MEMORANDUM

Noble Energy Shareholder Resolution 2015
Report on Goals & Plans to Address Carbon Asset Risk
Filed by the Presbyterian Church U.S.A.

Noble Energy, Inc.  Symbol: NBL

Vote “For”

RESOLVED: Shareholders request that Noble Energy prepare a report by September 2015, omitting proprietary information and prepared at reasonable cost, on whether the company’s short- and long-term business plans align with the global goal of limiting global warming to below 2 degrees, including an analysis of the impact that such a policy would have upon demand for and pricing of the company’s products and options for aligning company goals with such policy, demand, and pricing trends.

The resolution’s supporting statement requests that the report include:

• A discussion of how the global goal of limiting warming to no more than 2 degrees is factored into the company’s business planning
• A scenario analysis that considers a range of low-carbon and low-demand scenarios; including the IEAs 450 Scenario;
• An assessment of different capital allocation strategies in the face of low-demand Scenarios.
• The Board of Directors’ role in overseeing capital allocation and climate risk reduction Strategies.

We believe that investors should vote FOR this resolution for the following reasons, each of which is discussed in more detail later in the memo:

1. Noble Energy is exposed to carbon asset risk.
   a. By carbon asset risk, we mean the risk that a company’s investments in exploration and production of fossil fuels will become uneconomic sooner than expected due to declining demand and prices driven by regulatory, technological, or market developments related to climate change. According to Carbon Tracker staff, approximately 17% percent of Nobles’ possible future liquids project portfolio requires a price of $80 per barrel to break even. With oil trading around $50 per barrel, investors are concerned that action on climate change, along

1 http://www.ceres.org/issues/carbon-asset-risk
2 Based on data sourced from Rystad Energy’s database as of March 17, 2015.
with other factors, makes a return to such elevated prices, for sustained periods, highly uncertain.

2. Noble’s disclosure on this issue is inadequate: it does not allow investors to properly evaluate the extent of the company’s exposure to carbon asset risk.
   a. Noble’s disclosure on climate-related risk via the CDP survey and its 2013 Sustainability Report focus on reducing emissions from operations, but we could not find the type of disclosure and analysis requested in the resolution focusing on scenarios that keep the global temperature increase below 2 degrees Celsius. The 10-K and the opposition statement to the resolution are limited mainly to boilerplate regulatory risk language, which is unhelpful to investors, in terms of the resolution.

3. The disclosure requested in the resolution is reasonable and would be of use to investors.
   a. The disclosure request is based on a blueprint3 developed by the Global Investor Coalition, a group of investors representing over $23 trillion in assets, and similar disclosure requests are being made of dozens of companies in the oil and gas sector based on their exposure to carbon asset risk. Most of these requests are being put forward as part of cooperative dialogue. Where companies have not been open to dialogue, as is the case at Noble, investors have put forward shareholder proposals to ensure adequate disclosure.

Noble Energy is exposed to carbon asset risk
   o Research by Carbon Tracker⁴ makes clear that, as costs have risen, the oil and gas industry is now highly vulnerable to any drop in oil prices driven by a drop in demand. The industry has affirmed this view. According to Statoil, roughly half of the world’s largest oil projects require prices higher than $120/barrel to breakeven, more than double the current price, demonstrating just how vulnerable the industry is to decreases in demand.⁵
   o Even absent aggressive global action on climate change, a variety of existing trends—from increased transportation efficiency in North America, to clean air regulation in China,⁶ to the rapid growth of wind and solar energy production — are eroding demand in a significant way. Global action on climate change

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5 http://www.economist.com/news/business/21623694-price-oil-has-been-tumbling-cost-finding-it-has-not-unsustainable-energy
would simply exacerbate this demand destruction.

- Despite these trends, fossil fuel companies continue to spend hundreds of billions of dollars each year on finding and developing even more high-cost fossil fuel resources than we can safely burn if we are to avoid catastrophic levels of climate change. At current emission rates, the global carbon budget linked to the 2 degree goal will be exhausted within 19 years, according to PricewaterhouseCoopers.7

- Like many oil and gas companies, Noble has placed major bets on high-cost projects. Noble’s deepwater resources (in the Gulf of Mexico, Mediterranean and West Africa) are likely to have high production costs relative to most other types of fossil fuel resources: Rigzone reports: “...we think that deepwater is now the second highest marginal cost per barrel of oil produced behind Canadian oil sands.”8 In addition, deepwater projects take years, often decades, from exploration to first production, meaning that a decision made to allocate capital to deepwater today is a bet on oil prices being very high 15 or more years in the future. We believe that improving alternative energy technologies along with emerging climate and energy efficiency regulations make such a bet on long-term high prices extremely risky. Yet the company’s disclosure neither acknowledges this risk nor describes any attempt to manage it.

