

SHAREHOLDER PROPOSAL:
SAFER ALTERNATIVES FOR NATURAL GAS EXPLORATION AND DEVELOPMENT
 Chevron Corporation Symbol: CVX Lead Filer: Sisters of St. Francis of Philadelphia

CHEVRON FAILS TO TRANSPARENTLY DISCLOSE RISKS ASSOCIATED WITH HYDRAULIC FRACTURING OPERATIONS TO INVESTORS

Although the Company attempts to imply that hydraulic fracturing in general, and specifically at this company, have no material environmental impacts, hydraulic fracturing operations have been linked to significant environmental impacts that could have financial implications for the company and are leading to increased regulatory scrutiny. As a result, the company faces sizable business risks but is currently not providing investors the necessary information to determine if it is successfully managing the associated risks.

Shareholders are being asked to vote FOR a report summarizing the environmental impact of the hydraulic fracturing operations of Chevron and potential policies for the Company to adopt, above and beyond regulatory requirements, to reduce or eliminate hazards to air, water and soil quality from those activities.

In its opposition statement, the company’s primary arguments against this proposal are:

- Chevron believes that regulations encompassing its hydraulic fracturing operations are sufficient and “well established”.
- Chevron believes that hydraulic fracturing is safe with only minor environmental impacts.

Proponent rebuttal and rationale for a yes vote:

1. State and Federal regulation of fracturing is far from settled and Chevron’s shareholders face significant financial risks due to tightening regulations.
2. Chevron’s considerable reliance on hydraulic fracturing exposes the company to significant financial and environmental risks associated with the process, particularly in regards to issues related to water and toxic chemicals.
3. Chevron’s disclosure is insufficient to provide investors the necessary information to determine whether the company is appropriately managing risk.
4. Sector peers have responded to investor concerns and have begun to provide increased disclosure.

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BACKGROUND ON HYDRAULIC FRACTURING

Although reserves of conventional natural gas have been steadily decreasing in recent years, advances in the unconventional drilling technique known as hydraulic fracturing are unlocking vast reserves of previously unavailable natural gas. (The term hydraulic fracturing is referred to as “fracking” in short, spelled in various ways including “fracing” or “fracking.”)

Hydraulic fracturing is a process that injects high volumes of water, chemicals and particles underground to create fractures through which gas can flow for collection. The process was developed by Halliburton in the middle of the last century but only recently became widely used. According to a report by Cambridge Energy Research Associates, “[hydraulic fracturing] was only proved out over the course of the first decade of the twenty-first century. The scale was not even really recognized until 2007-08; and it did not enter the US national energy discussion until the second half of 2009. And yet **it ranks as the most significant energy innovation so far this century.**”ⁱ According to the industry, **fracturing is used in 90 percent of operational wells today** and 60-80 percent of new well will require fracturing to remain viable.ⁱⁱ **As a result of this widespread use, investors believe companies must increase transparency and disclosure to reflect this new dependence on hydraulic fracturing.** As the use of hydraulic fracturing skyrockets, communities, regulators and investors are growing increasingly concerned about the environmental impacts of this process. Fracturing operations require significant land use modification, disruptive new roads, the trucking of toxic chemicals through established communities, and is incredibly water intensive.ⁱⁱⁱ

BACKGROUND ON INVESTOR CAMPAIGN

The hydraulic fracturing issue has unfolded rapidly on the national scene and investors were at the forefront raising this issue just as the debate was heating up across the country. Investors initially engaged companies in the 2009-2010 proxy season, flagging many issues that are becoming increasingly common—more prevalent enforcement actions and fines, increased litigation, and loss of license to operate stemming from drilling moratoriums. Moreover, votes at the companies’ 2010 shareholder meetings were remarkably strong, indicating that a significant portion of each company’s shareholders recognized these risks are real and require increased disclosure and accountability. On average, the proposals received approximately 30 percent of the vote, with the highest vote being at Williams Companies, where 42 percent of the shares voted either for or against supported the proposal. This is one of the highest votes on record for a first year environmental proposal. It took years for other issues such as global warming to record similarly high votes and investors contend this demonstrates just how important this issue is to the companies and their shareholders. Since the 2010 annual meetings, the call from investors, regulators, community groups and NGOs for increased transparency has only become louder and

investors are seeing more and more companies take action. The proponent contends it is time for Chevron to respond to shareholder concerns by providing increased disclosure and mitigating risk.

