OCCIDENTAL PETROLEUM CORP /DE/
Form PX14A6G
April 24, 2014
April 14, 2014
Natasha Lamb
Arjuna Capital/Baldwin Brothers Inc.
204 Spring Street
Marion, MA 02738
978-578-4123, natasha@arjuna-capital.com

Dear Occidental Petroleum Shareholders,

We are writing to urge you to VOTE "FOR" PROPOSAL 10 on the proxy card, which asks the Company how it is managing the economic and regulatory risks related to methane leakage and flaring in the Company's operations. 1

The shareholder proposal makes the following request of Occidental Petroleum:

Shareholders request that Occidental issue a report (by October 2014, at reasonable cost, and omitting proprietary information) for investors that reviews the Company's policies, actions, and plans to measure, disclose, mitigate, and set quantitative reduction targets for methane emissions and flaring resulting from all operations under the company's financial or operational control.

After reviewing the proposal, Institutional Shareholder Services (a division of MSCI and the leading provider of proxy voting advice) has recommended a vote in favor of the proposal:

A vote FOR this resolution is warranted as additional information regarding the company's methane emissions, and its methane emissions reduction practices and policies, would allow shareholders to better understand the company's management of this issue and any related risks.

Implementing the Proposal would allow investors to better assess the Company's fugitive methane risk exposure to unnecessary economic loss from leaking gas as well as flaring, an evolving regulatory regime and the Company's ability to respond quickly and economically to a change in policy, and environmental liability. Without proper disclosure, we believe shareholders are unable to effectively assess fugitive methane & flaring risk. A strong program of measurement, mitigation, target setting and disclosure would indicate a reduction in regulatory and legal risk, as well as efficient operations maximizing gas for sale and shareholder value.

We believe shareholder should vote "FOR" the proposal for the following reasons:

1. Occidental Petroleum does not provide current, publicly available information on a quantitative strategy to reduce the impacts methane emissions may have on the Company or the associated company policies and to address related risks and/or opportunities.

2. Leaked and flared gas has a direct economic impact on companies, as it is no longer available for sale, establishing a clear business case for reduction targets and control processes. Implementing the proposal would allow investors to better assess the Company's methane risk exposure to unnecessary economic loss from leaking and flared gas, an evolving regulatory regime (i.e. the Company's ability to respond quickly and economically to a change in policy), and environmental liability. Without proper disclosure, we believe shareholders are unable to effectively assess methane risk. A strong program of target setting, measurement, mitigation, and disclosure would indicate a reduction in regulatory and legal risk, as well as efficient operations maximizing gas for sale and shareholder value.

1 IMPORTANT NOTICE: The cost of this communication is being borne entirely by Arjuna Capital. Arjuna is NOT asking for your proxy card and is not providing investment advice. We will not accept proxy cards, and any proxy cards received will be returned.

---

3. We find current reporting to be inadequate and there is a large dissonance between current industry/company reporting/estimates and scientific findings. Academic studies have identified methane leakage rates of up to 9%, over 5X Environmental Protection Agency (EPA) and industry estimates. The short-term climactic benefit of natural gas over coal is negated when leakage rates exceed 3.2%.2

4. Methane has potent impact on the environment, which threatens the natural gas industry's social license to operate. On a 20-year timescale, methane has 86x the Global Warming Potential (GWP) of CO2,34 represents over 25% of the EPA Greenhouse Gas Inventory,5 and it's concentration in the atmosphere is 150% higher than pre-industrial levels (as compared to CO2, which is 40% higher). 6 Methane impact has spurred academic, industry, and public debate, has been featured in Forbes and The New York Times, and has led to investor, regulatory and legal action over the last two years.

We believe best practice disclosure would address the following:

A report adequate for investors to assess the Company's strategy, as referenced in the Proposal, would include the Company's methane leakage rate as a percentage of production, the percentage of flared and vented hydrocarbons, how the Company is measuring and mitigating emissions, and discuss quantitative reduction targets and methods to track progress over time. Best practice strategy would utilize real-time measurement and monitoring technologies. Additional information useful to investors evaluating risk would include whether the Company has a published policy in place to reduce methane leakage; if the Board reviews progress against a policy; to what % of assets technologies are being implemented for measurement and reduction; plans to upgrade older assets with best practice technologies; and environmental impact.

1. Occidental Petroleum does not provide current, publicly available information on a quantitative strategy to reduce the impacts methane emissions may have on the Company or the associated company policies and to address related risks and/or opportunities.

Lack of Disclosure & Policies:

We believe Occidental Petroleum fails to provide adequate quantitative company disclosures on the Company's policies, actions, and plans to measure, disclose, and mitigate methane emissions and flaring. The Company has not set methane or flaring reduction targets or disclosed how the Company will measure progress toward achieving targets. There is a distinct lack of quantitative disclosure on the estimated gas leaked or vented as a % of gas produced, or the % flared. The Company does not disclose the percentage of wells using reduced emission completion technologies, the proportion of wells with technologies to reduce methane venting for the liquids un-loading process, or what percentage of assets use high bleed controllers versus low emission alternatives. From the information that is disclosed, it appears that no proportion of methane emissions are estimated with direct detection and measurement, the use of which would be indicative of best practice monitoring. Occidental does not provide investors with a policy or plans to upgrade assets with best practice technologies.

