

SHAREHOLDER REBUTTAL TO THE EXXONMOBIL OPPOSITION STATEMENT REGARDING HYDRAULIC FRACTURING RISKS

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Proposal # 10—Report on Natural Gas Production

A proposal filed by the Park Foundation (represented by As You Sow) and the Unitarian Universalist Service Committee is centered on two concepts essential to investor confidence: disclosure and the mitigation of risks.

In its opposition statement, ExxonMobil (Exxon) claims fracturing is highly and effectively regulated at the state level, that it has sufficiently communicated information on this issue and that it already has the systems in place to minimize potential risks associated with the process. But the proponents contend hydraulic fracturing operations have been linked to significant environmental impacts that could have financial implications for the companies involved and are leading to increased regulatory scrutiny. At the same time, the company fails to provide investors the necessary information on their hydraulic fracturing operations to determine if they are successfully managing the associated risks.

Investors are concerned about the lifecycle impacts of hydraulic fracturing operations because the fracturing of each well requires moving literally millions of gallons of water, chemicals, and wastewater; therefore environmental hazards are present at every step in this process and these environmental impacts can result in very substantial business risks as well. The company provides nominal information in its opposition statement and leaves out key information as described below:

IN ITS OPPOSITION STATEMENT, THE COMPANY'S PRIMARY ARGUMENTS AGAINST THIS PROPOSAL ARE:

- Exxon states that fracturing is “highly regulated at the state level”
- Exxon believes that hydraulic fracturing is safe with only minor environmental impacts
- Exxon argues it has “effectively communicated information on these issues”

PROPONENT REBUTTAL AND RATIONALE FOR A YES VOTE:

- State and Federal regulation of fracturing is far from settled and Exxon's shareholders face significant financial risks due to tightening regulations.

- Exxon's 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.
- Exxon has not effectively communicated on this issue nor does it provide investors the necessary information to determine whether the company is appropriately managing risk.
- Sector peers have responded to investor concerns and have begun to provide increased disclosure.

REGULATORY RISK:

Exxon's opposition statement says "hydraulic fracturing is highly regulated at the state level....we believe state-level oversight...is the most effective approach."

Proponent response:

As the use of hydraulic fracturing skyrockets, communities, regulators and investors are growing increasingly concerned about the environmental impacts of this process and Exxon fails to recognize this shifting regulatory environment. Regulation at the state or federal level could have dramatic implications for all companies engaged in hydraulic fracturing, including Exxon, 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. The below information demonstrates that the regulatory landscape at both the state and federal level is very much in flux and the company's preference for state-level regulation is unhelpful and fails to take into account the current level of uncertainty.

State-level regulatory restrictions:

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.

Exxon's opposition statement states "Hydraulic fracturing is highly regulated at the state level to effectively protect drinking water wells and groundwater aquifers."

Proponent Response:

The proponents contend the above statement by the company misrepresents the current level and effectiveness of state regulations.

The US Department of Energy reports:ⁱ

- 21 of 31 drilling states surveyed have no regulations specific to hydraulic fracturing,
- 4 of 31 drilling states surveyed have detailed regulations guiding hydraulic fracturing,
- 10 drilling states surveyed require that fracturing chemicals be disclosed, and

- No states surveyed require that the volume of fluid left underground after fracturing be recorded.

Furthermore, some believe there are inadequate state resources to handle the rapidly expanding industry. In 2008, 35 inspectors were responsible for greater than 74,000 wells in Pennsylvania, 19 inspectors for 13,000 wells in New York, and 24 inspectors overseeing greater than 64,000 wells in Ohio.ⁱⁱ The Environmental Working Group warns that regulators in New York and Pennsylvania currently neglect checking if gas companies are using diesel or other petroleum distillates.ⁱⁱⁱ

The proponents also contend the above statement by the company is misguided because it fails to recognize the significant regulatory tightening that has happened at the state level recently in response to alleged and proved environmental impacts. Below the proponents document just how swiftly and significantly the regulatory landscape is shifting.