Noble has inadequate disclosure on carbon asset risk

The company’s opposition statement to the resolution consists of boilerplate regulatory risk language and also refers readers to the 10-K and Sustainability Report for additional information. Here we comment on the adequacy of each.

1) The opposition statement to the resolution
Management recommends against issuing a report “premised on speculative assumptions.” However, in 2010, the US SEC issued interpretive guidance on climate risk stating:
“For instance, a company may face decreased demand for goods that produce significant greenhouse gas emissions (GHGs) or increased demand for goods that result in lower emissions than competing products. As such, a company should consider, for disclosure purposes, the actual or potential indirect consequences it may face due to climate change related regulatory or business trends.”9
This is just the sort of disclosure the resolution requests.

2) The 2014 10-K
This has several paragraphs describing the major categories of climate risk. Business model and “indirect” risk is acknowledged in a few words and then

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7 http://www.pwc.co.uk/assets/pdf/low-carbon-economy-index-2014.pdf
left unaddressed, as follows:

“Indirect Consequences of Regulation or Business Trends  We believe there are both risks and opportunities arising from the global response to potential climate change. In terms of opportunities…”

This is followed by a few short paragraphs on opportunities related to things such as fuel switching to natural gas (55% of Noble’s 2014 sales) away from coal and petroleum liquids, and then the section ends, leaving the risks unexplored.

3) The 2013 Sustainability Report
The portions of the report that could be relevant in terms of the resolution are the sections titled, Reducing Emissions and Hydraulic Fracturing. Under Reducing Emission Noble lists: “pursuing GHG reductions in ways that include replacing truck transport with pipelines, substituting liquefied natural gas (LNG) for diesel to fuel our rigs, running vehicles on compressed natural gas (CNG), and using new technologies to reduce leaks and capture gas that would otherwise be released to the air.” None of this addresses the disclosure requested in the resolution, nor does the discussion of fracking beginning on page 32.

4) 2014 CDP Survey Response
Noble receive as score of 81 C, for disclosure and performance, respectively. CDP describes a ‘performance band’ of C as: “Some activity on climate change with varied levels of integration of those initiatives into strategy.” While Noble describes an Enterprise Risk Management (ERM) system that could potentially address issues raised in the resolution such as capital allocation strategies, the company fails to do so in it’s CDP response. For example: “Long-term strategy: Noble Energy’s long-term strategy is focused on identifying opportunities to increase operational efficiency. The Company has shifted from individual vertical well sites to multi-well pads and horizontal drilling. This planning approach decreases emissions per production volume and reduces truck mileage and related emissions.” The resolution asks the company to look beyond operational efficiencies to consider how to address fundamental threats to its current business model that features heavy investment in high cost-of-production projects, such as deep-sea production.

The disclosure requested in the resolution is reasonable and would be of use to investors

The follow section describes the specific requests made in the supporting statement of the resolution.

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10 Noble Form 10-K, 2014, page 61
1) Assumptions regarding breakeven costs of production for the company’s highest cost projects

Given the generally high production costs of deepwater oil and gas production as well as resources that require fracking, proponents are concerned that Noble is vulnerable to scenarios in which demand for oil declines along with prices.

Demand for fossil fuels is already being affected by policies and technology trends related to climate change including: increased fuel efficiency, use of lower-carbon fuels, the electrification of ground transportation, and rapidly declining costs of renewable energy. The risk of reduced demand amplifies concerns among investors about the declining returns of many oil and gas companies and the wisdom of deploying more capital to low-return projects that require high oil prices to break even.

Reductions in demand increase the probability of price declines for Noble’s products. Investors need to know more about assumptions Noble uses to estimate future market prices and break-even costs of production to assess the risk of Noble’s reserves becoming uneconomic to produce over short, medium and long- term time horizons.

2) Consideration of a range of lower demand scenarios accounting for more rapid than expected policy and or technology developments, including the 2-degree scenario as outlined by the IEA.

Nearly every nation agreed in the Copenhagen Accord to limit the average global temperature increase to 2 degrees Celsius. There is widespread agreement that meeting this goal will require a 50% reduction in GHG emissions globally by 2050 entailing an estimated 80% emissions reduction by 2050 in developed countries.

HSBC reports that: “In its low-carbon 450 PPM scenario, the IEA (International Energy Agency) estimates that demand for fossil fuels would still grow up to 2020. Oil demand, for example, is forecast to grow at 0.4% annually. However, from 2020 onwards, the IEA projects that oil demand would decline, though not as much as coal.... Together, the oil price and the unburnable carbon effects are equivalent to between 34% and 52% of market capitalisation.” (This analysis covers Shell, BP, Total, Statoil, Eni and BG.)

