Water 2014 Information Request
Noble Energy, Inc.

Module: Introduction

Page: W0. Introduction

W0.1
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 natural 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 1,406 million barrels of oil equivalent (BOE) proved at the end of 2013. In 2013, sales volumes from continuing operations totaled 273 thousand BOE per day. Visit Noble Energy online at www.nobleenergyinc.com.

W0.2
Reporting Year
Please state the start and end date of the year for which you are reporting data.

Period for which data is reported
Tue 01 Jan 2013 - Tue 31 Dec 2013

W0.3
Reporting Boundary

Please indicate the category that describes the reporting boundary for companies, entities, or groups for which water-related impacts are reported.

Companies, entities or groups over which operational control is exercised

W0.4
Exclusions

Are there any geographies, facilities or types of water inputs/outputs within this boundary which are not included in your disclosure?

Yes

W0.4a

List of Exclusions

Please report the exclusions in the following table

Exclusion	Please explain why you have made the exclusion
This disclosure excludes U.S. operations in the states of Kansas, Montana, New Mexico, Texas and Wyoming due to divestitures and/or negligible water use.	The excluded assets represent less than 1% of total onshore water use and therefore are considered negligible.
It also excludes offshore operations in Cyprus, Equatorial Guinea, Gulf of Mexico, Israel and Nicaragua.	These offshore assets represent a negligible portion of total water use (2%) and therefore are excluded.

Further Information

Module: Current State

Page: W1. Context

W1.1

Please rate the importance (current and future) of water quality and water quantity to the success of your organization

Water quality and quantity	Importance rating	Please explain
Direct use: sufficient amounts of good quality freshwater available for use across your own operations	Important	Noble Energy's onshore operations require sufficient amounts of good quality freshwater for drilling and hydraulic fracturing.
Direct use: sufficient amounts of recycled, brackish and/or produced water available for use across your own operations	Important	The Company’s onshore operations require a sufficient amount of water for drilling and hydraulic fracturing. Recycled, brackish and/or produced water may be used, but currently are not required to meet operational demands. Where possible, Noble Energy strategically uses brackish and/or produced water as a means to reduce long term freshwater use.
Indirect use: sufficient amounts of good quality freshwater available for use across your value chain	Important	Sufficient amounts of good quality freshwater are necessary across the Company’s value chain.
Indirect use: sufficient amounts of recycled, brackish and/or produced water available for use across your value chain	Neutral	Recycled, brackish and/or produced water may be used across portions of the Company’s value chain, but currently is not required to meet operational demands.

W1.2

Have you evaluated how water quality and water quantity affects /could affect the success (viability, constraints) of your organization's growth strategy?

Yes, evaluated over the next 5 years

W1.2a

Please explain how your organization evaluated the effects of water quality and water quantity on the success (viability, constraints) of your organization's growth strategy?

Noble Energy conducts long-range planning to evaluate the effects of water quality and water quantity on the success of the organization. When evaluating a new site, this involves evaluating legal issues and hydrological yield in terms of the reliability and proximity of other water users during exploration and production activities. The Company's macro-level analysis of water-related risks includes an information-gathering process, site surveys and sampling, environmental due diligence, participation in industry association work groups and stakeholder engagement where necessary. Geographic scales, such as the regional, watershed, and asset scales, are used to evaluate physical and economic water scarcity.

Once a project is sanctioned, Noble Energy monitors water withdrawal and use throughout the life of the project. The Company uses water data to drive continual performance improvements. For example, due to innovations in technology, the amount of water per equivalent well has reduced from 70,000 to 65,000 barrels (equivalent well is a term that normalizes for vertical depth and length of laterals).

W1.3

Has your organization experienced any detrimental impacts related to water in the reporting period?