2 Alvarez, R.A, Pacala, S.W., Winebrake, J.L, Chameides, W.L. & Hamberg, S.P. Proc. Nat'l Acad. Sci. USA 109, 6435-6440 (2012).
3 http://www.ipcc.ch/report/ar5/wg1/#.UxdnSaXDG8M
4 In 2013, IPCC increased the GWP of methane from 72x to 86x over a 20-year timescale, and from 25x to 36x over a 100-year time horizon. http://en.wikipedia.org/wiki/Global-warming_potential
5 http://www.pnas.org/content/110/44/17768
6 http://www.ipcc.ch/ipccreports/tar/wg1/017.htm

2

Further, while Occidental reports through the Carbon Disclosure Project, the Methane questionnaire submission is incomplete and excludes the disclosures listed above. The Carbon Disclosure Project's (CDP) 2013 Oil and Gas supplement's questionnaire on methane emissions presented a widely accepted format for disclosure, as previous CDP reports did not adequately address methane leakage in our estimation. A number of peers are reporting through this channel as referenced below. The information requested is critical for investors to understand the full scope of methane management. While OXY participates in the EPA's Natural Gas STAR program, these reports are not publically available to investors.

In February 2013, the EPA released the first widespread data on methane emissions, as reported through the Greenhouse Gas (GHG) Mandatory Reporting Rule, subpart W. While a start at improved disclosure and understanding large-scale methane impact, the data falls short at the company level. It does not allow for peer analysis, as the data cannot be normalized since production and throughput numbers for the reported facilities are not available. Moreover, the data is only for the companies' largest facilities, painting an incomplete picture of total impact. There is also no disclosure as to what percentage of total operations those facilities represent. In the case of Occidental Petroleum, certain sites are omitted, which does not provide investors with an adequate picture of OXY's operations.

2. Leaked and flared gas has a direct economic impact on companies, as it is no longer available for sale, establishing a clear business case for reduction targets and control processes. Implementing the proposal would allow investors to better assess the Company's methane risk exposure to unnecessary economic loss from leaking and flared gas, an evolving regulatory regime (i.e. the Company's ability to respond quickly and economically to a change in policy), and environmental liability. Without proper disclosure, we believe shareholders are unable to effectively assess methane risk. A strong program of target setting, measurement, mitigation, and disclosure would indicate a reduction in regulatory and legal risk, as well as efficient operations maximizing gas for sale and shareholder value.

Methane Leakage

Significant reductions in methane emissions are possible using new technologies with positive return on investment. In fact, many leakage control technologies have payback periods of less than 3 years.7 Benefits may include worker safety improvements, maximizing available energy resources, reducing economic waste, protecting human health, and reducing environmental impacts. Upgrading production assets may also improve performance, making assets more robust and less susceptible to upsets and downtime.

The National Resource Defense Fund's (NRDC) March 2012 report, entitled "Leaking Profits, the U.S. Oil and Gas Industry can Reduce Pollution, Conserve Resources, and Make Money by Preventing Methane Waste,"8 outlines the environmental and economic benefits of methane control technologies. The report states emission control technologies for natural gas can:

- Generate more than $2 billion in annual revenues from the sale of recovered natural gas, or provide fuel for use on site
- Reduce by more than 80 percent harmful methane pollution from the oil and gas industry that worsens air quality and exacerbates climate change

7 http://www.epa.gov/gasstar/tools/recommended.html
8 http://www.nrdc.org/energy/files/Leaking-Profits-Report.pdf

3

- Reduce emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) that cause asthma attacks and other health and environmental harms
- Provide royalties to individuals and governments for natural gas produced on private and public lands
- Improve industrial safety, limit corporate liability from leaking gases, and reduce power and maintenance needs

The Motley Fool reported on the economic waste associated with natural gas leakage in January 2013:

Based on EPA estimates, the industry lost more than $1 billion in profits in 2009 due to venting (release of natural gas without combustion), flaring, and accidental leaks called "fugitive emissions." The U.S. Government Accountability Office, with supporting data from EPA, estimates that roughly 40% of natural gas that's vented and flared on onshore federal leases could be captured economically with currently available control technologies.9

Michael Levi, a fellow at the Council on Foreign Relations in New York, recently said in an interview gas and oil production “is an area where we have technological answers to our problems. We know how to fix many of these problems; we just need to make the decision to do it.”10

Flaring

Occidental has significant assets in North Dakota where flaring is a significant problem. Producers in the U.S. appear to have prioritized rapid oil production over capturing associated gas, particularly where the capacity of gas-collecting infrastructure is inadequate. This is the case in North Dakota’s Bakken region (among the largest oil plays in the U.S), where roughly 30% of all gas produced is flared. Because gas in the Bakken contains relatively higher concentrations of liquids (which command considerably higher prices than normal “dry” gas), the gas flared in North Dakota during 2012 represented about $1 billion in market value.11 The North Dakota Department of Mineral Resources notes that gas in this region, because of its higher liquids content, is in fact economic to collect.12

Even where gas-gathering infrastructure is absent and onsite usage is not possible, innovative practices can reduce the need to flare. In the Bakken, Norwegian oil company Statoil is testing a portable unit, which separates and processes associated gas from its oil wells into vehicle-grade fuel and high-value gas liquids.13 Other businesses have been created out of the currently underserved market for utilization of associated gas.

3. We find current reporting to be inadequate and there is a large dissonance between current industry/company reporting/estimates and scientific findings. Academic studies have identified methane leakage rates of up to 9%, over 5X Environmental Protection Agency (EPA) and industry estimates. The short-term climactic benefit of natural gas over coal is negated when leakage rates exceed 3.2%.14

The environmental impact of natural gas development and methane emissions management is under question as recent academic papers have revealed evidence of higher rates of leakage than previously estimated. Studies illustrate the large dissonance between current reporting/estimates and scientific findings with the recently published results suggesting up to 9% methane leakage rates, over 6x the EPA’s 1.4% leakage estimate.15 In fact, a study released this April showed 100-1000x greater leakage during the drilling phase than EPA inventory estimates.16

9 http://www.fool.com/investing/general/2013/01/16/could-this-bane-become-a-boom-for-oil-and-gas.aspx
10 http://mobile.bloomberg.com/news/2013-02-05/greenhouse-gas-emissions-fall-in-u-s-power-plants-on-coal-cuts.html
1 1 http://www.ceres.org/resources/reports/flaring-up-north-dakota-natural-gas-flaring-more-than-doubles-in-two-years.
12 https://www.dmr.nd.gov/oilgas/stats/Gas1990ToPresent.pdf