CHEVRON RECENTLY MADE A SIGNIFICANT INVESTMENT TO EXPAND ITS NATURAL GAS RESOURCES

In November 2010, Chevron announced it planned to purchase Atlas Energy's acreage in South Western Pennsylvania. In the second line announcing the purchase, the company stressed "The acquisition will provide Chevron with an attractive natural gas resource position primarily located in southwestern Pennsylvania's Marcellus Shale."^{iv} The release goes on to state, "The Atlas Energy Assets further advance Chevron's global shale gas position, complementing the company's recent entrance into shale gas opportunities in Poland, Romania and Canada." As a result of this acquisition, Chevron will have 486,000 net acres in the Marcellus Shale. The proponents contend the company should improve its reporting to provide increased information on its newly acquired fracturing operations including increased disclosure on the steps Chevron is taking to respond to the shifting regulatory climate and its efforts to minimize risks associated with its fracturing operations.

The lead proponent has visited Atlas facilities in the region. These visits indicate that Atlas has had a significant effect on the communities in which they operate and in some cases individuals allege the company has degraded the environment and negatively affected people's health. Furthermore, there is evidence that Chevron did not apply its own human rights policy to this venture but the company is not providing investors with the necessary information to make an assessment.

1. CHEVRON'S SHAREHOLDERS FACE SIGNIFICANT FINANCIAL RISKS DUE TO TIGHTENING STATE AND POSSIBLE FEDERAL REGULATIONS.

As the use of hydraulic fracturing skyrockets, communities, regulators and investors are growing increasingly concerned about the environmental impacts of this process. Regulation at the state or federal level could have dramatic implications for all companies engaged in hydraulic fracturing, including Chevron, by tightening wastewater disposal requirements potentially restricting areas in which hydraulic fracturing may be performed, limiting materials that may be used, or otherwise increasing costs.

In its opposition statement, Chevron states "regulatory protections are well established" and cites the conclusions of a 2009 study which "concluded that 'state regulations are adequately designed to directly protect water resources.'"

The proponents contend the above statement by the company and dependence on an old study is misguided because it fails to recognize the significant regulatory tightening that has happened at the state level since 2009 and is proposed at the federal level. Below the proponents document just how swiftly and significantly the regulatory landscape is shifting.

REGULATORY RISK AT THE STATE LEVEL:

In the 2010 proxy season when investors first filed resolutions with companies on this issue, shareholders flagged that increasing restrictions would be a risk for companies. In the past year we've seen this possibility come to fruition as Arkansas, Pennsylvania and Wyoming have all tightened regulation and increased disclosure on this issue while other states, regional bodies, and localities are imposing drilling moratoriums.

State-Level Response:

ARKANSAS:

- **State-legislative action:** Beginning January 15, the Arkansas the state Oil and Gas Commission began requiring companies to disclose the names and concentrations of the chemicals used in the fracturing process on a well-by-well basis.^v

NEW YORK:

