

Carbon Asset Risk
Anadarko Petroleum
Annual Meeting: May 13, 2015, The Woodlands, TX

RESOLUTION

RESOLVED:

Shareholders request Anadarko to prepare a scenario analysis report by September 2015, omitting proprietary information, on the Company's strategy to address the risk of stranded assets presented by global climate change and associated demand reductions for oil and gas, including analysis of long and short term financial and operational risks to the company.

SUPPORTING STATEMENT:

We recommend the report:

- Evaluate a range of low-carbon, low-demand scenarios, including a scenario in which two thirds of reserves cannot be monetized;
- Provide an assessment of different capital allocation strategies for the low-demand scenarios including diversifying capital investment or returning capital to shareholders;
- Provide information on carbon price and crude oil price assumptions used in each scenario.

GUIDELINES – Guidelines suggest a recommendation in favor of resolutions requesting a company to disclose information on the impact of climate change on its operations and investments, considering whether a company already provides current, publicly available information on the impacts climate change may have on the company, as well as associated company policies and procedures to address related risks and/opportunities.

In applying these guidelines, investors and analysts should make a distinction between the different impacts climate change can have on a company, and whether a company has provided information on the type of impact addressed by shareowners. Climate change impacts can broadly be assessed in three categories: (1) Risks to physical assets and operations, including climate change's potential to harm company assets such as plant, property, and equipment. This may include damage caused by intense storms that shut down drilling platforms or hurricanes that limit the ability to ship product or supplies. (2) Risk associated with reputational damage to brand and goodwill, from climate change denial activities or undermining reasonable environmental policy. (3) Carbon asset risk, i.e., the risk that a company's fossil fuel reserves and associated infrastructure will be devalued such that the assets become stranded and are subject to premature write downs or devaluations. Stranded assets can result from climate-related demand reductions associated with climate change regulations and from product substitution in response to the need to respond to climate change, among others.

Because risks from climate change stem from different causes, they affect different parts of a business and entail different solutions. For example, a solution to physical risk might be to develop infrastructure that can withstand hurricane-level winds or sea level rise. A solution to stranded asset risk might be to assess how to avoid production and development of reserves that are uneconomic, diversifying capital expenditures into new energy sources, or returning capital to investors. Similarly, adopting greenhouse gas targets to reduce a company's own carbon pollution, while important, is distinct from addressing stranded asset risk. Simply put, one solution to a given climate change risk does not necessarily solve another. Both shareowners and companies must exercise care to differentiate climate change risks and the respective solutions to reduce those risks.

SHAREHOLDER CAMPAIGN

A shareholder initiative was begun in September 2013, which has been adopted by the Global Investor Coalition, in which shareholders representing \$23 trillion in assets under management have asked more than 45 coal, oil and gas, and utility companies for increased disclosure about whether they are addressing carbon related asset risk, the impact of companies' capital expenditure decisions in light of these growing risks, and how the companies are prepared to manage risks under these scenarios.

RATIONALE FOR A YES VOTE

Summary: This proposal asks Anadarko Petroleum to analyze certain risks associated with an increasingly carbon-constrained energy market, including scenarios for a lower probability, but high impact event such as a near-term global agreement adopting regulations to achieve a two-degree limit to global temperature rise, as well as high probability, high impact events such as disruptive, low-carbon technologies leading to large-scale adoption of cleaner energy sources. These scenarios will result in decreased demand for fossil fuels and lower fossil fuel prices, creating risk of stranding of certain high cost or high carbon assets.

Despite the increasing potential for carbon associated asset risk, oil and gas companies continue to spend hundreds of billions of dollars each year on finding and developing high-cost fossil resources. Further, industry production costs – and risk -- are rising as companies invest in more remote and difficult to extract carbon reserves. Kepler Cheuvreux calls this trend a “capex crisis,” noting that, since 2005, annual upstream investment for oil has increased by 100 percent, while crude oil supply has increased by only three percent. Given the generally high production costs of the newest sources of oil (including deep water and those that require hydraulic fracturing,¹) proponents are concerned that the industry in general, and Anadarko in particular, is vulnerable to scenarios in which demand for oil and gas declines along with prices.

These concerns are amplified in a market with already falling oil and gas prices. Proponents recognize Anadarko' vulnerability to scenarios in which demand for its resources decline, potentially precipitously,

¹ <http://www.npr.org/2014/11/04/361204786/falling-oil-make-fracking-less-lucrative>

and ask Anadarko to evaluate a range of low-carbon, low demand scenarios; provide an assessment of different capital allocation strategies, including diversifying capital investment or returning capital to shareholders; and provide information on critical assumptions used in such analysis, including price assumptions. Investors need to know more about how Anadarko is planning for adverse market conditions, and the basic assumptions Anadarko uses to predict future demand and market prices. It is only with these disclosures that investors can understand and assess the risk of Anadarko's reserves becoming uneconomic to produce over short, medium, and long-term price horizons.

