Sustainable Investments Institute

Action Report

Environment: Natural Resource Management

Chevron

May 5, 2011

Ticker	Exchange	Meeting Date	Record Date	Annual Meeting Location
CVX	NYSE	5-25-11	4-1-11	San Ramon, California

Agenda

Item	Proposal
1	MGT: Elect directors
2	MGT: Ratify selection of auditors
3	MGT: Advisory vote on executive compensation
4	MGT: Advisory vote on frequency of future advisory vote on executive compensation
5	SH: Nominate independent environmental expert to board
6	SH: Establish board committee on human rights
7	SH: Include sustainability as executive performance measure
8	SH: Report on host country selection criteria
9	SH: Report on climate change risks
10	**SH: Report on hydraulic fracturing**
11	SH: Report on offshore oil well risks

Si2 Briefing Environment: Natural Resource Management

Si2 Special Report Chevron and Investor Pressures on Sustainability Issues

Report Author Evan Branosky

Links Proxy Statement

Resolved Clause

THEREFORE BE IT RESOLVED: Shareholders request that the Board of Directors prepare a report by September 1, 2011, at reasonable cost and omitting confidential information such as proprietary or legally prejudicial data, summarizing 1. known and potential environmental impacts of fracturing operations that are owned or proposed for acquisition by Chevron Corporation; and 2. policy options for our company to adopt, above and beyond regulatory requirements and our company's existing efforts, to reduce or eliminate hazards to air, water, and soil quality from fracturing operations.

Lead Proponent Sisters of Saint Francis of Philadelphia

Vote History This is a new proposal at Chevron.

Summary The proponents are asking the company to report on the environmental impact of the company's fracturing operations and to identify strategies Chevron can adopt to minimize any adverse consequences of the practice. Chevron business operations are focusing more on hydraulic fracturing, especially with the recent acquisition of Atlas Energy's operations in the Marcellus Shale region. But public policies regarding

hydraulic fracturing are evolving rapidly in the U.S. Northeast. Those policies and potential lawsuits could have a significant impact on Chevron. The company asserts that it already is exceeding regulations promulgated under the Clean Water Act, Safe Drinking Water Act, and other state and federal laws that related to fracturing. However, it has not voluntarily disclosed fracking fluids and does not provide specifics on how it mitigates risks. The company recommends a vote against the resolution, contending it would be a waste of shareholder money, but the proponents believe the company should be more transparent.

I. Chevron and Natural Gas

For a summary of the company's operations and financials, see Si2's special supplement to this report: Chevron and Investor Pressures on Sustainability Issues. Key takeaways from the supplement readers should note are:

- Chevron's board Public Policy Committee, which includes oversight of environmental issues, among others, and the members of this committee.
- Chevron's director qualification standards, which includes environmental expertise among the qualities it seeks in director nominees.
- Chevron's corporate officer dedicated to health, environment and safety.
- Executive pay links to several, broad policies related to management of sustainability issues.
- The risks related to environmental issues it lists in its 10-K statement.
- Chevron's environmental policies, management systems and reporting practices.

Chevron's natural gas operations are growing. In 2010, the company produced 5.04 billion cubic feet (bcf) per day compared to 4.99 bcf in 2009. However, the company's proved reserves declined from 22.15 bcf to 20.76 bcf over the same period. To increase proved reserves, Chevron announced in November 2010 plans to acquire Atlas Energy's shale gas acreage. The acquisition was completed in February 2011.

Hydraulic Fracturing and Natural Gas

Hydraulic fracturing is the second phase of a two-phase drilling process to extract natural gas from deep (i.e., 5,000 to 20,000 feet) shale formations. Through the process, a well operator drills a wellbore into a horizontal position that maximizes surface area with the gas-producing shale formation. A portion of the well is "cased" with cement to prevent liquid migration into drinking water aquifers before the well operator perforates the shale with explosions. Finally, fracking fluid with sand, silicate, and chemical additives is forced into the wellbore under high pressure to fracture the shale formation further. Once the injected water is removed, the well begins to produce natural gas.