- **Regulatory action:** New York State is revising its guidelines related to hydraulic fracturing and vocal and politically well connected support for increased protections has emerged.
 - Outgoing Governor David Patterson, issued an executive order banned some natural gas drilling in the state. The order will remain in effect until July 1. In January 2011, incoming Governor Andrew Cuomo kept in place Patterson’s executive order ensuring it will remain in effect until July 1.
 - At the same time, the New York State Department of Environmental Conservation (DEC) continues to work on guidelines for hydraulic fracturing in the Marcellus Shale. New York City’s drinking watershed lies under a portion of the Marcellus shale. A final version is expected this summer.
 - In December 2009, the EPA weighed in on DEC’s environmental impact statement addressing fracturing, expressing significant concerns about protecting New York City’s watershed. EPA signaled the need for further study of “issues involving water supply, water quality, wastewater treatment operations, local and regional air quality, management of naturally occurring radioactive materials disturbed during drilling, cumulative environmental impacts, and the New York City watershed.”^{vi}
 - In December 2009, New York City announced its study found hydraulic fracturing posed “an unacceptable threat to the unfiltered, freshwater supply of nine million New Yorkers, and cannot safely be permitted within the New York City watershed”.^{vii}
- **Impact on companies:** In late October 2009, in the face of the massive public controversy about its plans to engage in drilling and hydraulic fracturing near the New York City watershed, Chesapeake Energy, reportedly the only company to hold leases within that watershed, announced it would “voluntarily” refrain from drilling within the boundary.^{viii}

PENNSYLVANIA:

- **State-legislative action:** Pennsylvania updated its regulations in August 2010 to require all water treatment facilities (new and expanding) treating oil and gas wastes to remove larger amounts of total dissolved solids.^{ix}
- **Municipal-level action:** Both Philadelphia and Pittsburg have banned drilling within the boundaries of their drinking watersheds. Both are seen to be more ceremonial, but it does send a clear message of community concern.

WYOMING:

- **State-level action:** In June, the Wyoming Oil and Gas Conservation Commission passed new rules requiring companies to disclose the chemicals used in the fracturing process. In September, Wyoming’s governor clarified that the ingredients will be made public, making it the first state to require this level of public disclosure of the chemicals used in the fracturing process.^x

Regional response:

- *Delaware River Basin Commission:*
 - **Regulatory action:** The Delaware River Basin Commission—a hybrid state/federal hybrid regulatory agency that includes the U.S. Army Corps of Engineers and the governors of New York, Pennsylvania, Delaware and New Jersey — imposed a moratorium on drilling in the Marcellus Shale while it revises its regulations limiting development in Pennsylvania. In December, draft rules were released and final rules are expected this summer.
 - **Impact on companies:**
 - According to media reports, two companies operating in the region affected by the moratorium had “put their lease contracts on hold, citing a ‘force majeure’ clause that allows such suspensions because of regulation outside the ‘normal and ordinary course of business.’”^{xi} According to other media reports the companies had invested more than \$100 million into the leases before putting them on hold.^{xii}
 - In response to the commission’s draft regulations, Chris Tucker, a spokesperson for Energy In Depth, a pro-drilling association said, “Unfortunately, while a lot of the words in here sound good, a lot of the numbers sounds like a swift kick to the stomach. I’ve

never seen bonding and fee requirements this high. They very well might prove prohibitive.”^{xiii}

REGULATORY RISK AT THE FEDERAL LEVEL:

The EPA is undertaking a very comprehensive study on the full lifecycle of water used in hydraulic fracturing—from water sourcing, to the mix of chemicals put into the water to the water disposal and management stage.

STATUS OF CURRENT REGULATORY REGIME

In most cases, the EPA regulates chemicals used in underground injection under the Safe Drinking Water Act. However, the 2005 Energy Policy Act, stripped the EPA of its authority to monitor hydraulic fracturing. It is the only industry to benefit from such an exemption.^{xiv} The environmental community has dubbed this the “Halliburton loophole”, alleging that former Vice President Dick Cheney, also formerly CEO of Halliburton, shepherded this provision through Congress.

REGULATORY RISK: INCREASED EPA SCRUTINY COULD LEAD TO HEIGHTENED RESTRICTIONS

- **Environmental Protection Agency (EPA) Review:** In 2009, Congress requested that the EPA carry out a study on the “relationship between hydraulic fracturing and drinking water” and the Agency’s Science Advisory Board encouraged the use of a “life cycle approach.” According to a draft plan released in February 2011, the EPA plans to take a comprehensive look at the fracturing lifecycle and will look at potential impacts to drinking water at every stage in the process. While the full report is not expected until 2014, a preliminary report is expected next year.^{xv}
- As part of this study, the agency sent formal inquiry letters to nine of the leading service providers seeking detailed information on the chemicals and water used and produced in fracturing operations. While the letter from the EPA does allow companies to protect portions of their submissions as confidential business information, if the company does not claim such protections, the information will be made available to the public.

