

ENVIRONMENT



Throughout our operations, Noble Energy works to develop energy resources while being a responsible steward of the environment. In 2014, we extended our capability to protect water, air and land resources by entering into new partnerships with academic and environmental organizations.

Because our operations are diverse – oil and natural gas, onshore and offshore, in varied ecosystems and economies – we research the specific environmental considerations for each project and respond to them individually. In addition, our operations are guided by our Global Environmental, Health and Safety Management System (GMS). This system is built on principles from a number of industry and regulatory sources including the U.S. Occupational Safety and Health Administration, U.S. Environmental Protection Agency, International Labour Organization, and World Bank, and ensures consistency throughout our operations.

CONDUCTING BASELINE AND IMPACT ASSESSMENTS

As we work to minimize the environmental impact of our operations, we are putting more research into understanding the baseline conditions where we propose to drill wells and develop acreage as well as the specific environmental sensitivities of each area. Some of these assessments are driven by regulatory requirements, but in many instances we go beyond what is required. This helps ensure that we have a complete picture of the “before” state in order to identify and protect any sensitive or endangered species and their habitats, mitigate impacts where appropriate, and plan project reclamation.

Major assessment projects in 2014

- » For our onshore operations, prior to commencing exploration activities, we perform baseline water quality studies. In Colorado, we provide the water quality data to landowners along with educational resources on water quality.
- » In the Falkland Islands, one of our new venture areas, we have undertaken environmental baseline surveys of our license areas. As part of this process, we engaged stakeholders and adjusted plans based on feedback from the community and the government.
- » We prepared environmental impact assessments related to drilling, construction and development for the Tamar and Leviathan fields in the Eastern Mediterranean.
- » In the DJ Basin, Marcellus Shale and Nevada, all significant, new and proposed operating sites were evaluated for biodiversity risk.
- » In the Eastern Mediterranean, we completed an evaluation of selected environmental parameters for the Ashdod Onshore Terminal. We have plans to install vapor recovery units in 2015 to reduce methane emissions and reduce our carbon footprint.
- » Also in the Eastern Mediterranean, we began an environmental sensitivity mapping project. We are building geographic information system capabilities that will map shoreline and offshore resources and sensitivities in order to better manage our programs for protecting these resources.

EVALUATING



Populating with a Pollinator Garden

In partnership with the United States Forest Service (USFS), Noble Energy planted a pollinator garden on top of its Lili Plant Natural Gas Liquid Pipeline on the Pawnee National Grassland near New Raymer, Colorado. The 60-foot by one-mile pollinator garden is part of the USFS' response to a rapidly declining population of pollinating insects such as bees, beetles and moths. Seasonal data will be collected twice a year to monitor the garden's reaction to climate changes. Local schools may use the garden as a site for field trips and the data collected in the garden may be included in school curricula to increase awareness about the importance of pollinators to our food supply and the ecology.

USING TECHNOLOGY TO REDUCE IMPACTS

Just as technical advances made it possible to recover oil and natural gas trapped in shale and rock deposits safely and efficiently, continued advancements are enabling us to tap those resources with less surface impact by drilling longer horizontal wells. In the Marcellus Shale, our use of long laterals – some more than 13,000 feet – reduces the amount of above-ground activity needed in our onshore natural gas operations.

DECOMMISSIONING SITES RESPONSIBLY

We are committed to ending our projects as responsibly as we begin them. In 2014, we safely decommissioned 234 wells and 79 tank battery facilities in the DJ Basin and two deepwater wells in the U.S. Gulf of Mexico.

ENERGY USE AND EMISSIONS

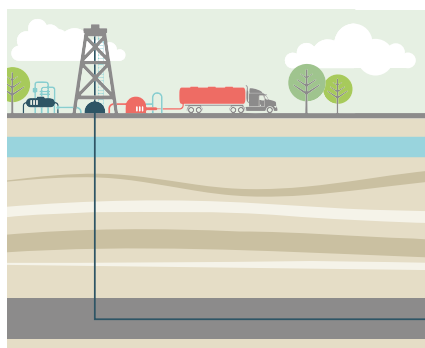
As part of the commitment to responsible operations and social responsibility, reducing greenhouse gas and methane emissions is one of Noble Energy's priorities. Our greenhouse gas and methane emissions reduction strategy includes maintaining an accurate emissions database, implementing operational enhancements, proactively maintaining equipment and reducing truck traffic.