The first use of hydraulic fracturing ("fracking") was in 1903 in North Carolina and another major milestone came in 1947 when the process was used to stimulate an oil well in Kansas. But, large-scale horizontal drilling ("drilling") paired with fracking did not occur until 1995 when Mitchell Energy (now Devon Energy) fracked a well in the Barnett Shale of Texas. Range Resources had the first significant application of the process in the Marcellus Shale of the U.S. Northeast when it recovered natural gas in 2007 from a well in Washington County, Pennsylvania. As of September 2010, the United States was the only country with commercial shale gas production, but exploration to establish the location of viable shale formations has occurred in Austria, Australia, Canada, China, France, Germany, Hungary, India, New Zealand, Poland, South Africa, Sweden and the United Kingdom. The promise of shale gas led the

U.S. Energy Information Administration to nearly double its estimate of proved, domestic natural gas reserves from 34.4 trillion cubic feet (tcf) in December 2008 to 60.6 tcf a year later.

Environmental concerns: While the substantial reserves of natural gas that are now accessible using hydraulic fracturing techniques promise significant domestic energy resources, the drilling and fracking process has many environmental impacts. Drilling and transporting produced gas disturbs vulnerable ecosystems, injected water poses threats to groundwater, and flowback water contains multiple surface water pollutants (e.g., heavy metals, naturally occurring radioactive materials, sediment). Fragmented public policies exacerbate the impacts when they grant natural gas companies exemptions from laws such as the Emergency Preparedness and Community Right-to-Know Act (EPCRA), Clean Water Act (CWA), and Safe Drinking Water Act (SDWA). Public policies are less robust in parts of the United States, such as the Northeast, that have been exposed to drilling and fracking more recently than other parts of the country (such as the West and Southwest). Regardless of their region and exposure to drilling and fracking, states facing funding shortfalls have difficulty enforcing oversight laws.

The promise of a large new supply of energy, combined with the potential hazards its extraction poses, have combined to produce a contentious debate over fracking, as Si2's Briefing Paper on Natural Resources Management explains in more detail. Key concerns relate to water depletion, water pollution and air pollution—although gas companies, including Chevron, contend they have taken appropriate precautions to address each of these issues.

Water depletion—Hydraulic fracturing requires large volumes of water—one to five million gallons of water per well. Since 20 to 70 percent of the injected water remains in the wellbore, fracking results in a net loss of water. However, new technologies are reducing water demand among gas companies. For example, **General Electric** unveiled a mobile treatment unit in September 2010 for flowback water that can be used onsite to reduce drilling water demands by 50 percent to 90 percent over the business-as-usual approach.

Water pollution—To facilitate gas flow, gas companies introduce chemicals into the water they use. These chemical additives serve different purposes, including killing bacteria and preventing mineral build-up that would otherwise clog gas lines. Although the additives comprise a relatively small percentage of total fluids (generally less than two percent), they amount to tens of thousands of gallons of chemicals. Because fracking activities occur below drinking water aquifers, gas companies argue that the stranded fluids cannot leak into freshwater supplies, but others worry that chemicals could migrate up through natural cracks or fissures in the rock and thereby contaminate drinking water supplies.

Problems also arise with the chemicals that return to the surface once the fracking operation is complete. Injected fracking fluid is forced into the wellbore under high pressure and remains there for 24 to 48 hours. When the pressure is released, flowback water rapidly returns to the surface. The flowback water is high in salts, contains remnants of the injected chemicals, and could contain naturally occurring radioactive materials. In its proxy statement, Chevron cites a 2009 report from the Groundwater Protection Council that noted "state regulations are adequately designed to directly protect water resources." In addition, Chevron and other gas companies use cutting-edge technologies to recycle flowback water at the wellhead, rather than send it to wastewater treatment plants. For example, **Integrated Water Technologies** developed the FracPure™ treatment process in January 2011 to treat 100 percent of flowback water to drinking water quality by removing salts for water softening and road deicing. However, critics, including the shareholder proponents, contend that regulations and technologies are not sufficient. *The New York Times* series *Drilling Down* noted in February 2011 that

> More than 1.3 billion gallons of wastewater was produced by Pennsylvania wells over the past three years…Most of this water—enough to cover Manhattan in three inches of water—was sent to treatment plants not equipped to remove many of the toxic materials in drilling waste.