13 http://bismarcktribune.com/bakken/fixing-flares/article_3ae635d2-ff11-11e2-80c1-0019bb2963f4.html
14 Alvarez, R.A, Pacala, S.W., Winebrake, J.L, Chameides, W.L. & Hamberg, S.P. Proc. Nat'l Acad. Sci. USA 109, 6435-6440 (2012).
15 http://www.wri.org/blog/5-reasons-why-it's-still-important-reduce-fugitive-methane-emissions
16 http://touch.latimes.com/#section/-1/article/p2p-79916829/

An April 2014 Los Angeles Times Article, “EPA drastically underestimates methane at drilling sites,” highlights the work of Perdue and Cornell scientists measuring gas wells in southwestern Pennsylvania:

Scientists found that drilling activities at seven well pads in the booming Marcellus shale formation emitted 34 grams of methane per second, on average. The Environmental Protection Agency has estimated that such drilling releases between 0.04 grams and 0.30 grams of methane per second.

Paul Shepson, the atmospheric chemist who led the study concluded:

“We need to develop a way to objectively measure emissions from shale gas development that includes the full range of operator types, equipment states and engineering approaches. A whole-systems approach to measurement is needed to understand exactly what is occurring.”17

A January 2014 New York Times article, “Study Finds Methane Leaks Negate Benefits of Natural Gas as a Fuel for Vehicles,” reported on a study conducted by scientists at Stanford University, the Massachusetts Institute of Technology, and the Department of Energy’s National Renewable Energy Laboratory, which concluded there is approximately 50 percent more methane in the atmosphere than previously estimated by the EPA, “a signal that more methane is leaking from the natural gas production chain than previously thought.” In response, Mark Brownstien, chief counsel for the American climate and energy program at the Environmental Defense Fund stated, “This report justifies E.P.A. taking action on regulation of methane pollution and to focus that regulation on existing wells.”18

A separate study, “Anthropogenic emissions of methane in the United States”19 cited in The New York Times in November 2013, under the heading “New Study Finds U.S. Has Greatly Underestimated Methane Emissions,”20 concludes, “government estimates for total US methane emissions may be biased by 50%, and estimates of individual source sectors are even more uncertain.” 15 scientists from Harvard University and the National Oceanic and Atmospheric Administration, among other groups, authored the study. The conclusion for fossil fuel industry estimates was even more troubling:

This result suggests that regional methane emissions due to fossil fuel extraction and processing could be 4.9 ± 2.6 times larger than in EDGAR, the most comprehensive global methane inventory. These results cast doubt on the US EPA’s recent decision to downscale its estimate of national natural gas emissions by 25–30%. [Proponent’s emphasis]

Successful regulation of greenhouse gas emissions requires knowledge of current methane emission sources. Existing state regulations in California and Massachusetts require 15% greenhouse gas emissions reductions from current levels by 2020. However, government estimates for total US methane emissions may be biased by 50%, and estimates of individual source sectors are even more uncertain. This study uses atmospheric methane observations to reduce this level of uncertainty. We find greenhouse gas emissions from agriculture and fossil fuel extraction and processing (i.e., oil and/or natural gas) are likely a factor of two or greater than cited in existing studies. Effective national and state greenhouse gas reduction strategies may be difficult to develop without appropriate estimates of methane emissions from these source sectors. [Proponent’s emphasis]

17 http://ecowatch.com/2014/04/15/purdue-cornell-researchers-methane-emissions/
18 http://www.nytimes.com/2014/02/14/us/study-finds-methane-leaks-negate-climate-benefits-of-natural-gas.html
19 http://www.pnas.org/content/early/2013/11/20/1314392110.abstract
20 http://dotearth.blogs.nytimes.com/2013/11/25/new-study-finds-u-s-has-underestimated-methane-levels-in-the-atmosphere/?_ph

5

In 2013, the University of Texas and the Environmental Defense Fund, in concert with industry participants, conducted a study, which was sponsored by companies including Shell, Anadarko Petroleum, Exxon Mobil, and Chevron.21 The study found a leakage rate of 0.42% for the first part of the production value chain, which showed more efficient than estimated results from green completion technologies, but less efficient results from equipment and pneumatic pumps/controllers (50% and 70% higher respectively), indicating flaws in current EPA prescribed methodologies and estimates. Subsequent studies will measure leakage for other parts of the value chain, to present a more full picture of total value chain leakage. As reported by the New York Times in a September 2013 article entitled, "Gas Leaks in Fracking Disputed in Study:"

Estimates of leaks from chemical pumps, while small, were twice past estimates, while leaks from pneumatic controllers, or valves, were pegged at more than 639,000 tons a year, roughly a third greater. None of those components are currently subject to federal regulation.22 [Proponent emphasis]

A January 2013 Nature Article, entitled "Methane leaks erode green credentials of natural gas", byline "Losses of up to 9% show need for broader data on US gas industry's environmental impact," describes findings from the National Oceanic and Atmospheric Association (NOAA) and the University of Colorado. The team also revealed new evidence to affirm findings from a February 2012 study, which revealed 4% methane leakage rates.23 This is a troubling development, as a study by the Environmental Defense Fund (EDF) and Princeton from April 2012, asserts that the short-term climactic benefit of natural gas over coal is negated if the leakage rate exceeds 3.2%.24 A prior study by Cornell University professor Robert Howarth, which garnered public attention from Forbes and The New York Times, estimated total fugitive emissions of 3.6% to 7.9% over the lifetime of a well.25 A 2010 study out of Fort Worth Texas also revealed highly skewed distribution of emissions, with 10% of well sites accounting for 70% of emissions,26 underlining the concern expressed in the Proposal that while "some operations may incorporate best practice management…the risk of leaks at high growth or select geographies can negate best practices elsewhere." The New York Times, in reporting on the Stanford study, also highlighted the danger of worst performing assets:

The natural gas industry, the analysis finds, must clean up its leaks to really deliver on its promise of less harm. Fortunately for gas companies, a few leaks in the gas system probably account for much of the problem and could be repaired. One earlier study examined about 75,000 components at processing plants. It found some 1,600 unintentional leaks, but just 50 faulty components were behind 60 percent of the leaked gas.27 [Proponent emphasis]

21 http://www.nytimes.com/2013/09/17/us/gas-leaks-in-fracking-less-than-estimated.html
22 http://www.nytimes.com/2013/09/17/us/gas-leaks-in-fracking-less-than-estimated.html
23 Pétron, G. et al. J. Geophys. Res. 117, D04304 (2012).
24 Alvarez, R.A, Pacala, S.W., Winebrake, J.L, Chameides, W.L. & Hamberg, S.P. Proc. Nat'l Acad. Sci. USA 109, 6435-6440 (2012).
25 http://thehill.com/images/stories/blogs/energy/howarth.pdf
26 http://fortworthtexas.gov/gaswells/default.aspx?id=87074
27 http://dotearth.blogs.nytimes.com/2014/02/13/study-sees-path-to-cutting-substantial-american-natural-gas-leaks/?_php=true

Two industry trade associations, the American Petroleum Institute (API) and America's Natural Gas Alliance (ANGA) have reacted to the public debate and possible regulation by issuing their own estimate of methane emissions, which were one-half of 2010 EPA estimates.28 While the report reaches a very different conclusion than the academic studies, it underlines the depth of the issue and lack of disclosure necessary to assess risk on both a company and industry level:

The accuracy of GHG emission estimates from natural gas production has become a matter of increasing public debate due in part to limited data, variability in the complex calculation methodologies, and assumptions used to approximate emissions where measurements in large part are sparse to date. Virtually all operators have comprehensive methane mitigation strategies; however, beyond the requirements of the Environmental Protection Agency's (EPA) Mandatory Reporting Rule or incentives of programs like the EPA's Natural Gas Star program, data is often not gathered in a unified way that facilitates comparison among companies.29 [Proponent emphasis]

The other issue in debate is how we measure impact over different timescales. According to the IPCC, methane has 86 times the Global Warming Potential (GWP) over a 20-year timescale and 36 times over a 100-year timescale.30 While the EPA has adopted out of date GWP's for measuring methane, they also prescribe a 100-year timeframe for evaluation, which is considered a "value judgement" as reported by EnergyWire:

"The IPCC presents the scientific consensus, so its conclusions are inherently conservative," said Hugh MacMillan, senior researcher with Food and Water Watch. "It's bizarre that the EPA is just now moving to adopt the GWPs from 2005. Is the agency going to wait until 2025 to use these new GWPs?"

If a new GWP of 34 were adopted, the contribution of methane to U.S. emissions would significantly increase.

There is no scientific argument for selecting 100 years compared with other choices (Fuglestvedt et al., 2003; Shine, 2009). The choice of time horizon is a value judgement since it depends on the relative weight assigned to effects at different times.

While using the 100-year timescale for reporting purposes may reduce the perceived impact of the industry, it does not negate the much higher impact methane is expected to have on climate change over the next 20 years.

4. Methane has potent impact on the environment, which threatens the natural gas industry's social license to operate. On a 20-year timescale, methane has 86x the Global Warming Potential (GWP) of CO2,3132 represents over 25% of the EPA Greenhouse Gas Inventory,33 and it's concentration in the atmosphere is 150% higher than pre-industrial levels (as compared to CO2, which is 40% higher). 34 Methane impact has spurred academic, industry, and public debate, has been featured in Forbes and The New York Times, and has led to investor, regulatory and legal action over the last two years.

28http://www.eenews.net/eenewspm/2012/10/25/archive/5?terms=EPA+methane+estimates
29 http://www.api.org/~/media/Files/News/2012/12-October/API-ANGA-Survey-Report.pdf
30 http://www.ipcc.ch/report/ar5/wg1/#.UxdnSaXDG8M
31 http://www.ipcc.ch/report/ar5/wg1/#.UxdnSaXDG8M
32 In 2013, IPCC increased the GWP of methane from 72x to 86x over a 20-year timescale, and from 25x to 36x over a 100-year time horizon. http://en.wikipedia.org/wiki/Global-warming_potential
33 http://www.pnas.org/content/110/44/17768
34 http://www.ipcc.ch/ipccreports/tar/wg1/017.htm

7

It is increasingly likely that Occidental Petroleum is subject to higher levels of scrutiny and regulation given the regulatory, legal, and public attention related to methane emission management. The points highlighted below underline the magnitude of the issue for the industry as a whole and OXY specifically.

In the Press:

Forbes, The New York Times, and Bloomberg have called the environmental profile of natural gas into question, highlighting the current debate. The July 2012 Forbes article, entitled "Fugitive Methane Caught in the Act of Raising GHG," questioned whether natural gas is in fact better than coal from a climate change perspective and whether the current characterization of natural gas as a "bridge fuel" from oil and gas to non-fossil fuels is accurate.35

The New York Times squarely addressed the issue in the November 2013 article entitled "Fracking's Achilles' Heel:"

Methane leakage is the Achilles' heel of hydraulic fracturing. For all the fears that it might contaminate the water supply — a possibility, yes, but not likely — it is methane leakage that can moot the advantage of natural gas as a cleaner fuel than coal.36

The New York Times addressed the question in depth in an April 11, 2011 story entitled "Studies Say Natural Gas Has Its Own Environmental Problems."37

The problem, the studies suggest, is that planet-warming methane, the chief component of natural gas, is escaping into the atmosphere in far larger quantities than previously thought, with as much as 7.9 percent of it puffing out from shale gas wells, intentionally vented or flared, or seeping from loose pipe fittings along gas distribution lines. This offsets natural gas's most important advantage as an energy source: it burns cleaner than other fossil fuels and releases lower carbon dioxide emissions.
…
The findings are certain to stir debate. For much of the last decade, the natural gas industry has carefully cultivated a green reputation, often with the help of environmental groups that embrace the resource as a clean-burning "bridge fuel" to a renewable energy future. The industry argues that it has vastly reduced the amount of fugitive methane with new technologies and upgraded pipe fittings and other equipment.

