BERKSHIRE HATHAWAY INC
Form PX14A6G
April 24, 2017
Grounds for a YES vote on Proposal 5 at
Berkshire Hathaway requesting a report on
Methane Emissions reduction targets, measurement, and disclosure

April 21, 2017

Natasha Lamb, Arjuna Capital
978-704-0114, natasha@arjuna-capital.com

Arjuna Capital and Baldwin Brothers are the sponsors of Proposal #5 on the proxy ballot of Berkshire Hathaway (BRK.B). We encourage you to support the proposal, which reads:

Shareholders request Berkshire Hathaway issue a report (by October 2017, at reasonable cost, omitting proprietary information) reviewing the Company's policies, actions and plans to measure, monitor, mitigate, disclose, and set quantitative reduction targets for methane emissions resulting from all operations, including storage and transportation, under the Company's financial or operational control.

Implementing the Proposal would allow investors to better assess the Company's methane risk exposure to unnecessary economic loss from leaking gas, 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 methane risk. We believe best practice disclosure would include the following:

Specifically, the report should include the leakage rate as a percentage of production, throughput, and/or stored gas; management of high risk infrastructure; best practices; worst performing assets; environmental impact; reduction targets and methods to track progress over time. Best practice strategy would utilize real-time measurement and monitoring.

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.

Rationale for a YES vote:

1. Leaked Gas is Lost Revenue: Leaked 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. Poor oversight of gas infrastructure, including storage facilities, has a direct economic impact on Berkshire Hathaway. Implementing the proposal would allow investors to better assess the Company's methane risk exposure to unnecessary economic loss from leaking 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.
2. Gas Storage Vulnerabilities Present Outsized Risk: The 2015 failure of a gas injection well at Southern California Gas Company's Aliso Canyon Storage Field in Los Angeles revealed major vulnerabilities in the maintenance and safety of natural gas storage facilities. The incident exposed both a lack of oversight and contingency planning in the face of a well blowout.
   a. Berkshire Hathaway has storage facilities that may face similar risks, as it is estimated to hold the 11th highest volume of natural gas in the country. There are over 400 gas storage facilities around the country. According to the

Energy Information Administration (EIA), over 80 percent of these facilities are also located in depleted oil wells, like Aliso Canyon, many of which were drilled decades ago.

---

b. The casing failure of well SS-25 in Aliso Canyon precipitated the release of over 100,000 tons of methane into the atmosphere, resulting in the relocation of 8,000 families and jeopardizing California's mitigation objectives under the state's climate law AB-32. Relocation, clean up, and well containment costs have soared to over 700 million dollars[1] to date, with criminal filings and civil lawsuits against SoCal Gas pending.

3. Methane has an Outsized Impact on Global Warming: Methane has a 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,[2][3] represents over 25% of the EPA Greenhouse Gas Inventory,[4] and its concentration in the atmosphere is 150% higher than pre-industrial levels (as compared to CO2, which is 40% higher). [5] 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 five years.

a. The New York Times reported in April 2016 that leakage from oil and gas wells is the largest source of methane gas in the atmosphere.[6] In April 2016, the E.P.A. released a report concluding the amount of the gas leaking from oil and gas wells is much higher than previously reported.[7]

b. An August 2015 New York Times article cited methane leaks in the supply chain far exceed estimates. "Natural-gas gathering facilities, which collect from multiple wells, lose about 100 billion cubic feet of natural gas a year, about eight times as much as estimates used by the Environmental Protection Agency, according to the study, which appeared in the journal Environmental Science & Technology.[8]

c. An October 2016 study from journal Nature[9] asserts that methane emissions from fossil fuel production are 20 to 60 percent higher than widely cited estimates. It is one of the most exhaustive analyses of long-term global methane emissions and methane carbon isotope records, with implications for climate policy worldwide. The Nature study analyzed thousands of air samples taken over three decades (between 1984 and 2013) at 84 sites on every continent that are part of NOAA's Global Greenhouse Gas Reference Network.