Yes

W1.3a

Please describe the detrimental impacts experienced by your organization related to water in the reporting period

Country	River basin	Impact indicator	Impact	Description of impact	Overall financial impact	Response strategy	Description of response strategy
United States of America	Other: South Platte	Physical-Flooding	Closure of operations	Flooding in Colorado caused unintentional releases, shut-ins of certain wells and loss of production in the Company's DJ Basin operations.	The industry estimates the average revenue lost per well for interruptions in production ranges from $40,000 to $70,000 per day.	Increased capital expenditure	During the floods in Colorado in 2013, Noble Energy relied on an Incident Command System (ICS) to control and coordinate emergency response. The Company spends considerable resources and effort training individuals to respond to unplanned events. Noble Energy also uses telemetry for immediate intervention when needed.
United States of America	Other: Company wide	Regulatory-Regulatory uncertainty	Higher operating costs	Regulatory changes related to oil and natural gas development,	Impacts from regulatory changes	Infrastructure investment	Noble Energy's strategy is to monitor emerging regulations and quickly adapt to them. The

Country	River basin	Impact indicator	Impact	Description of impact	Overall financial impact	Response strategy	Description of response strategy
				including water procurement and water disposal, have caused delays in operations and increased the cost of doing business.	are not quantified financially.		Company proactively seeks to continually reduce the use of water in our operations through implementation of its water management strategy.

Further Information

Module: Risk Assessment

Page: W2. Procedures and Requirements

W2.1

Please select the option that best describes your procedures with regard to assessing water risks and provide an explanation as to why this option is suitable for your organization

Water is integrated into a comprehensive, company-wide risk assessment process incorporating both direct operations and supply chain

W2.1a

You may provide additional information about your approach to assessing water risks here

Water resources affect everything from exploration, integrated development planning, maintenance, and many other tasks associated with project development and well lifecycle. Water risks are considered across the entire operational business plan. Noble Energy is committed to reducing its exposure to water related risks through an innovative procurement strategy that secures an independently owned and/or operated water supply and strives to mitigate competition with other water users/risks whenever possible. Additionally, Noble Energy strives to reduce its exposure to water-related risks through increased water treatment, recycling and reuse efforts, and water efficiency.

W2.2

Please state how frequently you undertake water risk assessments, what geographical scale and how far into the future you consider

Frequency	Geographic scale	Timeframe
Noble Energy conducts water risk assessments prior to new projects.	Business unit	5-10 years

W2.3

Please state the methods used to assess water risks

Method
WRI water stress definition

W2.4

Which of the following contextual issues are always factored into your organization's water risk assessments?