In a February 2014 New York Times piece entitled " Study Sees Path to Cutting Substantial American Natural Gas Leaks," the energy security angle was highlighted:

"Reducing easily avoidable methane leaks from the natural gas system is important for domestic energy security," said Robert Harriss, a methane researcher at the Environmental Defense Fund and a co-author of the analysis. "As Americans, none of us should be content to stand idly by and let this important resource be wasted through fugitive emissions and unnecessary venting."38

The New York Times concludes in a April 2012 article entitled "Fugitive Methane Stirs Debate on Natural Gas," "The first step in getting beyond this debate, many environmental advocates argue, is for the industry to stop refusing to take detailed measure of its methane leakage rates, to make that information public, and to submit to rules requiring them to capture it."39

35 http://www.forbes.com/sites/jamesconca/2012/07/15/fugitive-methane-caught-in-the-act-of-raising-ghg/
36 http://www.nytimes.com/2013/11/19/opinion/nocera-frackings-achilles-heel.html
37 http://www.nytimes.com/2011/04/12/business/energy-environment/12gas.html?_r=1&
38 http://dotearth.blogs.nytimes.com/2014/02/13/study-sees-path-to-cutting-substantial-american-natural-gas-leaks/?_php=true

39 http://green.blogs.nytimes.com/2011/04/12/fugitive-methane-stirs-debate-on-natural-gas/

8

The economic waste of flaring was reported by Reuters in a July 2013 article entitled: "$100M in natural gas being burned off monthly in ND." The article referred to a study indicating, "oil producers are allowing nearly a third of the natural gas they drill in North Dakota's Bakken shale fields to burn off into the air."40

This sentiment highlighted above points to weakness in current industry environmental management of methane emissions, as well as risk of regulation and continued public scrutiny. Our Proposal looks to the Company to address these risks head on through disclosure on target setting and measurement.

Investor Action:

In 2012/13 similar Proposals were filed on behalf of Trillium Asset Management (Trillium) at Spectra Energy, Oneok, and Range Resources which received over 35%, 38%, and 21% of the vote at the spring 2013 annual meetings, respectively. We believe the high votes indicate strong shareholder concern for the issue, underlining the material importance of robust methane management and disclosure.

The financial community appears to be following the issue closely. In response to the lack of appropriate disclosure surrounding fugitive methane emissions, a 2012 joint investor statement representing $20 trillion in assets was published by the Institutional Investors Group on Climate Change (IIGCC), the Investor Network on Climate Risk (INCR,) and the Investors Group on Climate Change (IGCC), entitled "Controlling fugitive methane emissions in the oil and gas sector." The statement highlights the significant climate change concerns posed by high global warming impact fugitive methane emissions, as well as regulatory and reputational risks to the oil and gas sector, calling on companies to implement best practice control technologies and programs of disclosure.41

In 2012, investors representing $500 billion in assets sent a letter to 21 of the industry's largest shale oil producers urging them to reduce or eliminate flaring42 and in 2013 Mercy Investment Services filed a shareholder resolution with Continental Resources, Inc.43 and at least 4 shareholder proposals addressing flaring are expected to go to a vote this spring.

Further, HSBC issued a report entitled "Shale: water first, leak later: The climate benefits of shale gas could leak and wash away".44 The report notes the controversy surrounding methane leakage and risk to companies' social license to operate:

We think 2013 will see a continuation of the shale debate as more studies are published. These studies, as well as public opinion, affect policy decisions. Countries such as the UK, Poland, Canada and China are developing shale production whilst others such as France and Bulgaria have banned fracturing. The issue is also highly divisive at subnational level: Pennsylvania passed legislation last year allowing shale drilling in the entire state; Vermont voted to ban the practice outright in May; Maryland put applications on hold for three years (environmental impact study); New York State has a moratorium in place (public health effects); Quebec suspended fracturing (environmental review).

40 http://news.msn.com/us/dollar100m-in-natural-gas-being-burned-off-monthly-in-nd
41 http://www.ceres.org/files/methane-emissions/investor-joint-statement-on-methane-emissions
42 http://www.ceres.org/files/oil-gas/investor-flaring-letter
43 http://www.ceres.org/press/press-releases/investors-press-continental-resources-to-end-wasteful-flaring-of-natural-gas
44https://www.research.hsbc.com/midas/Res/RDV?ao=20&key=y5Vf4Ytq3u&n=356860.PDF

High profile investor Jeremy Grantham of GMO LLC also highlighted the challenge of natural gas in his February 2014 Quarterly Letter to clients:

"Fracking gas," like all natural gas, is basically methane. Methane unfortunately is an even more potent greenhouse gas than CO2: at an interval of 100 years it is now estimated to be 32 times as bad, and at 20 years to be 72 times worse! If it leaks from well head to stove by more than 3%, it gives back its critical advantage and becomes no better than coal in its climate effect. Emissions, for whatever reasons, have not been carefully monitored. It would be nice, though, to know how fast we are roasting our planet. A series of tests in the next three years or so, privately funded, will measure leakages. In old cities with Victorian era gas lines, leakage will be terrible – probably 2% or 3% on their own. At some "cowboy" wells, emissions will be much higher than that. 45

Policy & Legal Developments:

Policy and legal developments over the last two years foreshadow increased regulatory scrutiny for OXY.