In its opposition statement, Chevron points to a 2004 study by the EPA which found that fracturing was safe. Investors contend the findings of that study have been contested and, more importantly, EPA has launched its new study at Congress’ request.

- In March 2011, a former official who was at the EPA at the time of this decision was quoted saying the 2004 report “wasn’t meant to be a bill of health saying ‘well, this practice is fine. Exempt it in all respects from any regulation.’”^{xvi}
- According to EPA employee and whistleblower Weston Wilson, the EPA’s 2004 report was “scientifically unsound.” He continues, “**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.**”^{xvii}
- Others at the EPA contend the report’s conclusions have been over-applied. According to one of the study’s three main authors, Jeffrey Jollie, “**It was never intended to be a broad, sweeping study... I don’t think we ever characterized it that way.**”^{xviii}

These new developments indicate that the company’s reliance on 2004 data is insufficient and investors require increased transparency and recognition of risk to ensure the company is able to respond to the shifting regulatory climate.

REGULATORY RISK: CONGRESSIONAL ACTION COULD RESULT IN INCREASED COSTS AND DISCLOSURES

- **FRAC Act:** In June 2009, the Fracturing Responsibility and Awareness of Chemicals Act—or FRAC Act—was introduced in Congress to reinstate the EPA’s authority to regulate hydraulic fracturing under the Safe Drinking Water Act.^{xix} In March 2011, it was reintroduced in the House and Senate. Although it is not expected to move in the current congress, companies should acknowledge the potential for its future enactment.

- **Congressional Committee Review:** In February and May 2010 the U.S House Subcommittee on Energy and the Environment sent letters to a 14 companies involved in hydraulic fracturing asking for increased disclosure on the chemicals used in the fracturing process and its potential impacts on human health or the environment. In July 2010, the committee sent letters to ten oil and gas producers to obtain additional information. According to the committee, “[t]his investigation will help us better understand the potential risks this technology poses to drinking water supplies and the environment, and whether Congress needs to act to minimize those risks.”^{xx}

REGULATORY RISK: INTERIOR DEPARTMENT CONSIDERING STRICT DISCLOSURE RULES

In December 2010, the Secretary of the Interior announced officials were considering adopting regulations that would be similar to Wyoming’s recently passed rules and would require increased disclosure of the chemicals used in the fracturing process.

Given the myriad of state and federal agencies and regulators considering increased regulation of aspects of fracturing operations, investors contend companies must be preparing for this reality. Instead, Chevron indicates in its opposition statement that it believes “regulatory protections are well established” completely disregarding the rapid tightening of the regulatory climate currently underway across the country. The proponents are concerned that Chevron is not providing sufficient information on the business implications of the impending regulations nor on how it is preparing for the likely reality of more regulations. Investors are concerned that their investments may be undermined by company decision-making and policies that could fall behind public and regulatory expectations for environmental protection and are requesting increased transparency.

COMPANY RECOGNITION OF REGULATORY RISK

Some companies engaged in hydraulic fracturing have begun to recognize that increased regulation poses substantial risk to the sector and that such regulation may be inevitable.

BUSINESS RISKS: REGULATION COULD MAKE HYDRAULIC FRACTURING COMMERCIALY IMPRACTICABLE

- A striking indication that future regulations have the potential to dramatically influence natural gas development using hydraulic fracturing was contained in the merger agreement between oil giant ExxonMobil and shale gas heavyweight XTO Energy. **ExxonMobil protected its right to back out of the deal if state or federal regulations significantly restrict hydraulic fracturing, rendering it illegal or commercially impracticable. This is a clear indication, that the industry recognizes there is substantial risk associated with potentially increased regulation.** As a result, investors believe companies should provide a more detailed discussion of such risks to help ensure that companies are sufficiently prepared to respond to these regulatory changes.
- Because Chevron recently made a large acquisition, this proxy season, investors are inquiring about it’s due diligence process in conjunction with its acquisition of Atlas Energy, asking how it addressed such risks. Chevron has not responded either verbally or in writing to our due diligence questions around this purchase.