In addition, the series pointed out:

> Of more than 179 wells producing wastewater with high levels of radiation, at least 116 reported levels of radium or radioactive materials 100 times as high as the levels set by federal drinking-water standards. At least 15 wells produced wastewater carrying more than 1,000 times the amount of radioactive elements considered acceptable.

Compounding water pollution concern is the fact that many of the specific chemicals used have not been publicly disclosed, although there has been some movement in the last year with voluntary disclosure and state-mandated disclosure, as noted below in the discussion of regulation. Drilling fluid formulas are considered the manufacturers' proprietary information; these manufacturers are generally subcontracted service providers to gas companies like Chevron. The lack of transparency has impeded efforts to track contamination—as well as the ability to respond to accidental releases.

In response to criticism about secrecy, some gas companies are voluntarily disclosing chemical ingredients of their fracking fluids. **Halliburton**, **EQT**, **Chief Oil & Gas**, and **Range Resources** were among the first to post the information to their websites beginning in 2010. In addition, 18 companies participate in FracFocus, a non-profit chemical disclosure database that is a joint project of the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission. Users may run a query by state, county, operator and/or well name for wells drilled since January 1, 2011. For each well, users may generate a report that lists the trade name, supplier, purpose, chemical ingredients, and amount of ingredients in the mix. Notably, Chevron has not released the chemical components of its fracking fluid on the FracFocus website, although it told Si2 it does participate in the initiative and has been involved with the Ground Water Protection Council's work on the issue.

Air pollution—Although water issues have been the focus of environmental concerns about fracking, there are also potential threats to clean air. According to a March 2010 *Scientific American* article, Texas communities where Barnett Shale extraction is occurring have experienced high levels of benzene and other toxic air pollutants that exceed legal limits. Community leaders attribute the problem to rushed—and consequently shoddy—installation of pipelines, implying that the hurry to grab resources may be compromising the integrity of construction and installation.

Questions also have surfaced about the perceived climate change benefit of natural gas. At the wellhead, natural gas emits about half the level of greenhouse gases as coal and two-thirds to three-quarters the level of petroleum. Yet in January 2010, ProPublica reported new research from the EPA that reduced the estimate to just 25 percent cleaner than coal. Subsequently, a paper from Cornell professor Robert Howarth concluded "Compared to coal, the footprint of shale gas is at least 20 percent greater and perhaps more than twice as great on the 20-year horizon and is comparable when compared over 100 years." A spokesperson for Energy In Depth, an industry organization, said the methodology and data were unconventional. However, Howarth notes that the report has just been through peer review; it became available in April 2011 in the scientific journal *Climatic Change*.

Chevron's Hydraulic Fracturing

Chevron notes in its 2010 Annual Report that "Production of shale gas requires the use of hydraulic fracturing… to help produce the gas." The company also notes in written comments on a forthcoming EPA study (see regulatory section below) that "Chevron relies on technologies, including hydraulic fracturing, to help develop America's much needed oil and gas resources in a safe and environmentally responsible manner." These statements make clear that drilling and fracking are significant components of Chevron's natural gas operations.

According to an article from February 18, 2011 in *The Wall Street Journal*, Chevron replaced only 24 percent of its natural gas reserves in 2010. For this reason, the company moved in November 2010 to

acquire Atlas Energy's shale gas operations throughout the United States (with a concentration in the Northeast). Chevron also acquired significant new reserves in Canada, Romania and Poland. As a result of the acquisitions, Chevron secured 9 tcf of natural gas resource, with 850 bcf in proven reserves and 80 million cubic feet of daily production. Northeast assets include 486,000 net acres in the Marcellus Shale, 623,000 net acres in the Utica Shale, 100,000 net acres in the Collingwood Shale (Michigan), and 200,000 acres in the Duvernay Shale (Alberta, Canada). The company also owns a 49 percent interest in Laurel Mountain Midstream, LLC, which provides it access to 1,000 miles of intrastate and natural gas gathering lines in the Marcellus region and a 60 percent interest in Atlas Energy's joint venture with Reliance Industries Limited. The latter acquisition provides Chevron with access to a major drilling contractor in the Marcellus region.