Supporting Informed Air Quality Regulations

In 2014, a collaborative effort among Colorado regulatory agencies, energy industry participants (including Noble Energy) and environmental groups finalized a set of air quality regulations governing hydrocarbon emissions from oil and natural gas producers. These protective and progressive rules include the first state-level regulations that directly limit methane.

Under these new requirements, effective January 1, 2015, operators of storage tanks must periodically monitor the tanks for hydrocarbon emissions. Operators of well production facilities must conduct a leak detection and repair (LDAR) program to identify and repair hydrocarbon leaks from any components at the production facility. We now have a team of 15 dedicated inspectors with infrared leak detection cameras.

We also conduct an LDAR program in Pennsylvania, where every well pad receives an initial and annual LDAR inspection with an infrared camera.



Reducing Surface Impact

In the Marcellus Shale, our use of long laterals – some more than 13,000 feet – reduces the amount of above-ground activity needed in our onshore natural gas operations.

Encouraging Alternatives

We opened a new compressed natural gas (CNG) school bus fueling and maintenance station in 2014 as part of a five-year, \$5 million investment in the Weld County School District of Colorado.



<p>Decrease in Direct Emissions:</p> <p>19%</p>	<p>Decrease in Gas Flaring:</p> <p>48%</p>
<p>Decrease in Carbon Monoxide Emissions:</p> <p>27.7%</p>	<p>Decrease in VOC Emissions Since 2012:</p> <p>30%</p>

Performance Data

For more data on our energy use and emissions, see the chart on pages 6-7.

Our normalized GHG emissions decreased nearly one-third in 2014 even as production increased. Direct emissions declined 19 percent.

The most significant contributing factor in this decrease was a 48 percent reduction in gas flaring. Flaring primarily occurs from “stranded” oil wells (where there is no existing field infrastructure to capture and/or market gas). In 2014, we were able to add infrastructure in the DJ Basin to reduce the number of stranded wells, which accounted for more than 11 percent of the total flaring reduction.

Increased activity in both the DJ Basin and Marcellus Shale contributed to higher combustion, as did increased fuel consumption in Equatorial Guinea, mostly used for turbines to reinject gas that would otherwise be flared.

Increased use of rich-burn compressor engines in the DJ Basin and the divestiture of some pumpjack-based operations in 2014 contributed to a 27.7 percent decrease in carbon monoxide emissions and a 39.6 percent increase in nitrogen oxide emissions.

Mobile emissions decreased in 2014 due to reduced drilling activity in Equatorial Guinea, which in turn resulted in the reduced use of marine vessel fuel. Since 2012, we have achieved a 30 percent reduction in volatile organic compound (VOC) emissions.

Using and Encouraging CNG

Compressed natural gas (CNG) offers a cleaner-burning alternative to conventional motor fuels. We continue to expand our use of CNG and assist others in making the conversion as well.

- » We expanded our fleet of CNG-powered vehicles in the Marcellus Shale area from eight to 10 in 2014, although fueling stations are limited. Our hope is that our commitment to CNG will encourage additional stations in the area.
- » We donated a new CNG-fueled van to the AAdvantage organization of Washington County, Pennsylvania. This organization provides advocacy, support and referral services for individuals with intellectual and physical disabilities and their families. The van will help the organization transport clients to its supported work facility.



In 2014, four of the 10 rigs used in our DJ Basin operations utilized liquefied natural gas (LNG).

» In Colorado, we opened a new CNG school bus fueling and maintenance station in 2014 as part of a five-year, \$5 million investment in the Weld County School District. The new CNG station, funded in part by a grant from the Colorado Department of Local Affairs, will be available for public use and will support the district's fleet of next-generation school buses (donated by Noble Energy in 2013). It is a vital link in the CNG station network, which is part of Weld County's Smart Energy Plan.

» Based on the considerable interest generated by our CNG school bus program in Weld County, Colorado, which now includes seven buses, we plan to expand the program into Denver County as well.