Anadarko Is Particularly Exposed To Carbon Asset Risk - Proponents and third parties recognize that oil and gas companies with higher-cost reserves are particularly exposed to scenarios in which demand for oil and gas resources decline. Analysts at Morningstar have noted an increase at Anadarko in higher cost unconventional projects, and that “by 2018. . . the company's unconventional U.S. assets will account for close to 60% of production, up from 40% in 2013.”² Morningstar analysts “expect the firm to continue its high level of deep-water spending throughout our forecast period, accounting for about 30% of Anadarko's capital outlays over the next five years”

Anadarko's increasing investment in higher cost reserves raises concerns for shareholders. As oil prices began to collapse in mid-2014 to less than 50% of their former value, Anadarko suffered a 23.3% decline in its share price, highlighting the company's vulnerability to low commodity prices.³ In order to sustain shareholder returns in a low demand, low price market, companies' must focus on developing lower cost projects, and deferring or cancelling projects with high breakeven costs.⁴

Shareowners' question to Anadarko is what will happen to the company in a sustained lower-priced market with the current allocation of capital expenditures in unconventional projects. Shareholders have asked Anadarko to analyze a range of low demand scenarios to assess whether deferring or cancelling some range of these higher cost projects might better protect shareholder returns.

CHANGING MARKETS

Falling Demand for Fossil Fuels – Worldwide demand for fossil fuels is being affected by policies and technology trends related to climate change including: increased fuel efficiency, use of lower-carbon fuels, electrification of ground transportation, and rapidly declining costs of renewable energy, among others.⁵ In developed nations, demand for oil has fallen since 2005, primarily as a result of more efficient vehicles.⁶ A March 2013 Citi report cites to a number of trends indicating that “oil demand is approaching a tipping point” and that it may occur sooner than predicted, potentially leveling off by

² Morningstar. Hanson, Mark. *Anadarko Petroleum Corp - Stock Analysis. Anadarko's Offshore Efforts are Supported by a Profitable Base of Domestic Assets.* (3/13/15).

<http://analysisreport.morningstar.com/stock/research?t=APC®ion=usa&culture=en-US>

³ Analysis from July 2014 to April 2015; Source: Google Finance. *Anadarko Petroleum Corporation.* (Accessed April, 16, 2015). <https://www.google.com/finance?q=NYSE%3AAPC&ei=xC4wVdVPMzLigKAx4HADQ>

⁴ See Carbon Tracker Initiative, *Oil & Gas Majors Fact Sheet*, p. 1, <http://www.carbontracker.org/wp-content/uploads/2014/09/CTI-Oil-Gas-Majors-Company-Factsheets-August-2014-FULL.pdf>.

⁵ See <http://www.businessinsider.com/afp-iea-cuts-2015-oil-demand-outlook-despite-plunging-prices-2014-12>

⁶ *Yesterday's fuel*, The Economist, <http://www.economist.com/news/leaders/21582516-worlds-thirst-oil-could-be-nearing-peak-bad-news-producers-excellent>;

2020.⁷ Chief among such factors is increased fuel efficiency, which has an outsized impact because transportation accounts for 60 percent of global oil use. Other factors include emerging alternatives to gasoline including plug-in-electric vehicles, clean air regulation in China⁸ and the falling price of renewables. The IEA⁹ and Deutsche Bank forecast global oil demand could peak in the next ten to fifteen years.

Natural gas price volatility – As of January of this year, natural gas prices dropped to their lowest levels since September 2012, reflecting domestic overproduction and inventory buildup.¹⁰ Future demand for natural gas is also unclear; natural gas is threatened by the same market forces as those that affect oil and coal, and the impacts of hydraulic fracturing are subject to particular scrutiny. Natural gas has also been forecast to peak by 2020,¹¹ and many gas plays have been overestimated, and or are being exhausted ahead of schedule.¹²

Global Movement Toward Renewable Resources – Low carbon solutions have been adopted by consumers at a higher rate than most analysts predicted, and costs have declined faster than anticipated. Consumer and commercial renewable energy adoption has been unprecedented, putting the transition to a low carbon economy six years ahead of schedule.¹³ Demonstrating these trends, in 2013, the world added more capacity for renewable power than coal, natural gas, and oil combined.¹⁴ And there is no going back. Bloomberg's 2030 Market Analysis predicts that, "[b]y 2030, the world's power mix will have transformed from today's system with two-thirds fossil fuels to one with over half from zero-emission energy sources."¹⁵ Deutsche Bank predicts that solar power systems will be at grid parity in up to 80 per cent of the global market within 2 years.¹⁶ As prices of renewable energy become equal to or less than fossil fuels, an aggressive shift to these forms of energy is likely to occur due to benefits including low and predictable fuel and power costs, ease of scalability and distribution, reduced regulatory risk, and environmental and public health benefits.