4. Reporting is Inadequate: We find current reporting to be woefully inadequate and there is a large dissonance between current industry/company reporting/estimates and scientific findings.

a. Academic studies have identified methane leakage rates of up to 9%, over 6X the Environmental Protection Agency's (EPA) 1.4% leakage estimate[10] and industry estimates. The short-term climactic benefit of natural gas over coal is negated when leakage rates exceed 2.7%.[11]

---

[1] http://www.latimes.com/local/lanow/la-me-porter-ranch-settlement-20160913-snap-story.html

[2] http://www.ipcc.ch/report/ar5/wg1/#.UxdnSaXDG8M

[3] In 2013, IPCC increased the GPW of methane from 72x to 86x over a 20-year timescale, and from 25x to 34x over a 100-year time horizon. http://en.wikipedia.org/wiki/Global-warming_potential

[4] http://www.pnas.org/content/110/44/17768

[5] http://www.ipcc.ch/ipccreports/tar/wg1/017.htm

[6] https://www.nytimes.com/2016/05/13/us/obama-methane-epa.html?ref=topics

[7] https://www.nytimes.com/2015/08/05/science/methane-leaks-may-greatly-exceed-estimates-report-says.html?_r=0

[8] https://www.nytimes.com/2015/08/19/science/methane-leaks-in-natural-gas-supply-chain-far-exceed-estimates-study-says.ht

[9] http://www.nature.com/nature/journal/v538/n7623/full/nature19797.html

[10] http://www.wri.org/blog/5-reasons-why-it's-still-important-reduce-fugitive-methane-emissions

[11] https://thinkprogress.org/bridge-out-bombshell-study-finds-methane-emissions-from-natural-gas-production-far-higher-than-ep

b. The 2017 shareholder proposal to Berkshire Hathaway was written in response to the company's lack of current public reporting. The Company states that, "they recognize the importance to our shareholders and to the future of Berkshire and its subsidiary companies of minimizing methane releases from an environmental, safety and cost perspective. Northern Natural Gas, one of Berkshire's two gas pipeline businesses, has been an active participant in the U.S. Environmental Protection Agency's Natural Gas STAR Program since 1994[12]. Unfortunately, the US EPA Natural Gas STAR Program does not provide current, publicly available information on a leakage rates and a quantitative strategy to reduce the impacts methane emissions may have on the Company.

5. Regulatory Risk: A failure by companies to proactively inspect, monitor, and upgrade critical transportation and storage infrastructure with the aim of reducing methane emissions has resulted in more rigorous regulations.

a. The EPA released new rules in May 2016 to reduce oil and gas sector methane emissions by 11 million metric tons by 2025[13]. While methane regulations are under review by the new head of the EPA, there has been clear momentum toward greater reporting requirements and reduction targets over the last 3 years.

b. In March 2014, the White House released a "Strategy to Reduce Methane Emissions" as a key element of the President's Climate Action Plan[14]. This action came in the wake of a 2013 EPA watchdog report per a February 2013 Bloomberg article entitled "Fracking Emissions Get Review After EPA Watchdog Report." The article stated, 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."[15] The group also referred to current air pollution estimates as being of "questionable quality."[16]

c. At the public opinion level, natural gas remains a controversial issue. A March 23, 2015 Gallup poll shows Americans are split on support for fracking in oil and natural gas, with 40% in favor and 40% against. [17]

d. At the state level, New York State is the latest state to ban hydraulic fracturing.[18] Colorado adopted the first regulations in the nation expected to directly reduce 1000,000 tons of methane from oil and gas operations, followed by Ohio and Wyoming.