State 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.^{iv}

MARYLAND:

- **Governor's position:** In March 2011, Maryland Gov. Martin O'Malley urged a cautious approach to natural gas drilling in western Maryland.^v
- **State-legislative action:** State lawmakers passed a bill that would place a moratorium on drilling until the Maryland Department of the Environment completes a study to determine whether it endangers drinking water and public health.^{vi}

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.
- **Governor's position:** Outgoing Governor David Patterson issued an executive order that banned some natural gas drilling in the state. In January 2011, incoming Governor Andrew Cuomo kept in place Patterson's executive order ensuring it will remain in effect until at least July 1.
- **Impact on water:** 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.”^{vii}

- 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”.^{viii}
- **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.^{ix}

PENNSYLVANIA:

- **Regulatory action:** In April 2011, the Pennsylvania Department of Environmental Protection announced that after May 19th companies will no longer be able to dispose of the millions of gallons of waste water produced in fracturing operations at water treatment plants that discharge into rivers and streams.^x This raises serious questions as to how companies operating in the Pennsylvania portion of the Marcellus Shale will dispose of wastewater.
- **Municipal-level action:** Both Philadelphia and Pittsburgh have banned drilling within the boundaries of their drinking watersheds. Both are seen to be largely symbolic, but it does send a clear message of community concern.
- **Increased Fines:** State Sen. Jim Ferlo introduced a bill that would increase fines in the Oil & Gas Act that regulates the Marcellus Shale industry. The maximum fine would quadruple from \$25,000 to \$100,000 and the fine for each day of continual violation from \$1,000 to \$10,500 per day.^{xi}

TEXAS:

- **Regulatory action:** In March 2011, State Representative Jim Keffer, head of the House Committee on Energy Resources, submitted a bill for increased public disclosure of chemicals used in fracking through the creation of a Web site containing well-specific information.^{xii}

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.^{xiii}

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.’”^{xiv} According to other media reports the companies had invested more than \$100 million into the leases before putting them on hold.^{xv}
 - 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.”^{xvi}

Given the above state-level efforts to review and tighten restrictions related to hydraulic fracturing, we believe the company’s claims that it is highly and effectively regulated at the state level disregards the shifting regulatory climate on this issue.

Furthermore, the proponents contend regulatory responses have not been limited to the state level even though that is the preferred venue for the company.

Federal response

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.^{xvii} In March 2011, it was reintroduced in the House and Senate.
- **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.”^{xviii}

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.

Regulatory Risk: Environmental Protection Agency (EPA)

New EPA review:

- 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.^{xi} The New York Times dubbed this the “Halliburton loophole”, alleging that former Vice President Dick Cheney, also formerly CEO of Halliburton, shepherded this provision through Congress.^{xx}
- 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 - from water sourcing, to the mix of chemicals put into the water to the water disposal and management stage. While the full report is not expected until 2014, a preliminary report is expected next year.^{xxi}
- 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.
 - A confidential 2010 EPA draft document expressed concern over hydraulic fracturing impacts on local air quality. “From an air perspective, energy extraction operations impact and elevate volatile gases, nitrous oxides, PM 2.5, and ozone formulation. In recent years, areas of significant natural gas production in Colorado, Wyoming, and Utah have seen ozone levels that exceed nation ambient air quality standards with levels increasing at several sites.”^{xxii}
- Senior EPA Health Physicist, Nidal Azzam, expresses concern over radioactivity in hydraulic fracturing wastewater in his 2009 memo regarding a letter of guidance to New York State. “The reported radiological data from well operations...limited data from PA and WV... and from the Marcellus shale production brine... represent elevated levels that need to be controlled and disposed of appropriately. Such operations need to take into consideration the Safe Drinking Water Act and the Uranium Mill Tailing Standard as applicable or relevant and appropriate requirements (ARARs) to ensure the safety of the public health and the environment.”^{xxiii}

Company Recognition of Regulatory Risk

Exxon’s Opposition Statement fails to acknowledge any regulatory risk, though its merger agreement when purchasing XTO did.

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 Exxon and XTO Energy. **Exxon 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 company recognizes there is substantial risk associated with potentially increased regulation.** As a result, investors believe the company should provide a more detailed discussion of such risks to help ensure that the company is sufficiently prepared to respond to these regulatory changes.

Proponents are concerned that even though the company raised significant risks in its XTO merger associated with potential restrictions, the company fails to recognize this risk in its 10-K and offers a generic one sentence reference regarding its exposure to changes in law from "...changes in environmental regulations or other laws that increase our cost of compliance or reduce or delay available business opportunities (including changes in laws related to offshore drilling operations, water use, or hydraulic fracturing)..."

The proponents are concerned that regulations are being discussed at the federal level and in various key states, but Exxon 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 our company to adopt best practices now to minimize and avoid risk. Sound risk management now protects against current risks and enhances our company's ability to readily comply with future regulatory changes.