In March 2014, the White House released a "Strategy to Reduce Methane Emissions" as a key element of the President's Climate Action Plan. The plan calls for an assessment by the EPA and independent experts to determine how to reduce methane emissions from potentially significant sources in the oil and gas sector and "if the EPA decides to develop additional regulations, it will complete those regulations by the end of 2016."46

In February 2014, Colorado adopted the first rules in the nation expected to directly reduce 1000,000 tons of methane from oil and gas operations. The rules are the first to directly target methane, will require all wells to control equipment leaks of fugitive emissions, require operators to take preventative venting avoidance activities, retrofit all wells on well-sites, and require existing storage tanks comply with pollution limits (not only new tanks which are regulated under federal law).47 Ohio and Wyoming have followed suit in issuing stricter regulations.48

The EPA's New Source Performance Standards, issued in April 2012 and slated to take full effect in 2015, represent the first federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level. However, the rule has been criticized by the New York Attorney General for failing to regulate methane directly, leaving almost 95% of these emissions uncontrolled.49

The EPA also began requiring company level methane emissions estimate disclosure for the first time in September 2012 as part of the Greenhouse Gas Reporting Rules - Subpart W.50 While this reporting requirement does not regulate levels of methane; it could provide the basis for increased regulatory scrutiny in the future.

A February 2013 Bloomberg article entitled "Fracking Seen by EPA as No. 2 Emitter of Greenhouse Gases" features the EPA's latest findings on GHG impact, taking, for the first time, methane emissions into account. According to the article, "Emissions from drilling, including fracking, and leaks from transmission pipes totaled 225 million metric tons of carbon-dioxide equivalents during 2011, second only to power plants, which emitted about 10 times that amount."51

45 http://www.gmo.com/websitecontent/GMO_QtlyLetter_ALL_4Q2013.pdf
46 http://www.whitehouse.gov/the-press-office/2014/03/28/fact-sheet-climate-action-plan-strategy-cut-methane-emissions
47 http://www.edf.org/blog/2013/11/25/colo-sets-national-precedent-air-quality-and-climate
48 http://marcellus.com/news/id/36437/ohio-becomes-third-state-impose-rules-curtail-fugitive-emissions-drilling-operations/
49 http://www.ag.ny.gov/press-release/ag-schneiderman-leads-multi-state-coalition-action-curb-climate-change-pollution-oil
50 http://www.epa.gov/ghgreporting/reporters/notices/index.html

51
http://mobile.bloomberg.com/news/2013-02-05/greenhouse-gas-emissions-fall-in-u-s-power-plants-on-coal-cuts.html

10

According to a subsequent February 2013 Bloomberg article entitled “Fracking Emissions Get Review After EPA Watchdog Report,” the regulatory risk to the oil and gas sector appears to be increasing following the publication of the latest air emission and methane data. The article states, the EPA has “agreed to more closely study air emissions from hydraulic fracturing after the agency’s auditor concluded its current data is insufficient to make policy decisions.”52 The group also referred to current air pollution estimates as being of “questionable quality.”53

Chevron executive Rhonda Zygocki was featured in a February 2013 Energy & Environment article after stating that regulators should turn to industry to figure out how much methane can be reduced:

"The issue there is we don't have a good grasp on the measurement," she said. Studying it will allow the industry to "get our arms around it, and then we should look at the industry to say now that we understand it, what is technically and economically feasible to put into a standard?"54

In addition to Colorado, new regulations have been proposed in California, according to the Los Angeles Times and NPR.55 In December 2012, California oil regulators released a first draft of fracking rules that would require energy firms to test the integrity of their wells before fracking to guard against leaks and report the results of those tests to regulators before they begin operations.56

On the east coast, seven states, including New York, Connecticut, Delaware, Maryland, Massachusetts, Rhode Island, and Vermont have threatened to sue the EPA for violating the Clean Air Act by failing to address methane emissions from oil and gas drilling.57 New York Attorney General Eric T. Schneiderman stated the coalition of states "can't continue to ignore the evidence of climate change or the catastrophic threat that unabated greenhouse gas pollution poses to our families, our communities and our economy."58

In October 2013, The New York Times reported in an article entitled “Oil Companies are Sued for Waste of Natural Gas” that mineral owners in North Dakota filed 10 class-action lawsuits with several oil companies seeking to “force operators to comply with state law and pay royalties to mineral owners on the value of flared gas.” Companies include Continental Resources, XTO Energy (an ExxonMobil subsidiary), SM Energy, and Marathon Oil.59

State regulations have played a significant role in limiting flaring. In Texas, which accounts for 35% of U.S.-produced oil and 25% of all drill rigs worldwide, the quantity of gas flared remains less than 1% of production.60 In addition to having a well-developed oil and gas infrastructure network, the state has historically maintained and enforced strong regulations which limit flaring.

In September 2013, North Dakota’s Department of Mineral Resources (DMR) Director Lynn Helms stated, regarding flaring reductions, “It doesn’t look like the market gets us far enough, fast enough [...] It’s going to take some kind of regulatory policy.” Helms’ comment follows a state modeling study, which found that flaring is likely to stay above 5% until after 2020.61

52 http://www.bloomberg.com/news/2013-02-21/fracking-emissions-get-review-after-epa-watchdog-report.html
53 http://mobile.bloomberg.com/news/2013-02-05/greenhouse-gas-emissions-fall-in-u-s-power-plants-on-coal-cuts.html
54 http://www.eenews.net/climatewire/2013/02/05/5
55 http://www.npr.org/templates/story/story.php?storyId=246201810
56 http://latimesblogs.latimes.com/california-politics/2012/12/california-oil-regulators-release-draft-of-fracking-rules.html
57 http://www.huffingtonpost.com/2012/12/11/drilling-methane-emissions-lawsuit_n_2279573.html
58 http://www.ag.ny.gov/press-release/ag-schneiderman-leads-multi-state-coalition-action-curb-climate-change-pollution-oil

59
http://www.nytimes.com/2013/10/18/business/energy-environment/oil-companies-are-sued-over-natural-gas-flaring-in-north-d
60 http://www.rrc.state.tx.us/about/faqs/flaringfaq.php
61 http://www.midwestenergynews.com/2013/09/17/north-dakota-leaders-say-regulation-needed-to-curb-flaring/

11

There are significant controversies associated with OXY's methane emissions. Occidental has been involved in various controversies surrounding their social license to operate and methane emissions.