⁷ "Peak Oil" Is Back, but This Time It's a Peak in Demand, Bloomberg. <http://www.bloomberg.com/bw/articles/2013-05-01/peak-oil-is-back-but-this-time-its-a-peak-in-demand>

⁸ <https://www.whitehouse.gov/the-press-office/2014/11/11/fact-sheet-us-china-joint-announcement-climate-change-and-clean-energy-c>

⁹ See "Oil's Black Swans on the Horizon," WSJ (<http://www.wsj.com/articles/oils-black-swans-on-the-horizon-1424108038>)

¹⁰ Energy Information Administration. *Natural Gas Prices Drop Following Strong Production Growth*. <http://www.eia.gov/todayinenergy/detail.cfm?id=19751>

¹¹ "US natural gas production could peak in 2020; Research project forecasts much less production than government estimates," ARS Technica, Dec. 4, 2014

<http://arstechnica.com/science/2014/12/us-natural-gas-production-could-peak-in-2020/>; see also "Who to Believe: U.S. Natural Gas may Peak in 2040. Or 2020," Money Beat (Dec. 4, 2014). <http://blogs.wsj.com/moneybeat/2014/12/04/who-to-believe-u-s-natural-gas-may-peak-in-2040-or-2020/>

¹² See "Natural Gas: The Fracking Fallacy: The United States is banking on decades of abundant natural gas to power its economic resurgence. That may be wishful thinking," Nature (Dec. 3, 2014).

¹³ *Clean Energy Revolution Is Ahead of Schedule*, Bloomberg. <http://www.bloombergview.com/articles/2015-04-08/clean-energy-revolution-is-way-ahead-of-schedule>

¹⁴ See <http://www.bloomberg.com/news/articles/2015-04-14/fossil-fuels-just-lost-the-race-against-renewables>

¹⁵ 2030 Market Outlook, Bloomberg New Energy Finance, <http://bnf.folioshack.com/document/v71ve0nkr8e0/who42hnkr8fo>

¹⁶ See <http://cleantechnica.com/2015/01/14/deutsche-bank-predicts-solar-grid-parity-80-global-market-2017/>

Growing Carbon Constraints - The International Energy Agency, in its 2012 World Energy Outlook, recognized that no more than one-third of proven reserves of fossil fuels can be consumed prior to 2050 if the world is to have a chance at limiting warming to 2 degree Celsius, the level beyond which severe consequences occur for economies, market participants, and the environment. Global governments have acknowledged this limit as a policy goal, and are amidst negotiations to achieve it. The principal means of halting, mitigating, or slowing climate change is to reduce carbon emissions which are caused in large part by the burning of fossil fuels. Thus, laws and regulations adopted to limit carbon emissions and stave off climate change impacts will have the effect of reducing fossil fuel use, affecting producer competition, commodity prices, and raising the cost of doing business. These effects are likely to leave the vast majority of fossil fuel companies with stranded assets in the form of uneconomic reserves and underused infrastructure.

Taken together, these fundamental changes in energy markets suggest that demand for oil and gas will decrease over time, cause a structural price decline, and increase the risks of investing shareholder capital in developing new fossil fuel assets. Shareowners ask the Company to evaluate a range of low-carbon, low-demand scenarios and describe how the Company is positioned to thrive amidst these changes in energy markets.

Inadequate Discussion of Stranded Asset Risks by Anadarko

While Anadarko generally acknowledges the risks associated with climate change regulations and commodity market shifts, Anadarko provides no quantification of likely impact, no analysis of the extent to which such regulations/risks could affect the company's value, or whether or how the company plans to address such risks. Mere acknowledgement does not substitute for rigorous analysis or provide information about whether the company is prepared to adjust its operations as necessary to reduce risk. Given the likelihood that these identified risks have the potential to dramatically affect shareholder value, especially given Anadarko's investment in higher-cost unconventional and deep water reserves, shareholders are asking Anadarko to undertake the requested scenario and related analysis.