The proponents are concerned that regulations are being discussed at the federal level and in various key states, but Chevron is not providing more than broad, vague information on the business implications of the impending regulations nor on how they are preparing for the likely reality of more regulations. We are concerned that our investments may be undermined by company decision-making and policies that could fall behind public and regulatory expectations for environmental protection.

While companies often prefer to wait until there is regulatory clarity to institute new policies or procedures, we believe it is in the best interest of companies to adopt best practices now to minimize and avoid risk. Sound risk

management now protects against current risks and enhances companies' ability to readily comply with future regulatory changes.

2. CHEVRON'S CONSIDERABLE RELIANCE ON HYDRAULIC FRACTURING EXPOSES THE COMPANY TO SIGNIFICANT FINANCIAL AND ENVIRONMENTAL RISKS ASSOCIATED WITH THE PROCESS, PARTICULARLY REGARDING ISSUES RELATED TO WATER AND TOXIC CHEMICALS

In its opposition statement, Chevron misleads shareholders by stating "[h]ydraulic fracturing has been used for more than 60 years in nearly one million wells drilled in the United States."

This broad, generalized statement, which many of its sector peers have moved away from, could be construed as misleading in light of recent events.

The fracturing process requires pumping millions of gallons of chemicals laced with tons of toxic chemicals into the ground. Recently, two issues are emerging that have the potential to limit development and expansion, and pose significant environmental and business risks: the toxic chemicals used in the fracturing process and disposing of waste water. Even though both pose significant business risks to future expansions of operations and to the company's bottom line, the company does not report on these impacts or their associated risks to the company.

OPERATIONAL RISKS:

- In June 2010, a blowout at an EOG well reportedly spewed gas and wastewater for 16 hours and was described by the Pennsylvania DEP as an event that posed "a serious threat to life and property."^{xxi} In response, the company was forced to shut down its operations in Pennsylvania for 40 days and pay \$353,400 in fines.^{xxii}
- In September 2010, a Chesapeake Energy well caught fire and the company was issued a violation for "failing to prevent the release of natural gas and the potential pollution of waters of the state." The company's operations at the site were shut down temporarily.^{xxiii}
- In February 2011, three workers were injured in an explosion at a Chesapeake Energy facility. Employees were dealing with water produced in the hydraulic fracturing process at the time of the explosion.^{xxiv}

RISKS RELATED TO WATER:

WATER CONTAMINATION

In its opposition statement, Chevron states "[t]he Groundwater Protection Council and , in a 2004 study, the U.S. Environmental Protection Agency have stated that hydraulic fracturing does not pose significant risks to groundwater." The proponents contend this statement fails to recognize that recently stories of proved and alleged water contamination are increasingly common and related litigation and enforcement actions are more frequent.

WATER CONTAMINATION—LITIGATION RISKS

Lawsuits facing other companies have begun to demonstrate that litigation alleging impacts to groundwater sources is moving forward.

- In December 2010, two lawsuits were filed in federal court alleging that Chesapeake Energy and Encana Oil & Gas operations contaminated property owners' water wells.^{xxv}
- In September 2010, 13 families in Pennsylvania sued Southwestern Energy alleging that their drinking water was contaminated by the company's drilling operations.^{xxvi}

- In Colorado several years ago, EnCana reached a reportedly multi-million dollar settlement and was fined \$266,000 by regulators for release of gas production waste and failure to protect water bearing formations.^{xxvii}
- Cabot Oil & Gas and Atlas Energy Inc. also face lawsuits over alleged water contamination in Pennsylvania.^{xxviii}

WATER CONTAMINATION—ENFORCEMENT ACTIONS

Companies are increasingly facing enforcement actions and fines associated with the environmental impact of their operations.