In February, it was reported in an article entitled "Carson California residents lash out at Occidental oil drilling proposal" that Occidental is facing tough community criticism in it attempt to drill 200 new wells. At a public meeting residents spoke out:

I myself have witnessed explosions, leaks, and spills all during a time when drilling was at a minimum," resident Lori Noflin said. "I've seen the entire city covered in ash, our beaches littered in tar, and have been locked down while Torrance refinery contained a leak. [Proponent's emphasis]62

The report noted a previous attempt by the Company to initiate a hydraulic fracturing project that was puled due to community opposition:

Occidental initially sought city permission to use the controversial oil extraction method of hydraulic fracturing, or fracking, but it pulled that request in 2012 because of community opposition. Fracking pumps highly pressurized water and chemicals into the ground to fracture shale rocks so they will loosen and give up hard-to-reach natural gases. Critics say fracturing is too risky because it's too easy for methane and other toxic chemicals to leach into groundwater, among other environmental, safety and health concerns. [Proponent's emphasis]63

In response to drilling development in the Monterey Shale formation, citing Occidental is cited as "a leading Monterey shale developer," opponents organized a rally to "demand a ban on fracking and to make statements at [a] hearing" to solicit public feedback on California Senate Bill 4 (SB 4), the first effort in California to regulate fracking. Sponsors included the Sierra Club and 350.org. The website reporting on the issue underlines Occidental's role, methane risk, and press coverage:64

Burning this additional fossil fuel will add more CO2 to the atmosphere and increase global warming. Second, methane escapes in larger amounts from fracked wells compared to conventional wells.

CBS LA's report stated, "[Opposition] groups claim [SB 4] will simply encourage unregulated fracking through 2015 and violates 'the will of the majority of Californians who want a ban on fracking.' … 53 percent of likely voters are against the expansion of fracking in the state. …Fracking sites have been established in the cities of Los Angeles, Long Beach, Carson, Culver City, Baldwin Hills, Brea, Huntington Beach and Seal Beach."

See also: "California Officials Fear Hike in Methane Emissions Through Shale Drilling," citing government and academic concerns and Occidental's development plans.65

Occidental's involvement in these controversies highlights the significance of the issue.

62 http://www.dailybreeze.com/business/20140212/carson-residents-lash-out-at-occidental-oil-drilling-proposal
63 http://www.dailybreeze.com/business/20140212/carson-residents-lash-out-at-occidental-oil-drilling-proposal
64 http://redondobeach.patch.com/groups/sally-hayatis-blog/p/rally-to-ban-fracking-in-california
65 http://insideepa.com/Inside-Cal/EPA/Inside-Cal/EPA-06/01/2012/california-officials-fear-hike-in-methane-emissions-throu

Agency & NGO Response:

Agency and non-governmental organization reports further stress the importance of the issue. A February 2013 Bloomberg article provides the perspective of environmental groups:

Environmental groups have asked the agency to establish standards to prevent methane leakages from the drilling, fracking and transport of oil and gas. The boom in that production in states such as Pennsylvania and North Dakota means that those rules are necessary, according to environmental groups.

"Reducing fugitive methane emissions is a top priority because they are so powerful" a force for global warming, said Mark Brownstein, managing director of the Environmental Defense Fund in New York. "You want to make sure the goose is laying what approximates golden eggs."66

The International Energy Agency (IEA) also indicates the need for policy and illustrates the risk of failing to implement best practice management and disclosure in their 2012 report, "Golden Rules for a Golden Age of Gas." In an effort to "pave the way for the widespread and large-scale development of unconventional gas resources," the IEA asserts that "society needs to be adequately convinced that the environmental and social risks will be well enough managed to warrant consent to unconventional gas production, in the interests of the broader economic, social and environmental benefits that the development of unconventional resources can bring." The IEA also recognizes that "to achieve the trajectories of methane emissions consistent with the internationally agreed goal to limit the rise in global mean temperature to 2°C above pre-industrial levels, additional policy measures will be needed," as "the most comprehensive projections of future emissions, from the EPA (US EPA, 2011), assume no change in emission factors, for want of a better approach, and project a 26% increase in methane emissions from the oil and gas industry between 2010 and 2030." 67

The World Resource Institute published a whitepaper in April 2013, "Clearing the Air: Reducing Upstream Greenhouse Gas Emissions from Natural Gas Systems" which addresses the scope of the issue and need for action:

Natural gas development poses a variety of environmental risks. In addition to habitat disruption and impacts on local water and air quality, one of the most significant concerns is the climate impact resulting from the "fugitive methane emissions" that escape into the atmosphere from various points along the natural gas supply chain.