Issues	Choose option	Please explain
Current water availability and quality parameters at a local level	Relevant, included	Noble Energy considers water quality and hydrological yield on a site-specific basis.
Current water regulatory frameworks and tariffs at a local level	Relevant, included	Regulatory frameworks and tariffs must be considered at the local level to ensure compliance and an adequate water supply for Noble Energy activities.
Current stakeholder conflicts concerning water resources at a local level	Relevant, included	For all facilities, Noble Energy considers current stakeholder conflicts (e.g. competing uses, water quality concerns, general anti-hydraulic fracturing sentiments, etc.) and how to avoid or mitigate these concerns.
Current implications of water on your key commodities/raw materials	Not relevant, explanation provided	Noble Energy is not at risk due to water impacts on the key commodities that they depend on.
Current status of ecosystems and habitats at a local level	Relevant, included for some facilities/suppliers	Where necessary, Noble Energy considers the current status of ecosystems and habitats at a local level, through desktop and field surveys.
Estimates of future changes in water availability at a local level	Relevant, included for some facilities/suppliers	As water is vital to our operations, it is essential that Noble Energy estimates future changes in hydrological yield at a local level by monitoring firm yield assessments in a river basin and adjudicated changes in water rights.
Estimates of future potential regulatory changes at a local level	Relevant, included	Due to the current regulatory environment in areas where the Company operates, it is essential that Noble Energy estimate future potential regulatory changes and their impacts on operations. Regulatory frameworks and tariffs must be considered at the local level to ensure future compliance and an adequate water supply for planned and proposed Noble Energy activities.
Estimates of future potential stakeholder conflicts at a local level	Relevant, included	For all facilities, Noble Energy considers the potential for stakeholder conflicts (e.g. competing uses, water quality concerns, general anti-hydraulic fracturing sentiments, etc.) and how to mitigate potential concerns.
Estimates of future implications of water on your key commodities/raw materials	Not relevant, explanation provided	Noble Energy is not at risk due to water impacts on the key commodities that they depend on.
Estimates of future potential changes in the status of ecosystems and habitats at a local level	Relevant, included	Noble Energy consider future potential changes in the status of ecosystems and habitats at a local level through designation of endangered aquatic species habitat or other federal action that may influence base water flows and diversions.
Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level	Relevant, included	As water is vital to our operations, it is essential that Noble Energy evaluate various hydrological yield scenarios at a local level.
Scenario analysis of regulatory and/or tariff changes at a local level	Relevant, included	Due to the current regulatory environment in areas where the Company operates, it is essential that it estimates future potential regulatory changes and their impacts on operations. Regulatory frameworks and tariffs must be considered at the local level to ensure future compliance and an adequate water supply for planned and proposed Noble Energy activities.
Scenario analysis of stakeholder conflicts concerning water resources at a local level	Relevant, included	For all facilities Noble Energy considers the prospective nature of stakeholder conflicts (e.g. competing uses, water quality concerns, etc.) and how to mitigate potential concerns.

Issues	Choose option	Please explain
Scenario analysis of implications of water on your key commodities/raw materials	Not relevant, explanation provided	Noble Energy is not at risk due to water impacts on the key commodities that they depend on.
Scenario analysis of potential changes in the status of ecosystems and habitats at a local level	Relevant, included	Noble Energy considers scenario analysis of potential changes in the status of ecosystems and habitats at a local level through designation of endangered aquatic species habitat or other federal action that may influence base water flows and diversions.
Other		

W2.4a

Which of the following stakeholders are always factored into your organization's water risk assessments?

Stakeholder	Choose option	Please explain
Customers	Relevant, included	The Company's water risk assessments involve analyzing water users that include, but are not limited to, irrigation, stockwater, domestic, piscatorial, recreation, industrial and commercial entities.
Employees	Relevant, included for some facilities/suppliers	Noble Energy's water risk assessments include the safety of employees during water-related activities as well as in the context of physical water risks. By engaging employees, they are encouraged to positively impact water use programs.
Investors	Relevant, included for some facilities/suppliers	Noble Energy's shareholder concerns are factored into the organization's Environmental, Health, Safety and Regulatory (EHSR) and business unit risk assessments.
Local communities	Relevant, included	The Company considers local communities' opportunities and concerns when assessing water risk and takes appropriate action to minimize impacts.
NGOs	Relevant, included for some facilities/suppliers	Noble Energy engages with NGOs when concerns exist related to planning and operations.
Other water users at a local level	Relevant, included	Noble Energy considers the proximity of their operations to other users and potential water resource conflicts with those users.
Regulators at a local level	Relevant, included	Local regulators' approaches and concerns are factored into Noble Energy water risk assessments for planning purposes and to ensure compliance with all applicable laws and regulations.
Statutory special interest groups at a local level	Relevant, included for some facilities/suppliers	Noble Energy incorporates statutory special interest groups into water risk assessment when they are involved in initiatives that may impact Noble Energy planning and operations.
Suppliers	Relevant, included	Water is critical for suppliers of drilling and hydraulic fracturing services and therefore Noble Energy suppliers are considered in water risk assessments.
Water utilities/suppliers at a local level	Relevant, included for some facilities/suppliers	The Company considers water suppliers at a local level where Noble Energy does not own/control its water supply.
Other		

W2.5

Do you require your key suppliers to report on their water use, risks and management?