The company is also heavily involved in lobbying and policy development related to drilling and fracking throughout the country. As a result of its acquisition of Atlas Energy, Chevron is a full member of the Marcellus Shale Coalition, which lobbies local, state and federal governments on drilling and fracking issues. The group was publicly opposed to the FRAC Act and partners with Energy In Depth to conduct public outreach, such as the article "Debunking GasLand," which aims to discredit the high-profile drilling and fracking documentary that received an Oscar nomination. Chevron has also been appointed to the newly-created Pennsylvania Marcellus Shale Advisory Commission, which will advise Pennsylvania Governor Tim Corbett (R) on shale gas policy and development within the state.

Disclosure: To date, Chevron has not voluntarily disclosed its use of fracking fluids or volumes. However, Chevron noted to Si2 that it has been involved with the development of the Ground Water Protection Council's disclosure project and is participating in the GWWPC FracFocus program. (See Si2's Briefing Paper on Natural Resources Management for more information on these initiatives.)

Regulatory Uncertainty

Chevron engages in lobbying and policy development although maintains in the 2011 proxy statement that "regulatory protections are well established" to ensure no environmental harm occurs from fracking. The shareholder proponents, however, note the rapidly evolving regulatory framework in the Northeast. As noted previously, gas companies in the U.S. West and Southwest operate in more stable regulatory environments than those in the U.S. Northeast. The recent advance into the Marcellus Shale has created a "gold rush" atmosphere that regulators are still trying to monitor.

Federal: The Clean Water Act sets pretreatment standards for gas companies that send flowback water to wastewater treatment plants and establishes the operating requirements for the plants themselves. The Safe Drinking Water Act (SDWA) regulates the process for disposing of flowback water in underground geologic formations and establishes treatment requirements for drinking water utilities that withdrawal water from rivers and lakes in regions where drilling and fracking occurs. Finally, the Emergency Preparedness and Community Right-to-Know Act requires gas companies to develop Material Safety Data Sheets that list the ingredients of their fracking fluid. Companies must supply the Material Safety Data Sheets to hospitals and fire companies so first responders have the necessary information to deal with explosions or spills.

The FRAC Act—U.S. Sen. Robert Casey (D-Pa.) reintroduced the FRAC Act in March 2011 that requires gas companies to disclose the chemical components of their fracking fluid. In addition, the bill would reverse an exemption under the SDWA granted to gas companies under the Energy Policy Act of 2005. The exemption removed EPA authority to monitor drilling and fracking by modifying the definition of underground injection to exclude "the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities." Essentially, the reversal would expand the current SDWA authority to regulate just the

process for disposing of flowback water in underground geologic formations to include all fracking activities.

Federal studies—Two research efforts by the current Administration will evaluate whether additional oversight under existing federal authority is necessary. The first effort, *Prudent Development of North American Natural Gas and Oil Resources,* is being developed by the National Petroleum Council (NPC) at the request of Secretary of Energy Dr. Stephen Chu. The report will review the North American natural gas supply chain and infrastructure potential, the contribution of natural gas to a low-carbon energy portfolio, strategies to mitigate environmental impacts of increased production and role of technology in developing reserves. The NPC plans to release the report in summer 2011. The second study is being undertaken by the Environmental Protection Agency (EPA) at the request of the White House and House Appropriations Conference Committee. It will assess the impacts of hydraulic fracturing on drinking water and groundwater. Initial research results will be available in fall 2012 and the full report is planned for release in 2014.

State and local: The federal laws have problems that are addressed to varying degrees of success by industry self-regulation and state laws. States and local governments may not have the resources to enforce the CWA and SDWA. As a result, gas companies are recycling and reusing flowback water at the well pad. The process also generates wastewater even when recycling technologies are used.

In addition, the federal community right-to-know law provides gas companies a partial exemption from the reporting requirement when they claim fracking fluid as a proprietary trade secret. Gas companies that claim the exemption may report just the trade name of their fracking fluids, rather than the chemical names. But in September 2010, Wyoming became the first state to require gas companies to disclose the chemical ingredients of fracking fluids injected into new wells publicly. Colorado soon followed, requiring disclosure of chemicals to first responders, and the Arkansas Oil and Gas Commission started requiring gas companies to disclose names and concentrations on a well-by-well basis in January 2011. As mentioned previously, some companies are disclosing their ingredients voluntarily through their websites or through FracFocus.