- In September 2010, EPA officials warned residents in Wyoming not to drink their water after finding benzene and other harmful chemicals in drinking water wells. Officials also encouraged residents to use fans while showering and washing clothes to prevent a possible explosion.^{xxix}
- In August 2010, the Pennsylvania DEP fined Atlas Resources over \$97,000 “for allowing used hydraulic fracturing fluids to overflow a wastewater pit and contaminate a high-quality watershed.”^{xxx}
- According to media reports, Range Resources faced enforcement actions twice in 2009 for the spillage of hydraulic fracturing fluids. In October 2009, the Company faced a \$23,500 fine after it spilled close to 5000 gallons of water including fracturing fluids into a protected watershed that was a rich fish habitat. In another case, Range spilled more than 10,000 gallons of wastewater and as a result, there was a substantial fish kill and significant clean-up was required.^{xxxi}
- Cabot Oil & Gas Corporation has experienced significant problems with its natural gas wells and hydraulic fracturing operations. In September 2009, Pennsylvania ordered Cabot Oil & Gas to shut down all hydraulic fracturing operations in Susquehanna County. Cabot also faces a lawsuit brought by over a dozen families in Dimock PA which alleges the company’s operations polluted their wells.^{xxxii}
 - In April 2010, in an effort to protect the residents of Dimock Township from gas migration from company wells, Pennsylvania ordered Cabot Oil & Gas to pay a \$240,000 fine, install water treatment systems in 14 homes where drinking water was contaminated and barred the company from drilling any new wells in the township for a year.^{xxxiii}
 - In December 2010, the company agreed to pay residents of Dimock \$4.1 million in compensation—paying each of the 19 families alleging damage twice the value of their home (with a minimum payment of \$50,000) and paying the state \$500,000 to mitigate the expense state agencies incurred exploring the problem.^{xxxiv}

WASTE WATER—ENVIRONMENTAL RISKS

Companies conducting fracturing operations must manage millions of gallons of waste water—portions of fracturing fluids that return to the surface plus naturally-occurring formation waters brought to the surface during and following fracturing. This water contains highly toxic chemicals used in the fracturing process, naturally occurring radioactive materials, dissolved solids and heavy metals. This waste must be stored, transported, treated, and disposed of, and/or recycled. These operations pose numerous risks.

A recent *New York Times* investigation revealed significant concerns. Below are excerpts from its report and findings:

- “While the existence of toxic wastes has been reported, **thousands of internal documents obtained by the New York Times from the Environmental Protection Agency, state regulators, and drillers show that the dangers to the environment and health are greater than previously understood.**”
- “These documents reveal that **wastewater...contains radioactivity at levels higher than previously known, and far higher than the level that federal regulators say is safe** for...treatment plants to handle.”
- “...federal and state regulators are allowing most sewage treatment plants that accept drilling waste not to test for radioactivity...In other words, **there is no way of guaranteeing that the drinking water taken in by all these plants is safe.**”

- “Gas has seeped into underground drinking-water supplies in at least five states, including Colorado, Ohio, Pennsylvania, Texas and West Virginia, and residents blame natural-gas drilling.”
- “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.”
- Of more than 170 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.^{xxxv}
- “George Zimmerman, who filed a lawsuit against Atlas Energy, alleged that the company “ruined his land with toxic chemicals.”^{xxxvi}

According to another *New York Times* investigation, Ultra Resources sent more than 155,000 gallons of wastewater to various towns to be used to reduce dust on roads. The radium levels in the water were nearly 700 times the level allowed in drinking water.^{xxxvii} Investors are concerned this type of disposal could result in significant contamination and expose the companies to serious risks in the future.

WASTE WATER—CAPACITY LIMITATIONS

Insufficient capacity for waste water management may pose a sizeable constraint on the roll-out of hydraulic fracturing, especially in the Marcellus Shale. The Company provides insufficient information on this key business issue to determine whether the company is adequately addressing waste water capacity concerns in its future planning.