No

W2.5b

Please choose the option that best explains why you do not require your key suppliers to report on their water use, risks and management

Primary reason	Please explain
Other: Business decision based on priorities	Noble Energy deems general service providers' water use, risks and management to be important, but its focus is currently on the Company's own supply. However, the Company does review the water rights of suppliers and periodically checks up on supplier status.

Further Information

Module: Implications

Page: W3. Water Risks

W3.1

Is your organization exposed to water risks, either current and/or future, that could generate a substantive change in your business, operations, revenue or expenditure?

Yes, direct operations and supply chain

W3.2

Please provide details as to how your organization defines substantive change in your business, operations, revenue or expenditure from water risk

A substantive change in Noble Energy's business, operations revenue or expenditure from water risk is anything that results in a delay in drilling or completions operations.

W3.2a

Please complete the table below providing information as to the number of facilities in your direct operations exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure. Please also provide either the proportion of cost of goods sold, global revenue or global production capacity that could be affected across your entire organization at the river basin level

Country	River basin	Number of facilities within the river basin exposed to water risk	Reporting metric	Proportion of chosen metric that could be affected within the river basin
United States of America	Other: South Platte River	1	% global production capacity	31-40
United States of America	Other: Humboldt River	1	% global production capacity	Less than 1%
United States of America	Other: Upper Ohio	1	% global production capacity	11-20

W3.2b

Please list the inherent water risks that could generate a substantive change in your business, operations, revenue or expenditure, the potential impact to your direct operations and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
United States of America	Other: All - U.S.	Physical-Increased water stress	Higher operating costs	Portions of Noble Energy's operations are in areas of physical water scarcity. Should this continue, the Company could face possible restrictions on groundwater and surface water withdrawal leading to interruptions in its operations and increased operational costs related to sourcing water from additional suppliers.	Current-up to 1 year	Unknown	High	Other: Water stewardship	Low-medium	Noble Energy is implementing innovative ways to increase water efficiency and decrease water use in its operations. For example, Noble Energy is researching and implementing treatment technologies that help capture, treat, reuse, and recycle an increasing percentage of flowback and produced waters.
United States of America	Other: All - U.S.	Regulatory-Statutory water withdrawal limits/changes to water allocation	Constraint to future growth	Regulatory standards for groundwater withdrawals could impact the Company's ability to operate in certain areas due to limited water availability and additional permitting requirements.	Unknown	Probable	Medium	Other: Reg monitoring and water stewardship	Low-medium	To manage this risk, Noble Energy actively monitors current and proposed legislation that could affect its operations, including that which deals specifically

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										with water. The Company also actively measures and monitors its own water usage, for example by measuring surface water levels, and tries to reduce usage wherever possible.
United States of America	Other: All - Company -wide	Physical-Pollution of water supply	Brand damage	Noble Energy faces risks should its operations experience unintentional releases or water contamination. In addition to environmental and health impacts, Noble Energy (and the Industry as a whole) could suffer reputational/brand damage should water contamination occur.	Current-up to 1 year	Unknown	High	Other: Risk management system and process safety	Low-medium	To effectively manage this risk, Noble Energy has a Global Environmental, Health and Safety Management System (GMS) which includes process safety along with 13 other core safety elements. Process safety involves the prevention of leaks, unintentional releases, equipment malfunctions, over-pressures, over-

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										temperatures, corrosion, metal fatigue and other similar conditions that may result in the unintentional releases of chemicals and other materials used in drilling and completions operations. Noble Energy focuses on process safety as a means to protect its assets, employees and contractors, as well as the environment and communities. As part of the Process Safety and Environmental Information element of Noble Energy's GMS, it evaluates risks inherent to its operations using industry best practice