2. ENVIRONMENTAL IMPACTS

Exxon's Opposition Statement says that "The hydraulic fracturing process poses little risk to groundwater because it occurs thousands of feet below groundwater sources."

Proponent response:

As stated prior, investors are concerned not only with the fracturing that occurs underground, but the lifecycle impacts of the process. The proposal makes clear that the proponents are seeking information on the potential impacts "from activities above and below the earth's surface—including actions that are necessarily part of the life cycle of fracturing and extraction." Recently we've seen high profile incidents of alleged water contamination, significant enforcement actions and fines, the introduction of new litigation, public protests, and new regulations and restrictions some of which put certain areas off limits for development, all of which have the potential to pose business risks to our company and potentially threaten shareholder value. Shareholders need assurance that the company is candidly disclosing these risks and is adopting best management practices to minimize them.

As currently utilized the fracturing process requires pumping millions of gallons of chemicals laced with tons of toxic chemicals into the ground. Recently, while investors have seen some broad operational risks, 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 in its 10-k. Its web site offers a few sentences that simply says it supports disclosure of fracking fluids, that various factors effect waste water management, that it is committed to recycling where possible, and that disposal is covered the Clean Water Act, the Safe Drinking Water Act, and other statutes. Regarding the latter point, the company fails to mention that fracking operations are largely exempt from these Acts due to the 2005 Energy Policy Act / Halliburton loophole described earlier.

Operational risks:

- In April 2011, a Chesapeake Energy well in rural northern Pennsylvania spilled thousands of gallons of chemical-laced water contaminating a stream and leading officials to ask seven families who live nearby to evacuate as crews struggled to stop the gusher.^{xxiv}
- 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.^{xxv}
- 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.^{xxvi}
- 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.”^{xxvii} In response, the company was forced to shut down its operations in Pennsylvania for 40 days and pay \$353,400 in fines.^{xxviii}
- A June 2010 explosion at a well in West Virginia owned by Chief Oil and Gas injured seven workers. The West Virginia Department of Environmental Protection issued two notices of violation for improper well casing, as well as an order to cease operations until the company reviewed casing depths, instituted personnel trained in blowout prevention to oversee drilling at all times, and demonstrated an understanding of the causes of the blowout.^{xxix}

Risks related to water:

Water Contamination—litigation risks

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

- XTO Energy (now Exxon) has faced \$166,630 in fines from the Pennsylvania Department of Environmental Protection. The PA DEP further reports that:

- Between 2005 and Feb. 1, 2011, DEP regulators have imposed 89 fines against Marcellus Shale-related companies for a total of \$2,106,318.
 - The number of fines has increased from one in 2006 to 42 in 2010.^{xxx}
- In April 2011 a federal judge issued a temporary restraining order against Chesapeake Energy in one of three pending cases that challenge widespread waste-dumping practices in northern West Virginia.^{xxxii}
- A ‘Ground Zero’ law firm that won a major settlement for World Trade Center rescue workers is representing residents of Colorado’s Western Slope who say their health has been impacted by the boom in oil and gas operations in the region.^{xxxii}
- In December 2010, two lawsuits were filed in federal court alleging that Chesapeake Energy and Encana Oil & Gas operations contaminated property owners’ water wells.^{xxxiii}
- In September 2010, 13 families in Pennsylvania sued Southwestern Energy alleging that their drinking water was contaminated by the company’s drilling operations.^{xxxiv}
- 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.^{xxxv}
- Cabot Oil & Gas and Atlas Energy Inc. also face lawsuits over alleged water contamination in Pennsylvania.^{xxxvi}
- Atlas Energy is being sued for allegedly contaminating soil and water in Pennsylvania after tests revealed the presence of seven potentially carcinogenic chemicals used in fracturing operations.^{xxxvii}

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.^{xxxviii}
- In January 2010, the Pennsylvania DEP fined Atlas Energy fined \$85,000 for failing to implement proper erosion and sedimentation control measures, discharging diesel fuel and hydraulic fracturing production fluids into the ground, and neglecting to restore two well sites after drilling was completed.^{xxxix}
- In August 2010, the PA DEP again fined Atlas Resources over \$97,000 “for allowing used hydraulic fracturing fluids to overflow a wastewater pit and contaminate a high-quality watershed.”^{xl}
- 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.^{xli}

