%	All

OG7.5b

Do your operations include the production, gathering and processing stages?

Yes

OG7.5c

Please use the following table to report the proportion of the company's natural gas production that is emitted to the atmosphere during production (differentiating if possible between production from hydraulically-fractured wells and non-hydraulically-fractured wells), gathering and processing

Stage	Estimate gas leaked or vented expressed as % of gas produced
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Page: OG8 Methane from the natural gas value chain - control measures

OG8.1

Are reduced emission completions relevant to your operations?

Yes

OG8.1a

For natural gas wells that are hydraulically-fractured, please complete the table

What proportion of completions and work-overs in the reporting year used reduced emission completion technology for these wells?	If gas is not utilized via reduced emission completion technology, please explain if it is flared or vented	What area of your operations does this answer relate to?
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What proportion of completions and work-overs in the reporting year used reduced emission completion technology for these wells?	If gas is not utilized via reduced emission completion technology, please explain if it is flared or vented	What area of your operations does this answer relate to?
0%	Flared	All

OG8.2

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

Yes

OG8.2a

For gas wells with liquids accumulation requiring venting to the atmosphere or some form of artificial liquids unloading, please complete the table

What proportion has technologies in place that reduce methane venting from the liquids unloading process?	If you wish, please add context to this figure	What area of your operations does this answer relate to?

OG8.3

Does the company 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)?

Yes

OG8.3a

Please complete the table

What proportion of the company's high-bleed controllers have been replaced with low-emission alternatives?	If you wish, please add context to this figure	What area of your operations does this answer relate to?
88%	The 88% figure was calculated by knowing the number of current high bleed pneumatic devices and the number of high bleeds that have been retrofitted.	USA only

OG8.4

Are natural gas compressors relevant to your operations?

Yes

OG8.4a

Please complete the table

What proportion of compressors, including those at the wellhead and in gathering and processing, are either reciprocating compressors or centrifugal compressors operating wet seals?	What proportion of these compressors is vented to the atmosphere?	What area of your operations does this answer relate to?
100%	100 percent.	USA only

OG8.4b

Please explain measures you are taking to reduce emissions from these sources

Implementation of new EPA regulations on VOC leaks from onshore production sources (NSPS Subpart OOOO). Implementation of this rule will affect compressor gas leak rates, including GHG emissions.

OG8.5

Is associated gas relevant to your company?

Yes

OG8.5a

What is the company's overall approach for dealing with associated gas in terms of its relative use of venting, flaring and capture (e.g. for sale, re-injection or use as a fuel)? Companies may differentiate their approach between circumstances where there is/is not a market

Gas is typically sold if there is infrastructure to transfer gas to a market. In some cases associated gas will be flared while infrastructure is being installed, then it will be sold to market once the infrastructure is complete. In Equatorial Guinea there is no infrastructure to sell gas, so gas is used for fuel, flared, or re-injected back into the ground.

OG8.5b

Outline the measures undertaken to reduce venting for example from tank and casing-head gas

Flaring is typically used when there is casing-head gas.

Module: Sign Off

Page: Sign Off

Please enter the name of the individual that has signed off (approved) the response and their job title

CDP