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										assessment methods and reduces these risks to the most feasible level at the design stage.
United States of America	Other: All - Company -wide	Regulatory-Regulatory uncertainty	Higher operating costs	Noble Energy faces regulatory risks around its operations. For example, in some areas where Noble Energy operates, there is an increasing trend for more regulatory oversight. Should such regulations be passed, the cost of meeting regulatory requirements may have an adverse impact on Noble Energy's financial condition. This and additional uncertainty around water procurement and disposal related regulation may cause delays in operations and increase the cost of doing business.	Current-up to 1 year	Probable	Low	Other: Regulatory monitoring and water stewardship	Low-medium	To manage this risk, Noble Energy actively monitors current and proposed legislation that could affect its operations, including those which deal specifically with water. The Company also actively measures and monitors its own water usage, and tries to lessen this usage wherever possible.
United States of America	Other: All - Company -wide	Other: Reputational Damage	Decrease in shareholder value	Reputational damage could impact Noble Energy's ability to	Current-up to 1 year	Unknown	Medium	Other: External stakeholder engagement	Low	Public perception of the hydraulic fracturing

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
				do business in certain areas, decrease demand for its products and negatively impact share price.						process exposes Noble Energy to reputational risks. There are stakeholder concerns regarding hydraulic fracturing, which have been magnified by the increased scrutiny on oil and natural gas operations. The risk of unintentional releases and water contamination, as well as concerns among Coloradans about water scarcity, also could negatively impact reputation.
United States of America	Other: All - Company -wide	Physical-Inadequate infrastructure	Higher operating costs	Inadequate infrastructure may require Noble Energy to truck water in for the production process, which will increase	Current-up to 1 year	Probable	Low-medium	Infrastructure investment	High	When water must be trucked to the Company's facilities, it is very costly and presents a range of safety

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
				operational costs and expose the Company to additional safety risks such as accidents and/or unintentional releases.						and reputational issues. To mitigate these safety risks and reduce costs, Noble Energy is in the process of expanding its pipeline network to reduce reliance on trucks.
United States of America	Other: All - U.S.	Physical-Flooding	Property damage	Flooding in the Company's areas of operation has the potential to cause water contamination, leading to delays in its operations and increased maintenance costs.	Current-up to 1 year	Unknown	Medium	Other: Secondary containment and stormwater mgmt	Medium	Noble Energy takes steps to ensure proper storm water management. The Company has secondary containment areas set up to assist with avoidance of costly contamination in its areas of operation. Noble Energy also conducts impact assessments of sites prior to drilling to see if the area is in a 100 year floodplain and avoids building in those areas.

W3.2c

Please list the inherent risks that could generate a substantive change in your business operations, revenue or expenditure, the potential impact to your supply chain and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
United States of America	Other: Upper Ohio	Physical-Increased water scarcity	Supply chain disruption	An increase in public concern and scrutiny over drinking water rights in the Marcellus operating area has led to risks for Noble Energy.	Current-up to 1 year	Highly probable	Medium	Comply with local legal requirements or company own internal standards, whichever is more stringent	Low-medium	Noble Energy is imposing self-regulated control of water limits to protect water bodies and subsequently closely monitors water levels. This helps to minimize competing water use issues affecting water suppliers.
United States of America	Other: All - U.S.	Regulatory - Regulatory uncertainty	Higher operating costs	An increase in public concern and scrutiny over drinking water rights in the Marcellus operating area has led to risks for Noble Energy. In Noble Energy's DJ Basin and Marcellus operations, there has been an increase in political pressure around hydraulic	Current-up to 1 year	Highly probable	Medium	Engagement with public policy makers	High	Noble Energy is engaging with stakeholders (including public policy makers) in a variety of different ways. The intent is to create an open dialogue with all stakeholders about safe and responsible energy production by

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
				fracturing. This presents uncertainty around regulatory actions in regards to water laws. This could cause delays in operations and increase contractors' cost of doing business.						means of scientifically supported practices.

Further Information

Page: W4. Water Opportunities

W4.1

Does water present strategic, operational or market opportunities that substantively benefit/have the potential to benefit your organization?