Other Emissions Initiatives

In 2014, four of the 10 rigs used in our DJ Basin operations utilized liquefied natural gas (LNG).

In the developed operational areas of the Marcellus Shale, Noble Energy eliminated at least 300,000 truck-miles of water transportation by switching to available pipeline infrastructure.

Our environmental staff and operations engineers collaborated to design and implement improvements to reduce VOC emissions at the Ashdod Offshore Terminal in Israel.

Noble Energy does not use, produce or consume any ozone-depleting substances in its operations.

CLIMATE CHANGE

We believe there are both risks and opportunities to our business arising from the global response to potential climate change. We are actively monitoring the impact of legislation and regulation, the impact of international accords, and the indirect consequences of regulation or business trends.

We continue to participate in CDP's climate change program. CDP is a not-for-profit organization that provides a standardized global format for companies and cities to measure and report environmental performance. This data can be found on our website.



Going Beyond

Our employees go beyond their job responsibilities in their commitment to the environment. In our Marcellus Shale business unit, several employees took the initiative to develop a system for reducing landfill use by recycling the liners used for spill containment on our pad sites. Within the first year, we recycled more than 100,000 pounds of pad containment liner. These materials have been recycled into custom plastics such as railroad ties, truck mats and triangulated berming ties. In their new life, some of the truck mats and berming ties come back to work at our drilling sites.

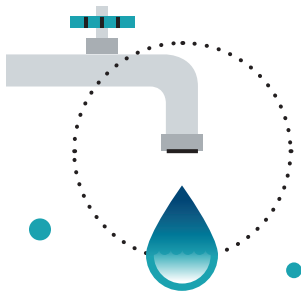
Water Recycling in the DJ Basin

Recycling program expanded:

450%

Completions operations reduced water consumption by:

1.2M
BARRELS



Our Water Strategy

1. Protect 2. Reduce 3. Reuse 4. Recycle

WATER

Noble Energy recognizes the importance of protecting limited water resources. We have put into practice a comprehensive “protect, reduce, reuse and recycle” water management strategy.

Performance Data

In 2014, Noble Energy’s global operations used approximately 61.5 million barrels of water for drilling, completions, drinking water, and other activities. This was an increase from 2013 as our onshore U.S. operations increased in the DJ Basin and moved into full production in the Marcellus Shale. No known water sources were significantly affected by water withdrawals related to our operations and no water was discharged to surface water bodies from our operations.

Onshore, almost 92 percent of the water we used was derived from public or private sources, meaning that we obtained agreements from government agencies and/or private water rights holders to use the water.

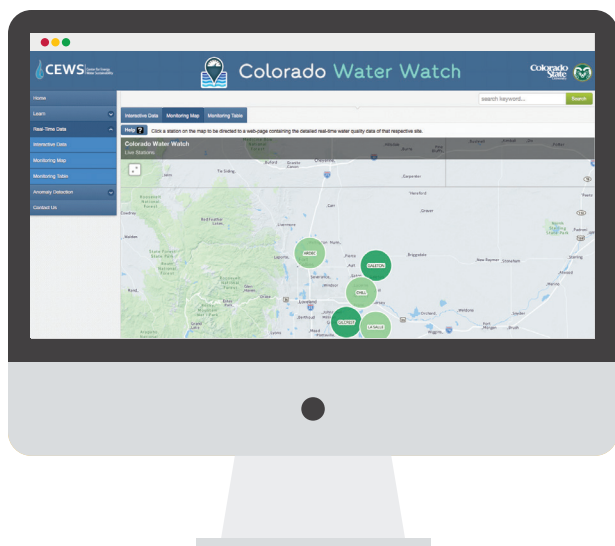
Almost 8 percent (more than 4.7 million barrels) of the total volume of water we used was recycled or reused water. This reduced both our freshwater consumption and our waste stream. In the Marcellus Shale, we recycled or reused 3 million barrels, or more than 99.5 percent, of flowback and produced* water. In the DJ Basin, our recycling program expanded more than 450 percent, from approximately 300,000 barrels in 2013 to 1.7 million barrels in 2014. In Nevada, a new development area with less infrastructure, we were able to recycle more than 40 percent of flowback and produced water, diverting 6,900 barrels of water from disposal. Overall, about one third of our onshore produced water was recycled or reused.