- 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.^{xliii}
 - 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 at the time of the fine was barred the company from drilling any new wells in the township for a year.^{xliiii} But in December 2010, Cabot and Pennsylvania regulators came to an agreement where 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. The agreement allowed the company to resume drilling in Susquehanna County in 2011.^{xliiv}
- Talisman Energy was fined \$15,500 in August 2010 for spilling 4,200 gallons of flowback fluid into a Pennsylvania wetland and the headwaters of an important coldwater fishery.^{xliv}
- The Pennsylvania DEP fined Fortuna Energy \$3,500 for discharging wastewater into a drainage ditch, eventually reaching a tributary of Sugar Creek.^{xlvi}
- Tapo Energy was assessed a penalty of \$10,000 for contaminating a 3-mile section of Buckeye Creek with “petroleum-based material” associated with its hydraulic fracturing operations.^{xlvii}

Wastewater—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.**”
- “The documents reveal that **wastewater which is sometimes hauled to sewage plants not designed to treat it and then discharged into rivers that supply drinking water contains radioactivity at levels higher than previously known,**

- and far higher than the level that federal regulators say is safe** for these treatment plants to handle.”
- “..federal and state regulators are allowing most sewage treatment plants that accept drilling waste not to test for radioactivity. And most drinking-water intake plants downstream from those sewage treatment plants in Pennsylvania, with the blessing of regulators, have not tested for radioactivity since before 2006, even though the drilling boom began in 2008. 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 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.”^{xlvi}

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.^{xlix} Investors are concerned this type of disposal could result in significant contamination and expose the company to serious risks in the future.

The New York Department of Environmental Conservation found levels of radium-226, a radioactive derivative of uranium, at up to 267 times the limit for safe discharge when they analyzed 13 samples of hydraulic fracturing wastewater. Radium has been shown to cause liver, bone and breast cancers.¹

Wastewater—Capacity limitations

Insufficient capacity for waste water management may pose a sizable 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.

- The New York State Department of Environmental Conservation **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.**^{li}
- 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.^{lii}

- 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.”**^{liii}As noted above, Pennsylvania has since updated its regulations in this area.
- A 2010 EPA briefing acknowledged the problems associated with wastewater management. “Although several centralized oil & gas wastewater treatment facilities and PA (Pennsylvania) POTWs (Public Owned Treatment Works) are accepting brine for conventional treatment, disposal remains a bottleneck for the industry and several proposals for new/expanded treatment are in play.”^{liv}

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.”^{lv}
- 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.^{lvi}

Exxon’s Opposition Statement provides just three lines on its water management efforts.

Proponent response:

The proponents are pleased to see some disclosure of the company’s water use in key regions but believe that six paragraphs on its web site and three lines in an opposition statement regarding water reuse and recycling is insufficient to address investor concerns. Exxon fails to address the more critical issues of water contamination, wastewater treatment capacity, and water scarcity. Examples of disclosures by sector peers are providing are available in subsequent sections of this memo.

Risks related to chemicals

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 in some cases, it is also misleading and underplays the associated risks because it fails to convey the enormous volumes of liquid used to fracture wells.

- 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.

Physical risks: Quantities of chemicals used

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

- In April 2011 a Congressional investigation reported that oil and gas companies, as part of their fracking process, injected hundreds of millions of gallons of hazardous or carcinogenic chemicals into wells in more than 13 states from 2005 to 2009.^{lvii}

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.^{lviii}
- 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.**^{lix}
- 85% of fluids used during hydraulic fracturing in the Marcellus Shale are being left underground, according to three company spokesmen and one regulatory official interviewed by ProPublica. Therefore, more than 3 million gallons of chemicals and wastewater could be deposited permanently underground for each modern gas well.^{lx}
- The endocrinologist Theo Colborn, a former EPA science advisor, found that of the 246 chemicals on a partial list of hydraulic fracturing compounds, 228 had at least one negative health effect. Many were endocrine disrupting, meaning they can impact normal developmental, reproductive and neurologic functioning.^{lxi}
- The Environmental Working Group estimates the amount of diesel and petroleum distillates used in a single well is enough to contaminate 650 million gallons of drinking water.^{lxii}
- An April 2011 report by the U.S. House Committee on Energy and Commerce on the chemicals used in hydraulic fracturing found that, "between 2005 and 2009, the 14 leading hydraulic fracturing companies in the United States used over 2,500 hydraulic fracturing products containing 750 compounds. More than 650 of

these products contained chemicals that are known or possible human carcinogens, regulated under the Safe Drinking Water Act, or listed as hazardous air pollutants.^{lxiii}

The proponents contend there are clear environmental risks associated with the lifecycle of fracturing operations and the company fails to provide information with sufficient information to determine if it is mitigating the associated risks.