- According to consultants to the city of New York, **existing capacity is insufficient to deal with proposed drilling expansion**: “Flowback water is not amenable to conventional wastewater treatment...**The region currently has insufficient treatment and disposal capacity to handle the expected wastewater volumes.**”^{xxxviii}
- Similar analysis—with similar conclusions—has been performed by the New York State Department of Environmental Conservation. **The agency is raising concerns regarding wastewater treatment and has said it will not issue drilling permits until the companies demonstrate they are capable of adequately disposing of waste water.**^{xxxix}
- According to a 2009 analysis done by *ProPublica*, an investigative journalism center spearheaded by a former managing editor of the Wall Street Journal, of three potential disposal methods, none of the options appear to be feasible for New York State because of capacity limitations.^{xl}
- In Pennsylvania, the limitations are similar. According to a report presented to the Society of Petroleum Engineers Eastern Regional Meeting in 2009, Pennsylvania is establishing new regulatory limits for industrial discharges of TDS (total dissolved solids). The report declared, **“there are currently no facilities in the state that can treat flowback fluids to this level.”**^{xli} As noted above, Pennsylvania has since updated its regulations in this area.

PRODUCED WATER—SHORTCOMINGS OF RECYCLING EFFORTS

Recently, many companies have begun to recycle and reuse their waste water but this comes with its own risks.

- According to a recent *New York Times* article, “No one wants to admit it, but at some point, even with reuse of this water, you have to confront the disposal question,” said Brent Halldorson, chief operating officer of Aqua-Pure/Fountain Quail Water Management, adding that the wastewater contains barium, strontium and radioactive elements that need to be removed.”^{xlii}
- According to Pennsylvania regulators, even though companies are recycling substantial portions of their wastewater, more wastewater continue to be dumped into rivers because the number of drilling rigs continues to skyrocket.^{xliii}

WASTE MANAGEMENT AND DISPOSAL

Hydraulic fracturing fluids include numerous hazardous chemicals. The industry generally argues that chemical additives make up only .5 percent of fracturing fluid. While the statement may be literally accurate, is also misleading and underplays the associated risks because it fails to convey the enormous volumes of liquid used to fracture wells.

PHYSICAL RISKS: QUANTITIES OF CHEMICALS USED

Given the significant quantities of water used and produced, the quantities of toxics present are very significant.

- If a fracturing operation using 3 million gallons—and some use much more—to fracture one well one time, that .5 percent means that the companies are using 15,000 gallons of chemicals.

BUSINESS RISKS: CHEMICALS MANAGEMENT

The vast quantities of chemicals also pose substantial business risks as the companies are responsible for securing them throughout the entire supply chain.

- These chemicals must be trucked to drill sites, stored on site, pumped into the ground, disposed of properly which often requires them to be piped or trucked away. The company faces significant financial risks including the potential for enforcement actions or even litigation if problems occur at any point in this process.

RISKS TO HUMAN HEALTH AND THE ENVIRONMENT:

- The chemicals used can be highly toxic. Hazen and Sawyer noted that well service companies and chemical suppliers providing data for New York State's draft supplemental generic environmental impact statement for natural gas extraction and hydraulic fracturing (dSGEIS) list 197 chemical products and 260 unique chemicals.^{xliv}
- These toxic fluids have the potential to contaminate groundwater and the surrounding environment. According to independent tests done in Colorado in 2008, **at least 65 chemicals used by natural gas companies were defined as hazardous** under the major federal statutes designed to protect against toxic contamination. **If these chemicals were released from an industrial facility, reporting to the Environmental Protection Agency (EPA) would be required, and specific clean-up protocols prescribed.**^{xlv}

3. CHEVRON'S DISCLOSURE IS INSUFFICIENT TO PROVIDE INVESTORS THE NECESSARY INFORMATION TO DETERMINE WHETHER THE COMPANY IS APPROPRIATELY MANAGING RISK

Chevron does not provide any information on its fracturing operations on its website or in its SEC filings.

On its website the company makes the following vague reference to its fracturing operations:

"North America and Europe

The company is adding more shale gas acreage to its portfolio, including recent acquisitions in the U.S. state of Pennsylvania, western Canada and Eastern Europe. Shale gas refers to natural gas found in fine-grained sedimentary rock. Locked in very small spaces within the reservoir rock, the gas is extracted using advanced technologies that allow it to flow to production wells. Chevron will continue to find, develop and deliver natural gas to meet the rising demand for energy.