States also are addressing the issue of severed surface and subsurface rights. For more than a century, most states overlying the Marcellus Shale have allowed one owner to purchase surface rights and another owner to purchase subsurface rights. The deeds for many subsurface rights have been lost because there was no need to exercise them previously. In Maryland, the General Assembly passed the Dormant Mineral Interests Act in 2010 to allow surface owners to sue for subsurface rights that have remained dormant for 20 years or more. In Pennsylvania, the issue is playing out in states parks, where the State retains subsurface rights on just 20 percent of its 283,000 acres of parkland. Debates continue about whether gas companies should be allowed to exercise their subsurface rights on land that is owned by the public.

Bans and moratoria—The state and local regulatory framework continues to evolve. Former New York Governor Peterson (D) issued an executive order to ban high-volume hydraulic fracturing until July 2011, when the New York State Department of Environmental Conservation will complete an Environmental Impact Statement that could require additional regulations. Maryland Governor Martin O'Malley (D) has proposed a similar ban until additional study can be completed. City councils in Buffalo, New York; Pittsburgh and Philadelphia, Pennsylvania and New York City have either called for bans or banned all fracking activities (e.g., drilling and fracking and storage, transfer, treatment or disposal of flowback water) outright. River basin commissions, such as those for the Delaware and Susquehanna Rivers, are also becoming involved. The Delaware River Basin Commission, which coordinates withdrawals for drinking water, agriculture, recreation, and resource development (such as shale gas),

will not authorize withdrawals until it finishes new regulations. Draft regulations were completed in December and are expected to be finalized in summer 2011.

Violations

Some environmentalists see an advantage to companies like Chevron becoming involved in drilling and fracking. Compared to smaller companies, large firms have greater resources that may enable them to drill with fewer problems.

Yet debate continues over the efficacy of drilling and fracking regulations precisely because of well-publicized violations in the industry. For example, in April 2011, a well owned by **Chesapeake Energy** blew out in Canton, Pennsylvania. Flowback water entered a tributary of Towanda Creek and the EPA Region V office has ordered a full review. Also, a well blow-out at an **EOG** drilling site in June 2010 caused gas and flowback water to spew for 16 hours. In response, the Pennsylvania Department of Environmental Protection (PADEP) fined the company $353,400 and ordered it to shut down Pennsylvania operations for 40 days. PADEP also fined **Cabot**, **Halliburton** and **Range Resources** for spills that occurred throughout 2009 and 2010.

Chevron incidents: Chevron does not have an environmental record that stands out negatively from that of its peers. But Atlas has had significant drilling and fracking violations. For example, in January 2010, PADEP fined Atlas Energy $85,000 for fracking fluid and flowback water spills at 13 locations throughout 2009. In February 2010, landowner George Zimmerman of Washington County, Pennsylvania sued Atlas for polluting his land and water with fracking fluids. In particular, he alleged that the company's activities polluted water bodies on his property. Independent water tests found concentrations of seven carcinogenic chemicals above screening established by EPA at three sites near his home. Finally, PADEP fined Atlas $100,000 for allowing flowback water to overflow a holding pit in Washington County, Pennsylvania. The resulting flood contaminated a tributary of Dunkle Run in the Buffalo Creek watershed.

In April 2011, the environmental advocacy group Clean Water Action documented the violations incurred by participating members of the Marcellus Shale Advisory Commission. Combined, the member companies accounted for 42 percent of all drilling and fracking violations in Pennsylvania in 2010. In descending order of violations, the companies were Chief Oil & Gas (174), Chesapeake Energy (132), East Resources (74), Exxon Mobil/XTO (66), Range Resources (32), Atlas/Chevron (16), EQT (15), and Consol (5). The report also notes Atlas donated $54,500 to Governor Tim Corbett's campaign before it was acquired by Chevron.

III. Proponent Position

The Sisters of Saint Francis of Philadelphia submitted the resolution along with 17 co-filers. The resolution was one of ten regarding drilling and fracking that were submitted for proxy season 2011. All 10 proposals are nearly identical and their submissions were coordinated by Green Century Capital Management and the Investor Environmental Health Network. Proponents withdrew the proposal at **Anadarko Petroleum**, **Cabot Oil & Gas, El Paso, Southwestern Energy** and **SM Energy** after agreements with the companies, but the proposal is going to a vote at **Carrizo Oil & Gas**, **Energen, Exxon** and **Ultra Petroleum**, in addition to Chevron. Notably, similar resolutions proposed last year received an average of 30 percent of the vote. One resolution at Williams Companies received 42 percent.