Yes

W4.1a

Please describe the opportunities water presents to your organization and your strategies to realize them

Country or region	Opportunity	Strategy to realize opportunity	Estimated timeframe	Please explain
United States of America	Cost savings	Noble Energy is committed to its innovative procurement strategy that is intended to secure an independently owned and/or operated water supply.	Current-up to 1 year	By the end of 2013, 87 percent of the water needs of the Company's DJ Basin operations were secured through independent water supplies that do not compete with drinking water resources.
United States of America	Other: Supply chain	Guar, a plant cultivated in water scarce regions, is used for gel fractures. Noble Energy is increasing the number of non-guar gel fractures in the DJ Basin; instead using cellulose	Current-up to 1 year	Implementation of this strategy provides the opportunity to diversify Noble Energy's supply chain.

Country or region	Opportunity	Strategy to realize opportunity	Estimated timeframe	Please explain
		based fluids. In the Marcellus, the Company is not currently using gel fractures, which eliminates the use of guar.		
United States of America	Cost savings	Noble Energy is committed to increasing water recycling and reuse by implementing best management practices (BMPs) in the industry that include practicing environmental stewardship. These activities can also increase fiscal responsibility.	1-3 years	In 2013, Noble Energy recycled or reused more than 11.8 million gallons of water. In 2014, the Company expects to recycle or reuse approximately 63 million gallons of water.
United States of America	Cost savings	Increased rainfall in Colorado in 2013 restocked many Colorado reservoirs. Noble Energy is working to gain access to this excess supply.	1-3 years	Colorado's recent intense rains have, in some cases, eliminated immediate concerns about water shortages.

Further Information

Module: Accounting

Page: W5. Water Accounting (I)

W5.1

Please report the total withdrawal, discharge, consumption and recycled water volumes across your operations for the reporting period

Water use	Quantity (megaliters)
Total volume of water withdrawn	5074
Total volume of water discharged	2083.25
Total volume of water consumed	5074
Total volume of recycled water used	165

W5.2

For those facilities exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure, the number of which was reported in W3.2a, please detail which of the following water aspects are regularly measured and monitored and an explanation as to why or why not

Water aspect	% of facilities	Please explain
Water withdrawals- total volumes	76-100	Noble Energy tracks all total water withdrawn and consumed for operations.
Water withdrawals- volume by sources	26-50	Due to the complex nature of water tracking and large volumes of water, it is difficult to regularly measure and monitor all water in this category.
Water discharges- total volumes	76-100	Noble Energy tracks all total water discharged from operations.
Water discharges- volume by destination	51-75	Due to the complex nature of water tracking and large volumes of water, it is difficult to regularly measure and monitor all water in this category.

Water aspect	% of facilities	Please explain
Water discharges- volume by treatment method	51-75	Due to the complex nature of water tracking and large volumes of water, it is difficult to regularly measure and monitor all water in this category.
Water discharge quality data- quality by standard effluent parameters	26-50	Due to the complex nature of water tracking and large volumes of water, it is difficult to regularly measure and monitor all water in this category.
Water consumption- total volume	76-100	Noble Energy tracks all total water withdrawn and consumed for operations.
Water recycling/reuse-total volume	76-100	Noble Energy tracks all recycled water used for operations.

W5.3

Water withdrawals: for the reporting period, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

Facility reference number	Country	River basin	Facility name	Total water withdrawals (megaliters/year) at this facility	How does the total water withdrawals at this facility compare to the last reporting period?	Please explain the change if substantial
Facility 1	United States of America	Other: South Platte	DJ Basin	3776	Higher	Increase in operations
Facility 2	United States of America	Other: Humboldt	Rockies - Nevada	5	Higher	New area of operations
Facility 3	United States of America	Other: Upper Ohio	Marcellus	1293	Higher	Increase in operations

Further Information

Page: W5. Water Accounting (II)