Updated: March 2011^{xlvi}

In its 10-K filings, the company does not provide any disclosure on fracturing related risks. Furthermore, it fails to meet the same level of disclosure Atlas provided in its 2009 10-K. Investors contend Chevron fails to provide

information about relevant risks related to hydraulic fracturing and its disclosure falls behind sector peers which have provided more information in this area.

4. CHEVRON DOES NOT REPORT ON THE IMPACTS OF HYDRAULIC FRACTURING YET SUCH REPORTING IS POSSIBLE AT REASONABLE DETAIL AND COST

In the past year, investors have seen a dramatic increase in the amount of information disclosed by some companies involved in hydraulic fracturing.

- At the time of the drafting of this memo, a new disclosure mechanism is being created by the Ground Water Protection Council that will enable companies to voluntarily report the chemicals they are using. While this will be a step forward in transparency, disclosures will be based on Material Safety Data Sheets, which have been widely criticized as insufficient disclosure vehicles for fracturing chemicals. MSDS reports are principally designed to provide information on occupational hazards rather than environmental hazards, and as a result they only disclose chemicals that are labeled as hazardous by OSHA. Furthermore, MSDS reports do not require the disclosure of information that companies deem to be confidential business information. Finally, they can be uneven in quality.^{xlvii}
- Range Resources, EQT, and Chief Oil & Gas have all begun some well-by-well disclosure of the chemicals used in the fracturing process.
- Cabot Oil & Gas—which has repeatedly been cited for violations and proved and alleged environmental harms—has dramatically improved its reporting. It clarifies the following:
 - All flowback water is stored in closed containers not pits
 - It pressure tests wells to check for integrity
 - It monitors 2,500 feet around their well. This is 1,500 feet beyond the 1,000 foot boundary where, under state law in Pennsylvania, if well contamination begins within six months of drilling, the driller is assumed to be responsible.
 - Sampling is done by a third party lab and results are provided to landowners^{xlviii}
- In December 2010, Williams Companies released a new CSR report which substantially improves the company's reporting on key risks to investors, particularly how the company manages waste water and the protective measures it takes to assure well integrity.
- Talisman has a newly-developed code for contractors, provides information on its efforts to protect groundwater and provides information on its environmental violations.^{xlix}
- Chief Oil & Gas has a "Best Management Practices" web page that lists many of its protective practices related to its natural gas operations. These include storing wastewaters in steel tanks, well-specific chemical disclosure, "closed loop" systems for drilling fluids, and waste water recycling.¹

CONCLUSION

Hydraulic fracturing operations have the potential to have a significant impact on the environment and could pose threats to public health. As a result of various environmental concerns policymakers at the state and federal level are reevaluating the existing regulatory regime, and the resulting regulatory uncertainty poses substantial business risks. Investors are concerned about whether their investments may be undermined by company decision-making and policies that may fall behind public and regulatory expectations for environmental protection.

Investors are requesting increased transparency and disclosure and over the course of the last year, have begun to see substantial improvements in disclosure from some companies. But Chevron has failed to meet the emerging expectation around disclosure. In the absence of meaningful disclosure, investors have no way of fully assessing the risks and rewards from investing in various companies in the energy sector, and are concerned about unpleasant shocks to shareholder value. Shareholders need assurance that companies are candidly disclosing these risks and are adopting best management practices to minimize them. As a result, corporate policies for the management of social and environmental issues related to hydraulic fracturing may well play a major role in determining the success or failure of the Company's efforts to maintain or expand its operations in this promising

area of growth. The Proposal seeks information to assess how the Company is addressing social and environmental challenges, and whether the Company is effectively positioned to seize the new market opportunities associated with natural gas development. Currently, Chevron fails to provide a candid discussion of risks nor has it increased its transparency and disclosure sufficiently to address investor concerns.

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