Risks to air and climate:

While the primary concern about fracturing has been its impact on water quality, there is a growing body of science identifying its impacts on air and climate that may also pose significant risks.

- Cornell University professors will soon publish research that concludes natural gas produced with a drilling method called “hydraulic fracturing” contributes to global warming as much as coal, or even more.^{lxiv}
- Rural Wyoming, known for breathtaking vistas, now has worse smog than Los Angeles because of its boom in natural gas drilling.^{lxv}
- Dish, TX has been called the Grand Central Station of the Barnett Shale. Town officials arranged for the Texas Department of State Health Services to come investigate effects the gas industry’s emissions could be having on the residents’ health. In 2009, town officials spent 15 percent of the town’s annual budget on an independent air quality test that found benzene, xylene, naphthalene, carbon disulfide and other chemicals at elevated levels.^{lxvi}

3. LACK OF DISCLOSURE

Exxon’s opposition statement states “the company has effectively communicated information...by our executives’ public statements and speeches posted on our Web site, and in the Corporate Citizenship Report.”

Proponent response:

Exxon attempted to omit this resolution on the grounds that it was “substantially implemented” – only to have the SEC reject their no-action request. The company’s disclosures on its web site and in its Corporate Citizenship Report amount to six paragraphs of general discussion plus a two paragraph case study of water recycling and reuse in the Piceance basin of Colorado.

The company is silent on; reducing fracturing fluid toxicity, pre-drilling water quality monitoring, cement bond logging, and offers an incomplete discussion of wastewater recycling and reuse that omits discussion of the more critical topic of XTO’s wastewater disposal (rather than recycling and reuse) in the Marcellus Shale of Pennsylvania. This obviously fails to meet the resolution’s request for detail on the company’s policies and practices for reducing and eliminating the hazards associated with the life cycle of hydraulic fracturing operations. The company’s disclosure is grossly inadequate to enable investors to determine if the company is taking the steps necessary to reduce the financial risks associated with hydraulic fracturing operations, including risks to its license to operate.

Many of Exxon's sector peers have begun to provide increased transparency. The below list is only a select list of the disclosures sector peers have made to provide increased transparency on their fracturing operations and steps companies employ to mitigate risk. Investors are asking Exxon to improve its disclosure in this area.

- Cabot Oil & Gas—which has repeatedly been cited for violations of 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^{lxvii}
- 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.^{lxviii}
- 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.^{lxix}

Exxon's opposition statement states "We have worked with industry association and state government entities to develop a Web-based, publicly accessible disclosure system."

Proponent response:

This is a good step in the right direction, but does not go as far as some sector peers. For example, Range Resources, EQT, and Chief Oil & Gas have all begun some company-led well-by-well disclosure of the chemicals used in the fracturing process. In April 2011 the Ground Water Protection Council launched a disclosure database that will enable companies to voluntarily report the chemicals they are using. While Exxon has said it will participate in this, and 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.^{lxx}

Exxon's opposition statement recognizes a "vital component of building community trust is transparency of operations."

Proponent response:

The proponents agree and believe the company's existing disclosures do not go far enough to address community and investor concerns. In the past year, investors have seen a dramatic increase in the amount of information disclosed by some companies involved in hydraulic fracturing yet Exxon is not providing as much disclosure in key areas.

5. 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.
- The proponents 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.
- In response, investors are requesting increased transparency and disclosure from numerous companies, and over the course of the last year, have begun to see substantial improvements in disclosure from some of those companies. But Exxon has failed to meet the emerging expectations 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 shocks to shareholder value. Shareholders need assurance that companies are candidly disclosing these risks and are adopting best management practices to minimize them.
- 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, Exxon fails to provide a candid discussion of risks nor has it increased its transparency and disclosure

This is not a solicitation of authority to vote your proxy. Please DO NOT send us your proxy card; the proponent is not able to vote your proxies, nor does this communication contemplate such an event. The proponent urges shareholders to vote FOR proposal number #10 following the instruction provided on the on the management's proxy mailing.

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