W5.3a

Water withdrawals: for the reporting period, please provide withdrawal data, in megaliters per year, for the water sources used for all facilities reported in W5.3

Facility reference number	Surface water	Groundwater (renewable)	Groundwater (non-renewable)	Municipal water	Recycled water	Produced/process water	Wastewater	Brackish/salt water
Facility 1	0.00	566	3157	0.00	53	0.00	0.00	0.00
Facility 2	0.00	0.00	5	0.00	0.00	0.00	0.00	0.00
Facility 3	1181	0.00	0.00	0.00	112	0.00	0.00	0.00

Facility reference number	Surface water	Groundwater (renewable)	Groundwater (non-renewable)	Municipal water	Recycled water	Produced/process water	Wastewater	Brackish/salt water

W5.4

Water discharge: for the reporting period, please provide the water accounting data for all facilities reported in W5.3

Facility reference number	Total water discharged (megaliters/year) at this facility	How does the total water discharged at this facility compare to the last reporting period?	Please explain the change if substantive
Facility 1	2080.74	Higher	Increase in operations
Facility 2	0	About the same	
Facility 3	2.51	Much higher	Increase in operations

W5.4a

Water discharge: for the reporting period, please provide water discharge data, in megaliters per year, by destination for all facilities reported in W5.3

Facility reference number	Surface water	Municipal Treatment Plant	Saltwater	Injection for production/disposal	Aquifer recharge	Storage/waste lagoon
Facility 1	0.00	0.00	0.00	2080.74	0.00	0.00
Facility 2	0.00	0.00	0.00	0.00	0.00	0.00
Facility 3	0.00	0.00	0.00	2.51	0.00	0.00

W5.5

Water consumption: for the reporting period, please provide water consumption data for all facilities reported in W5.3

Facility reference number	Consumption (megaliters/year)	How does this compare to the last reporting period?	Please explain the change if substantive
Facility 1	3776	Higher	Increase in operations.
Facility 2	5	Higher	This is a new area of operations.
Facility 3	1293	Higher	Increase in operations.

W5.6

For the reporting period, please provide any available water intensity values for your organization's products or services across its operation

Country	River basin	Product name	Product unit	Water unit	Water intensity (Water unit/Product unit)	Water use type	Comment
United States of America	Other: South Platte	Barrels of Oil Equivalent	Other: MMBOE	Megaliters	108.897	Other: Non-renewable	98% of water withdrawal is from underground sources.

Country	River basin	Product name	Product unit	Water unit	Water intensity (Water unit/Product unit)	Water use type	Comment
United States of America	Other: Upper Ohio	Barrels of Oil Equivalent	Other: MMBOE	Megaliters	147.603	Other: Renewable	>99% of water withdrawal is surface water.

W5.7

For all facilities reported in W3.2a what proportion of their accounting data has been externally verified?

Water aspect	% verification	What standard was used?
Water withdrawals- total volumes	Not verified	
Water withdrawals- volume by sources	Not verified	
Water discharges- total volumes	Not verified	
Water discharges- volume by destination	Not verified	
Water discharges- volume by treatment method	Not verified	
Water discharge quality data- quality by standard effluent parameters	Not verified	
Water consumption- total volume	Not verified	
Water recycling/reuse-total volume	Not verified	

Further Information

Module: Response

Page: W6. Governance and Strategy

W6.1

Who has the highest level of direct responsibility for water within your organization and how frequently are they briefed?

Highest level of direct responsibility for water issues	Frequency of briefings on water issues	Comment
Senior Manager/Officer	Scheduled-quarterly	Business Unit Managers are briefed monthly on water related issues. The Board of Directors is briefed quarterly and water is a standing agenda item.

W6.2

Is water management integrated into your business strategy?