Shareholders believe that companies that have undertaken such analysis, using a range of demand and price scenarios, and that have developed plans to manage, mitigate, and adapt to changing energy markets are more likely to remain competitive. Moreover, this analysis will help Anadarko assess the utility of future investments in high cost resources versus diversifying into low carbon products or returning capital to shareholders. This information will also assist shareholders in understanding Anadarko's ability to compete with low cost, low carbon substitutes for its products.

RESPONSE TO ANADARKO ARGUMENTS

Anadarko's Opposition Arguments are as follows:

- 1) The company is taking actions to reduce greenhouse gas emissions and has established an Air-Quality Committee to address emissions.

Taking action to reduce a company's greenhouse gas emissions, while important, is distinct from addressing stranded asset risk. Stranded asset risk is best addressed through methods such as diversifying investments toward low carbon energy sources, or returning capital to investors. Further, addressing the company's own greenhouse gas emissions does not substitute for the scenario planning and financial risk analysis requested by this proposal. This is equally true for the Air-Quality Committee's goals of reducing the company's air pollution emissions.

2) The company states that it addresses climate related risks and opportunities in its Carbon Disclosure Project report.

While Anadarko does respond to some questions in its CDP report that are helpful for understanding risks associated with climate change, CDP responses are optional and consequently Anadarko did not complete many key questions addressing stranded asset risk. Anadarko's 2014 CDP reporting scores is low among its peers, with a performance score of a "C". Additionally, Anadarko does not provide quantitative information relevant to understanding its stranded asset risk. Anadarko also does not respond to the CDP question that is the subject of this proposal: "Do you conduct any scenario analysis based on a low-carbon scenario consistent with reducing GHG emissions by 80% by 2050 to achieve the 2°C goal. . . ? Anadarko leaves unanswered other questions in its CDP report relevant to disclosing risks of stranded assets, including information on capital expenditures and the total expected return on capital allocation in such scenarios. Anadarko's CDP reporting inadequately explains the company's ability to monetize its assets in low demand scenarios.

3) In its 2013 sustainability report, the company cites to a variety of forecasts from which it concludes that there is not a substantial risk that its reserves will not be monetized, and that markets are currently valuing carbon assets rationally.

Anadarko's position recognizes climate change, but rejects the idea that governments will adopt the regulatory actions necessary to address it or that demand for its product will fall due to other climate-related drivers. The forecasts relied on by Anadarko are likely best case scenarios for the company. This is not responsive to shareholders' request that Anadarko undertake an analysis of less favorable events, including a 2 degree scenario, and assess the impact on the company if they occur. For instance, the IEA projects a forty percent reduction of demand (compared to a business as usual) associated with climate change regulations that have a chance at limiting global temperature increases to 2 degrees. Such a scenario will have dramatic effects on global fossil fuel supplies and selling price, particularly for higher cost reserves, thus creating ramifications across the industry and greatly effecting this company's performance.

The Proposal asks for the requested assessment even if the company believes such an outcome is unlikely. The precipitous drop in oil prices over the past year, which has hurt the company, demonstrates that price declines can adversely affect the company. Investors are not served by simply accepting Anadarko's assurance that everything will be fine.

Rather, the requested report will provide information to investors as to whether or not Anadarko's strategic investment decisions have made carbon asset risk a non-substantial concern. Additionally, as

noted above, many investors, including long term institutional investors, understand carbon asset risk to be an important factor to consider, reflecting an increased prioritization on climate-associated risks. The Bank of England has publically addressed carbon asset risk and the potential for stranded fossil fuel assets in its *One Bank Research Agenda*, noting that climate change presents a category of transition risk “for central banks to consider, including the potential for carbon intensive assets becoming ‘stranded.’”

PEER COMPARISON

In 2014, ExxonMobil publicly agreed to issue a report on carbon asset risk. Although this report only met shareholder requests on the margins, it was the first company to undertake the task. Shell and BP have made public statements that they are supporting similar shareholder proposals addressing the financial risk and investment strategies associated with low demand scenarios.

CONCLUSION

Proponents are asking Anadarko to use its planning team to assess risks and to provide shareholders with information about how the company is prepared to withstand or make use of opportunities related to carbon constrained, low demand scenarios. The analysis and planning called for by this resolution is a reasonable undertaking. A variety of academic research and information exists to assist the company in projecting these types of scenarios such as the demand-by-fuel-type included in the 2014 World Energy Outlook prepared by the IEA. Bloomberg also provides a financial tool, in its terminal software, that provides users with a quantitative model for predicting carbon asset risk.

The information requested in this proposal is key to demonstrating to shareholders that the company is effectively managing business risk associated with the potential stranding of fossil fuel reserves and assets due to climate change drivers. Such information is critical to assisting investors in making educated decisions about the benefits or risks associated with investing in this company.