Offshore, approximately 246,800 barrels of seawater were treated and returned to the source and 93,500 barrels of freshwater were consumed. Where possible in our offshore operations, we treat seawater for most water uses to limit our use of freshwater. Freshwater is used for any human consumption.

We are also becoming more efficient in water use. Between 2013 and 2014, completions operations in the DJ Basin utilized 4 percent less water per completions stage, reducing water consumption by 1.2 million barrels.

The combination of expanded water recycling and increased efficiency eliminated almost 6 million barrels of freshwater consumption in 2014.

*Produced water consists of naturally occurring, generally saline or brackish water that exists in the target formation and is produced in the oil and/or natural gas stream, then separated at the surface from oil and/or gas. Flowback is the process of recovering hydraulic fracturing fluids.



Groundwater Use and Monitoring

In 2014, the Colorado Center for Energy and Water Sustainability's Colorado Water Watch (CWW) project launched the first real-time water monitoring project in the United States with highly advanced groundwater sensors placed around several of our operating sites. In addition to providing our sites for the study, we gave technical and financial support to Colorado State University, the study's host. The initiative increases transparency by streaming data via a web site (<http://waterwatch.colostate.edu/>) to help the public monitor changes in groundwater quality due to natural, oil and gas, or other human impacts.

Assessing Aquifer Quality in Nevada

In the Humboldt River basin in Nevada, a new venture area for Noble Energy, we partnered with the Nevada Division of Minerals (NDOM), Nevada Division of Environmental Protection and the Desert Research Institute, in association with the University of Nevada, Reno, to establish a program to analyze the potential for subsurface migration of hydraulic fracturing fluids from exploration areas.

In its first year, the Aquifer Quality Assessment (AQUA) Program helped NDOM develop a wellbore mechanical integrity rule. The program is serving as a model for area and statewide groundwater monitoring programs for hydraulic fracturing.

Other Initiatives

We participate in FracFocus.org, a national hydraulic fracturing disclosure registry website, and disclose the chemical additives used in all our onshore wells. For this data, visit www.fracfocus.org.

SPILLS AND VIOLATIONS

Spill Management

We take multiple measures to prevent spills, including performing mechanical integrity testing, site design and inspections. We also have training and response procedures in the event of a spill. We track all spills and report any that meet or exceed state or federal reporting thresholds.

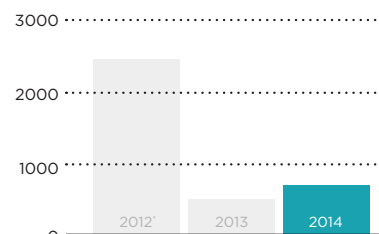
In 2014, our total number of spills declined even as our production volumes increased dramatically. A change in reporting thresholds in Colorado contributed to the increase shown in hydrocarbon spill volumes.

Environmental Fines and Violations

In 2014, violations of U.S. and state environmental regulations resulted in an aggregate payment of \$639,023 to state agencies for civil fines and penalties.

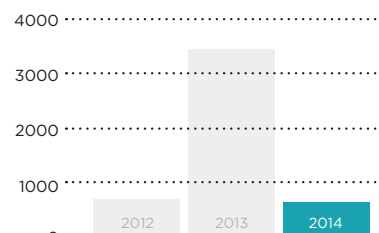
U.S. Reportable Spills

Note: 2012 data does not include equipment leaks

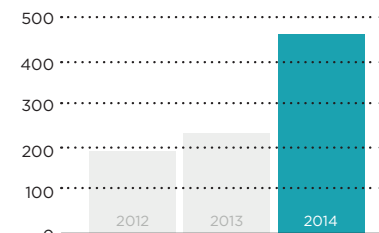


Hydrocarbons (in barrels)

*1,466 barrels of this total can be attributed to acts of vandalism in Colorado, which were reported to authorities



Water (in barrels)