Yes

W6.2a

Please choose the option(s) below that best explain how water has positively influenced your business strategy

Influence of water on business strategy	Please explain
Establishment of sustainability goals	Noble Energy applies proven water processes to treat flowback and produced water during operations to reduce the amount of fresh water it consumes. These water management efforts optimize capital, water acquisitions and transportation costs; minimize the amount of residual wastewater; and contribute to reducing impact on the environment and community. Another important element of the company's water strategy is to shift toward resources that do not compete with the needs of other water users.
Water resource considerations are factored into location planning for new operations	Noble Energy geologists and engineers identify multi-year demand for drilling and production. Once the Company secures water, it develops water transport and storage infrastructure that are designed to meet the specific physical and operational circumstances in each area of operation. Site-specific water requirements can fluctuate based on a number of factors and are coordinated with water management teams and field personnel to ensure adequate supply.
Water is factored into procurement directives	The Company's water management efforts optimize capital, water acquisitions and transportation costs; minimize the amount of residual wastewater that is typically disposed of in deep injection wells; and contribute to reducing its potential impact on the environment and community.

W6.2b

Please choose the option(s) below that best explains how water has negatively influenced your business strategy

Influence of water on business strategy	Please explain
Increased capital expenditure	Noble Energy has undertaken water infrastructure projects in the form of underground pipelines and gathering systems to transport water. While this has led to increased up-front costs, these projects will provide long-term environmental benefits. This includes reducing truck traffic and noise in communities where the Company operates and decreases the likelihood of unintentional releases and traffic accidents. Additionally, these benefits will also provide cost savings as efficiencies improve.

W6.3

Does your organization have a water policy that sets out clear goals and guidelines for action?

Yes, a company-wide water policy

W6.4

How does your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) during the most recent reporting period compare to the previous reporting period?

Water-related spending: % of *total CAPEX* during this reporting period compared to last reporting period	Water-related spending: % of *total OPEX* during this reporting period compared to last reporting period	Motivation for these changes

Further Information

Page: W7. Compliance

W7.1

Was your organization subject to any penalties and/or fines for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations in the reporting period?

No

Further Information

Page: W8. Targets and Initiatives

W8.1

Do you have any company wide targets (quantitative) or goals (qualitative) related to water?

Yes, goals only

W8.1b

Please describe any company wide qualitative goals (ongoing or reached completion during the reporting period) and your progress in achieving these

Goal	Motivation	Description of goal	Progress
Other: Water resource procurement goals	Risk mitigation	By the end of 2013, Noble Energy is committed to securing the majority of its water resources through independent water supplies that it owns and/or controls.	In 2013, Noble Energy secured four additional contracts with the ability to divert up to 14.3 million barrels of non-tributary water. By the end of 2013, 87 percent of the water needs of its DJ Basin operations were secured through independent water supplies that do not compete with drinking water resources.
Other: Recycling and reuse	Water stewardship	Research and implement treatment technologies that help capture, treat, reuse, and recycle an increasing percentage of Noble Energy's flowback and produced waters. This includes a goal of recycling and reusing flowback in 50 horizontal wells in 2013.	Noble Energy made great progress, reusing flowback in 38 horizontal wells in 2013, falling short of 50 due to issues with fracturing fluids gelling properly and supply of flowback water not keeping up with demand. With lessons learned in 2013, Noble Energy is on schedule to exceed using flowback in 50 wells in 2014.
Other: Efficiency	Cost savings	The Company is committed to increasing water efficiency through innovation and best management practices (BMPs). One of the ways in which Noble Energy increases water efficiency is through closed loop drilling in Colorado, Pennsylvania, and West Virginia.	The amount of water per equivalent well has reduced from 70,000 to 65,000 barrels in 2013 due to innovations in technology (equivalent well is a term that normalizes for vertical depth and length of laterals).

Further Information

Module: Sign Off

Page: Sign Off

W9.1

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

Name	Job title	Corresponding job category
Michael Grenz	Environmental and Regulatory Policy and Social Performance Manager	Environment/Sustainability manager

Further Information

CDP