The proponents attribute the impacts of drilling and fracking to both the process itself and the policies that regulate it. In particular, the proponents see cement casings around wellbores as critically important to ensure that injected fluids and groundwater do not interact. The proponents note high-profile spills and violations that have occurred in Pennsylvania, citing the *Times-Shamrock Newspaper* that "many of the largest operators in the Marcellus Shale have been issued violations for spills that

reached waterways, leaking pits that harmed drinking water, or failed pipes that drained into farmers' fields, killing shrubs and trees." The proponents then mention the particular violations of Atlas Energy; noting the lawsuit from George Zimmerman described above. According to a report issued by the Carbon Disclosure Project cited by the proponents, water management poses reputational risks for the oil and gas sector (Water Disclosure 2010 Global Report). They conclude that Atlas's violations could pose a reputational risk to Chevron.

The violations and environmental impacts of drilling and fracking spur policy action at local, state, and federal levels of government. The proponents note the many bans, moratoria, and studies mentioned previously in this report. They conclude that the unstable and rapidly evolving regulatory framework threatens Chevron business operations. Therefore, in their view the company should develop a report that summarizes known and potential environmental impacts of drilling and fracking and includes policy options for the company to adopt above and beyond regulatory requirements or existing efforts. They want the report to focus in particular on efforts to reduce toxicity, recycle wastewater and monitor water quality. Further, they say, the assessment should include the entire natural gas lifecycle, from extraction to combustion.

IV. Management Position

The Chevron board of directors recommends a vote against the resolution. Regarding the steps the company takes to mitigate environmental impacts, Chevron asserts that it already operates beyond applicable laws and regulations. It even applies environmentally responsible standards in areas where such laws do not exist, it says. The company applies the foremost practices for environmental protection as required through its Operational Excellence Management System and Environmental, Social and Health Impact Assessment process, it notes.

Chevron says current regulations are effective and expansive. It notes the 2009 report mentioned above by the Groundwater Protection Council, a national association of state ground water and underground injection control agencies, that states "state regulations are adequately designed to directly protect water resources." Chevron also notes that it complies with guidance issued by the American Petroleum Institute (API) regarding well construction and integrity.

Finally, the company notes that drilling and fracking has occurred for 60 years and resulted in many environmental benefits compared to development for traditional fossil fuels, including "greater recovery of hydrocarbons through fewer wells, lower drilling waste volumes, smaller environmental footprints, less surface disturbance, and reduced air emissions." The proxy statement refers to a 2004 EPA study that concludes that drilling and fracking do not threaten groundwater. For these reason, Chevron feels that the report is unwarranted and would duplicate existing efforts and be a waste of shareholder money.

V. Analysis

Key Points at Issue

- Does Chevron face threats from evolving regulations around natural gas and drilling and fracking?
- Is Chevron transparent about the threats it faces from potential regulations and the steps it is taking to mitigate those threats?
- What is Chevron doing to ensure that violations, such as the 16 that occurred in 2010 at Atlas Energy, do not happen again?

Compared to other gas companies, Chevron is in an uncertain position. The company only recovered 24 percent of the natural gas reserves it developed in 2010, so it must explore new areas to make up for the loss. The prime location is in the U.S. Northeast and Marcellus Shale, but the company is new to the region. In addition, local, state and federal governments are rapidly altering the regulatory framework for drilling and fracking activities.

However, Chevron appears confident of its ability to develop acreage acquired from Atlas Energy in the Marcellus Shale safely. According to the company, the Operational Excellence Management System and Environmental, Social and Health Impact Assessment process mitigate the negative environmental impacts of drilling and fracking. (See the special supplement to this report for more information on these policies and systems.) In addition, the company says that it operates according to guidelines suggested by API. Even if these precautions are insufficient, Chevron feels that regulations adequately safeguard drilling and fracking and process poses little threat to the environment; in fact, it can provide environmental benefits in the company's view.