6. Investor Action: In 2017, 15 shareholder proposals have been filed at various companies asking for methane management disclosures.

a. From 2006 to 2016, methane proposals garnered the largest average vote percentages (25%) of any other environmental proposals.[19]

b. In October 2014, investors representing over 300 billion in assets under management called on the EPA to regulate methane as a serious climate problem, with proven cost effective solutions, stating it is insufficient to rely on voluntary initiatives and state-level action and a methane policy can reduce risk and create long-term value for investors and the economy.[20]

---

[12] https://www.sec.gov/Archives/edgar/data/1067983/000119312517087493/d305499ddef14a.htm
[13] https://www.epa.gov/newsreleases/epa-releases-first-ever-standards-cut-methane-emissions-oil-and-gas-sector
[14] http://www.whitehouse.gov/the-press-office/2014/03/28/fact-sheet-climate-action-plan-strategy-cut-methane-emissions
[15] http://www.bloomberg.com/news/2013-02-21/fracking-emissions-get-review-after-epa-watchdog-report.html
[16] http://mobile.bloomberg.com/news/2013-02-05/greenhouse-gas-emissions-fall-in-u-s-power-plants-on-coal-cuts.html
[17] http://www.gallup.com/poll/182075/americans-split-support-fracking-oil-natural-gas.aspx?
[18] http://www.nytimes.com/2014/12/18/nyregion/cuomo-to-ban-fracking-in-new-york-state-citing-health-risks.html
[19] http://www.valuewalk.com/2016/06/environmental-shareholder-proposals/2/
[20] http://www.greenbiz.com/blog/2014/10/15/eyes-oil-gas-investors-seek-methane-rules

c. 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."[21]

The Company's Opposition Statement

Berkshire Hathaway's Reporting is currently inadequate, not publicly available, and lagging industry peers.

Methane emissions management has moved to a mainstream investor concern, as academic studies, regulatory changes, and public attention have highlighted the complexity and importance of the issue. Investor analysis is reliant upon improved disclosure going forward, without which it is not possible to evaluate methane risk.

The Carbon Disclosure Project (CDP) released a Methane Emissions questionnaire in 2016 as part of their Oil and Gas Supplement, which provides an outlet for disclosure. Currently, 22 companies in North America and Europe provide their leak rates as a percentage of natural gas production or throughput at given segment through disclosure to CDP.[22] Berkshire Hathaway fails to report on its leakage rate, among other disclosures listed below.

Berkshire Hathaway references a report published by the EPA regarding their involvement with the EPA Natural Gas Star Challenge Program[23]; however, there is no quantified data supplied by Kern River, Northern Natural Gas or MidAmerican Energy Company[24] (all of which are owned by Berkshire Hathaway).

Given the October 2016 study published in Nature indicating methane emissions from the oil and gas sector are 20% to 60% higher than previously thought[25] (in addition to the many other studies indicating higher-than-thought levels of methane emissions), the Company's statement equates to a lack of accountability to investors.

Core concerns and key elements not addressed include:

A. Leakage rate: No methane leakage rate is reported as a percentage of production, throughput, or stored gas, despite such reporting by peer companies. And there is no way for investors to calculate a leakage rate. While investors should have transparency into the absolute amount of methane emission in metric tons, more importantly investors seek to understand the leakage rate, a normalized value which allows investors to compare Berkshire Hathaway's performance to its peers, and understand how Berkshire Hathaway's performance affects the climate.

a. If leakage is greater than 2.7%[26], natural gas is worse than coal from a climate change standpoint. Without having a normalized number, Berkshire Hathaway's reporting is only helpful for aggregating industry-wide volumes at the EPA, and is certainly not helpful to investors. Other peer companies are taking initiative.