Other Fluids (in barrels)**

** "Other" includes non-produced fluids such as diesel, chemicals and drilling mud

Threatened and endangered species listed under the Endangered Species Act (ESA), as well as candidate species for listing under ESA, species of concern and species protected by the Bald and Golden Eagle Protection Act, with habitats in areas that could be impacted by our onshore operations, include the following:

DJ Basin

Mountain plover (candidate)
 Ute ladies'- tresses (threatened)
 Colorado butterfly plant (threatened)
 Sandhill crane (threatened)
 Preble's meadow jumping mouse (threatened)
 N. Platte pallid sturgeon (endangered)
 Bald eagle (Bald and Golden Eagle Protection Act)
 Ferruginous hawk (species of concern)
 Burrowing owl (species of concern)
 Common bladderwort (species of concern)

Marcellus

Small whorled pogonia (threatened)
 Northern long-eared bat (candidate)
 Indiana bat (endangered)
 Sheepnose mussel (endangered)
 Snuffbox mussel (endangered)
 Clubshell mussel (endangered)
 Fanshell mussel (endangered)
 Pink mucket mussel (endangered)
 Rayed bean mussel (endangered)

Nevada

Greater sage-grouse (candidate)
 Columbia spotted frog (candidate)
 Yellow-billed cuckoo (threatened)
 Lahontan cutthroat trout (endangered)
 Pygmy rabbit (species of concern)
 Golden eagle (Bald and Golden Eagle Protection Act)

A Raptor Rescue

When a Noble Energy contractor in the DJ Basin noticed a Swainson's hawk in distress in the middle of a county road, he knew what to do. Following a new protocol created in a partnership between Noble Energy and the Fort Collins-based Rocky Mountain Raptor Program (RMRP), he called in the incident to our local environmental staff, who informed the RMRP and Colorado Parks and Wildlife. The RMRP, which rescues, rehabilitates and releases raptors, quickly retrieved and treated the bird.



Education sessions are part of our RMRP partnership.

HABITAT

Habitat Protection

Throughout our operations, we work to minimize our impact on wildlife. We take special care to protect and support species that have been designated by U.S. state and federal governments and the International Union for Conservation of Nature (IUCN) as endangered, threatened, or otherwise at risk.

Protecting Onshore Habitats

In Greene and Washington counties, Pennsylvania, we and our joint venture partner are having discussions with the Pennsylvania Field Office of the United States Fish and Wildlife Service to help plan our activities in these areas, where there is a known maternity colony of the Indiana bat, a federally protected endangered species. This dialogue makes us better prepared to avoid or minimize the overall impacts to Indiana bats and their habitat from our operations, and to find ways to enhance that habitat where appropriate.

Our commitment to protecting habitat starts at the earliest stages of our operations. In Nevada, we collaborated with public partners and the landowner of the Boies Ranch on a restoration project to protect the habitat of the greater sage-grouse. With funding from Noble Energy, the landowner modified cattle grazing patterns and fenced off and restored springs that are brooding areas for greater sage-grouse.

We are taking additional steps to protect the greater sage-grouse, which has declined in number over the past century because of the loss of sagebrush habitats. In 2014, we entered into a partnership with Barrick Gold to rehabilitate a 94-acre meadow on Barrick's Juaristi Ranch on the western flank of the Ruby Mountains in White Pine County, Nevada, to provide improved greater sage-grouse habitat.

Protecting Coastal and Offshore Habitats

In Equatorial Guinea, we helped fund a Smithsonian Institution expedition to study and compare bird habitats within and outside the country's parks. The Equatorial Guinea Bird Initiative observed 153 species, including 10 species that have never before been documented in the country.

In the Eastern Mediterranean, we completed two comprehensive environmental baseline studies of the Tamar and Leviathan fields and a subsea habitat monitoring study in the vicinity of our Tamar and Mari-B platforms. These studies allow us to better understand and mitigate impacts on the marine environment.

The waters and shorelines of the Falkland Islands, one of our offshore new venture areas, are home to globally significant populations of wildlife. Through the Falkland Islands Petroleum Licensees Association and in conjunction with the Falkland Islands government, we contributed funds to support an environmental project to collect and analyze data needed to develop strategies to monitor potential impacts of the hydrocarbon industry on marine and coastal environments.