Since carbon capture and storage (CCS) technology seems highly unlikely to be widely deployed for the foreseeable future, a plausible scenario for avoiding a breach of 2

12 http://www.npr.org/2014/11/04/361204786/falling-oil-prices-make-fracking-less-lucrative
degree temperature increase involves a dramatic reduction in the use of fossil fuels. Investors need to know how Noble will be impacted by plausible low-carbon scenarios. For example, under which scenarios will any of the company’s reserves or infrastructure become stranded assets? Which of Noble’s assets are most likely to strand first?

3) An assessment of different capital allocation strategies in the face of low-demand scenarios

It was reported in February 2015 that Noble plans to spend approximately $2.9 billion on capital expenditures in 2015.16 As Carbon Tracker explains, “fossil fuel capex is a key leading indicator of future carbon emissions.”17

It is not in the best interest of investors for companies to expend capital on low-return projects, particularly those to develop high-cost, high-carbon reserves that may ultimately be unusable. Given the magnitude of the threat that climate change presents to Noble, management should assess which capital allocation strategies make the most sense to prepare for low-demand scenarios. Options include:

• investing a greater percentage of capex in lower carbon fossil fuel reserves, such as natural gas plays
• investing in renewable energy
• investing in hydrogen production / distribution
• investing in energy storage / battery businesses (for transport, homes/ businesses, or utility scale storage)
• increasing dividends or buying back shares
• offering an investment vehicle similar to royalty trusts. Examples of these include Prudhoe Bay Royalty Trust (NYSE: BPT) and the Sandridge Mississippian Trust II (NYSE: SDR). A royalty trust is a bond-like investment vehicle (although more volatile than many bonds due to commodity price swings), with tax advantages and a finite life. It passes income from an oil & gas project through to investors. “Its value slowly declines over time until it’s no longer economically feasible to pull oil and gas from a well....”18 In June of 2014 there were approximately 20 oil and gas royalty trusts traded on U.S. markets according to the Motley Fool.

4) How the company will manage risks under these scenarios, such as reducing the carbon intensity of its assets or returning capital to shareholders.

Management acknowledges certain risks from climate change in the 2014 10-K:

16 http://files.shareholder.com/downloads/ABEA-2D0WMQ/0x0x811051/2e365287-ea39-4c30-aa0f-55b930af2b2c/In_Room.pdf, p. 3
“…future restrictions on the combustion of hydrocarbons or the venting of natural gas could have a significant impact on our future operations.”\(^{19}\)

But management provides inadequate information on how these risks will be managed. Risk mitigation options include:

- those listed under number 3 above,
- selling or spinning off high carbon and/or high-cost-to-produce reserves,
- buying lower-carbon reserves and those with lower production costs.

5) The Board of Director's role in overseeing climate risk reduction strategies and related capital allocation

The 2014 CDP survey response states that:

“...This process ensures responsibility and awareness for carbon management goes all the way up to the Chief Executive Officer (CEO) and Board of Directors.” (CDP CC1.1a)

Again we note the focus on “carbon management,” meaning reduction of emissions from operations.

Given the importance of these risks to Noble’s financial performance and viability, investors need to know what the Board is doing to guide management in addressing these critical issues. Average CEO tenure tends to be rather short for U.S. companies (about 4.6 years),\(^{20}\) and the Board needs to ensure that long-term planning and risk mitigation address key long-term issues such as climate change. Noble’s CDP disclosure states that risk management with regard to climate change is considered for “3 to 6 years” into the future. (CDP CC2.1a) Some critical aspects of climate risk will obviously play out over longer than 3 to 6 years (for example, the IEA 450 ppm scenario described above has demand declining starting in 2020), and many investors have much longer holding periods. This short-term focus is glaring problem for Noble and something the Board should correct.

The CDP response also includes the following on the role of the Board: “The EHS Committee was established in January 2011 and is chaired by the CEO. The committee assists the Board in determining whether appropriate EHS policies and management systems are in place. Data is collected at the field level by field personnel or environmental engineers. Relevant information is then communicated to management.” (CDP CC2.2a) Once again, key issues such as the risk of stranded assets are not included. Yet these issues present an existential threat to Noble -- a threat the Board needs to understand, manage, and disclose.

Conclusion

Since climate change creates fundamental risks to Noble, and because Noble’s disclosure on carbon asset risk is inadequate, investors are encouraged to vote “for” this important request for enhanced disclosure.

\(^{19}\) 2014 10-K, p. 61, filed February 19, 2015