At the same time, shareholders should note that while Chevron says it participates in the FracFocus disclosure initiative, to date no disclosures from it about the chemical ingredients of its fracking fluid appear on the website. Eighteen other companies have posted information about their fluid through FracFocus. In addition, the objectives of the Operation Excellence Management System are vague and lack detail about the actual precautions Chevron takes at its drilling site. The numerous violations and pending lawsuit at Atlas Energy could make shareholders questions whether the company's internal policies are adequate.

In addition, Chevron's drilling and fracking positions can be challenged. Existing regulations are clearly not sufficient to protect the environment. Also, shareholders could be legitimately justified in wondering whether guidelines issued by API, the main trade association for the U.S. oil and natural gas industry, can be trusted to reduce groundwater threats from drilling operations.

Finally, shareholders should also weigh Chevron's arguments for the environmental benefits of drilling and fracking. The company asserts that drilling and fracking provides many environmental benefits over traditional fossil fuel development. For example, the company notes that drilling results in lower waste volumes. However, a traditional vertical well is approximately 3,000 feet deep. In comparison, a horizontal well is 5,000 to 20,000 feet deep. The combination of increased cuttings from deeper wells and flowback wastewater could easily increase wastes over vertical drilling. Also regarding environmental benefits, the company notes the smaller environmental footprint of drilling and fracking. Actually, drilling and fracking could disturb more land and increase emissions over conventional drilling techniques. In many regions were drilling occurs, gas companies thought shale plays were spent of natural gas. The regions had been abandoned, but the drilling and fracking process has unlocked natural gas from the shale plays and is causing an influx of new development.

Chevron also notes the 2004 EPA study that allegedly negates the groundwater impact of drilling and fracking. The report has been dismissed by many people and organizations on grounds that it was either too general or has been misinterpreted. ProPublica reported in March 2011 that a senior official at EPA said in 2004 that the report "wasn't meant to be a bill of health saying 'well, this practice is fine. Exempt it in all respects from any regulation." Former EPA employee Weston Wilson has also said the report was "scientifically unsound." He adds "While EPA's report concludes this practice poses little or no threat to underground sources of drinking water, based on the available science and literature, EPA's conclusions are unsupportable."

Voting Considerations

Voting against: Shareholders may want to vote against this resolution, if they feel Chevron's internal environmental policies are sufficiently preparing the company for potential regulations, reducing violations, and mitigating current and potential lawsuits. The company claims to operate beyond regulation, as it has not had many violations outside of those attached to Atlas Energy, which Chevron recently acquired. Shareholders may also want to vote against the proposal if they think it would be a waste of company resources and duplicative of other assessments within Chevron and externally (e.g., the Department of Energy and EPA reports). In addition, while Chevron has not voluntarily disclosed its use of fracking fluids or volumes, Chevron has been involved with the development of the Ground Water Protection Council's disclosure project and is participating in the GWWPC FracFocus program.

Voting in favor: On the other hand, shareholders also may want to vote for the resolution if they think Chevron is not forthcoming in explaining its drilling and fracking activities to investors or that the company's internal safeguards are inadequate. For example, Chevron has not taken voluntary steps like other companies in disclosing fracking fluids. Shareholders also may want to vote in favor of this proposal if they are concerned by the threats drilling and fracking regulations could pose to Chevron. The company is moving into the Marcellus Shale, a region where it has not had significant operations in the past. In order to establish itself, it acquired certain business operations at Atlas Energy, a company that has committed significant violations in the past. In addition, public policies in the area are evolving rapidly, and the examples Chevron gives of operating beyond current regulation are obscure and refer to reports that have been dismissed by others.

V. Resources

- Chevron 2010 Annual Report
  http://www.chevron.com/documents/pdf/Chevron2010AnnualReport.pdf
- Chevron 2011 Proxy Statement
  http://www.sec.gov/Archives/edgar/data/93410/000119312511097814/ddef14a.htm
- FracFocus
  http://fracfocus.org/
- Investors Environmental Health Network
  http://www.iehn.org/home.php
- Marcellus Shale Coalition
  http://marcelluscoalition.org/
- Energy In Depth
  http://www.energyindepth.org/