---

[21] http://www.gmo.com/websitecontent/GMO_QtlyLetter_ALL_4Q2013.pdf

[22] 2016 Carbon Disclosure Project: Oil and Gas Companies response to OG7.5 regarding leak rate through the O&G module

[23] https://www.epa.gov/sites/production/files/2016-05/documents/mc_partner_commitments.pdf

[24] https://www.epa.gov/sites/production/files/2016-05/documents/mc_partner_commitments.pdf

[25] http://www.nature.com/nature/journal/v538/n7623/abs/nature19797.html

26
https://thinkprogress.org/bridge-out-bombshell-study-finds-methane-emissions-from-natural-gas-production-far-higher-than-ep

4

b. Currently, 22 companies in North America and Europe provide their leak rates as a percentage of natural gas production or throughput at given segment through disclosure to CDP[27] (Carbon Disclosure Project).

c. Percentage of assets reported: EDF found in its February 2015 Transportation and Storage Study, that only 38% of methane emissions are currently reportable. [28] The Company does not include the percentage of assets that they are reporting on. That is, the percentage of assets that are over the 25,000 metric tons of CO^2 per year threshold. Without this transparency, it is impossible to understand the full scope of the issue.

B. Company-wide quantitative targets:

a. There are no company-wide methane reduction targets. Quantitative target setting is a core aspect of the Proposal.

b. In contrast to Berkshire's actions, the One Future Initiative is a group of natural gas supply chain companies that are setting a goal of achieving a 1% industry leakage rate.

c. The Company states, "We recognize the importance to our shareholders and to the future of Berkshire and its subsidiary companies of minimizing methane releases from an environmental, safety and cost perspective." One would hope this is an obvious goal for all natural gas companies, but it is neither a quantitative disclosure nor helpful to investors seeking an apples-to-apples comparison of Berkshire Hathaway's performance and targets versus its peers.

C. Storage facility risk management: The company does not address the risks associated with depleted oil well storage facilities and accompanying mitigation strategies, as prominently highlighted in the Proposal. The involvement with the STAR program does not address the risk management of storage facilities like those at Aliso Canyon, despite Berkshire Hathaway's exposure. We are particularly concerned with older wells that have similar profiles to Well SS-25, the well that blew out at the Aliso Canyon facility, which was drilled in the 1950s with design standards long past their point of expiration. The Pipeline and Hazardous Materials Safety Administration (PHSMA) recently issued a first ever federal rule of downhole well management at methane storage facilities, and noted that, "Based on its field experience and knowledge of the industry, PHSMA is aware that many of the existing underground natural gas storage facilities across the country have wells with characteristics similar to Well SS25." (PHMSA, Interim Final Rule on Safety of Underground Natural Gas Storage Facilities, 2016). Disclosures that could address the integrity and risk management of storage facilities, not included in the Star Program should include:

a. Overview of storage facilities and wells; the age of facilities and wells
b. Well integrity testing and management
c. Transition plan for high risk infrastructure
d. Concrete leak rate
e. Monitoring program
f. Emergency response plan once a leak is discovered

D. Lack of Real Time Measurement and Management: Further studies underline the need for real time measurement and management to control poorly performing assets.

a. EDF's February 2015 Gathering and Processing study found 30% of facilities contribute 80% of leaks for that segment of the value chain. [29]

b. There is no transparency into the Company's use of real time monitoring and measuring versus the use of throughput estimates, and what percentage of assets are covered by these distinct methods. It is impossible to know the extent of Berkshire Hathaway's monitoring and measurement program without meaningful, company-wide, disclosures.

---

[27] 2016 Carbon Disclosure Project: Oil and Gas Companies response to OG7.5 regarding leak rate through the O&G module

[28] http://www.edf.org/climate/methane-studies

[29] http://www.edf.org/climate/methane-studies

Conclusion

Given the importance of operational efficiency and profitability for each of Berkshire Hathaway's companies, 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.

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. Furthermore, 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, and a discussion of measurement methodology.

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 each of Berkshire Hathaway's Energy companies and we believe it is in the best interest of shareholders.

Please contact Natasha Lamb at 978-704-0114 or natasha@arjuna-capital.com for additional information.

Sincerely,
Natasha Lamb
Managing Partner
Arjuna Capital