There is still considerable uncertainty over the amount of fugitive methane emitted over the lifetime of a natural gas well. However, some aspects generate little debate—namely, that emissions from natural gas production are substantial and occur at every stage of the natural gas life cycle, from pre-production through production, processing, transmission, and distribution. The U.S. Environmental Protection Agency (EPA) estimates that more than 6 million metric tons of fugitive methane leaked from natural gas systems in 2011. Measured as CO2-equivalent over a 100 year time horizon, that's more greenhouse gases than were emitted by all U.S. iron and steel, cement, and aluminum manufacturing facilities combined.68

66 http://mobile.bloomberg.com/news/2013-02-05/greenhouse-gas-emissions-fall-in-u-s-power-plants-on-coal-cuts.html
67 http://www.worldenergyoutlook.org/media/weowebsite/2012/goldenrules/weo2012_goldenrulesreport.pdf
68 http://insights.wri.org/news/2013/04/close-look-fugitive-methane-emissions-natural-gas?utm_source=feedburner&utm_med

The Conservation Law Foundation published a white paper in 2012 entitled “Into Thin Air, How Leaking Natural Gas Infrastructure is Harming our Environment and Wasting a Valuable Resource,” that asserts “though natural gas has been promoted as a more climate-friendly alternative, current analyses often fail to account for the gas that is lost, either intentionally or unintentionally.” The analysis points to 8 to 12 billion cubic feet of methane lost annually in Massachusetts alone due to leaking pipelines. This equates to over $38M in lost economic value. 69 These reports illustrate increasing public concern for this social policy issue.

The World Bank’s Global Gas Flaring Reduction Partnership, launched in 2002, has information on various projects and best practices to reduce flaring. 70

More than ever before, we need cleaner energy...like natural gas. Every year, billions of dollars worth of natural gas are wasted; burned or flared at oil fields across the world. Such flaring produces some 400 million tons of greenhouse gas emissions. Major oil companies and governments are now working together to minimize this waste by jointly overcoming the barriers that inhibit more gas utilization.

The Company's level of disclosure may not be effectively compared to that of industry peers, as peers have systemically failed to adequately address the risk:

Our analysis of the industry points to a systemic lack of industry leadership in measuring, mitigating, and disclosing fugitive methane emissions. Fugitive methane emissions management is an emerging issue for investors and companies alike, as academic studies, regulatory changes, and public attention have highlighted the complexity and importance of the issue. Given the nature of this unmanaged risk, past industry and company inaction/inattention is not a bar by which any company should be measured independently. However, this year has shown some progress in disclosure through the Carbon Disclosure Project.

The Carbon Disclosure Project released a Methane Emissions questionnaire in 2013 as part of their Oil and Gas Supplement, which provides an outlet for disclosure. Of the companies that responded, 37 reported having written operating procedures and/or policies covering the reduction of methane leakage and venting, 43 reported the proportion of total methane emissions estimated with various methodologies, 26 released a leakage rate, 12 reported the proportion of completions and work-overs using reduced emission completion technologies, and 8 reported the proportion of high-bleed controllers replaced with low-emission alternatives. While this list is not exhaustive of the disclosures, it indicates an uptake of disclosure to investors. Occidental fails to report many of the requested disclosures, as noted above.

Investor analysis is reliant upon improved disclosure going forward. Without adequate disclosure, it is not possible to evaluate methane risk.

The Company’s Opposition Statement

While we disagree with the assertions in the Company’s opposition statement and believe we have effectively addressed the arguments in this letter, there are several contentions that need to be addressed.

69 http://www.clf.org/newsroom/new-report-shows-lost-natural-gas-emissions-costing-millions-to-massachusettss-gas-custome
70http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC/EXTGGFR/0,,contentMDK:20297378~menuPK:62

1. The Company states that, “Occidental actively pursues the capture and beneficial use of methane in all of its operations.” [Proponent’s emphasis] Per the Company’s incomplete submission to the Carbon Disclosure Project in 2013, this contention is not supported by disclosure of the percentage of wells using emissions completions, what percent of gas is vented or flared, or what percentage of assets use high bleed controllers versus low emission alternatives. Without those disclosures this statement is not supported by facts.

2. The Company states that Occidental summarizes their efforts in their annual Social Responsibility Report and Carbon Disclosure Project questionnaire. As mentioned above, the Carbon Disclosure Project submission is incomplete and, in addition to the omitted disclosures mentioned above, OXY does not disclose a leakage rate or quantitative goals. Further, methane is mentioned only once in the Company Social Responsibility Report in what we would consider a very simple statement: “Carbon dioxide (CO2) is the predominant component of Oxy’s GHG emissions, while the remainder is mostly methane.”71

3. The Company refers to a level of volatility in operations that prevents them from supporting quantitative targets to reduce methane emissions: “Occidental’s diverse asset portfolio and active business development efforts allow the Company to direct capital rapidly to different regions or fields based on economic and operational conditions which, in turn, can significantly change the potential for methane emissions.” [Proponent’s emphasis] While we find that assertion troubling, as it indicates that certain regions or fields will lead to a significant change in potential emissions, we do not believe this is an adequate reason for lack of transparency, disclosure, and goal setting. The purpose of quantitative targets is to effectively measure performance and manage progress and efficiency and disclose that information in a consistent manner to investors. If a Company does not meet a goal, that is not a reason for not setting a goal, but a reason to explain why and work on greater efficiency.

4. The Company also asserts that regulation will “provide for more consistent reporting across the industry by the end of 2015.” As investors we seek to understand the Company’s current performance, ability to manage regulatory risk, and efficiency in delivering shareholder value.

Conclusion
Given the importance of operational efficiency to Occidental Petroleum’s profitability, as well as the regulatory, environmental, and social license risks facing the Company, we believe the Company’s current level of disclosure is woefully inadequate.

In order for shareholders to fully evaluate methane risk, we strongly believe the Board of Directors needs to report to shareholders describing how the Company is managing and will manage methane leakage risk. In order to be useful, the report should include policies and plans to set material quantitative targets, and how progress will be measured toward achieving those targets, a discussion of measurement methodology, and management systems and policies.

For all the reasons provided above, we strongly urge you to support the Proposal. Managing methane risk may have a direct impact on the profitability of OXY and we believe it is in the best interest of shareholders. Please contact Natasha Lamb at 978-578-4123 or natasha@arjuna-capital.com for additional information.

Sincerely,
Natasha Lamb, Director of Equity Research & Shareholder Engagement, Arjuna Capital/Baldwin Brothers, Inc.

71 http://www.oxy.com/sr/Documents/Oxy_SR_Report_2012.pdf