



April 17, 2015

The Honorable Mary Jo White
Chair
Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Re: Inadequate Carbon Asset Risk Disclosure by Oil and Gas Companies

Dear Chair White:

As institutional investors representing over \$1.9 trillion in assets under management, we are concerned that oil and gas companies are not disclosing sufficient information about several converging factors that, together, will profoundly affect the economics of the industry. They include capital expenditures on increasingly high cost, carbon intensive oil and gas exploration projects, government efforts to limit carbon emissions, and the possibility of reduced global demand for oil as early as 2020 (collectively “carbon asset risks”).

We have found an absence of disclosure in SEC filings regarding these material risks, which constitute “known trends” under SEC rules, and respectfully ask the Commission to address this issue in comment letters to issuers.

Carbon asset risks to oil and gas companies: A growing number of investors are working to integrate climate risk into their investment strategies,¹ and obtaining more information from fossil fuel companies about their capital expenditures and related risks is a critical part of this process. Some investors have increased their allocation to lower-carbon assets. Others have signed the Montreal Pledge, committing to measure and publicly disclose the carbon footprint of their investment portfolios annually, or have joined the Portfolio Decarbonization Coalition, agreeing to implement portfolio strategies towards climate-related objectives.

We are concerned that some carbon assets—current and future hydrocarbon reserves and resources of oil and gas companies—may become stranded assets, which are “fuel energy and generation resources which, at some time prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return (i.e. meet the company’s internal rate of return), as a result of changes in the market and regulatory environment associated with the transition to a low-carbon economy.”²

¹ See, for example, World Bank Group, *Investors shift into low-carbon and climate-resilient assets*, September 12, 2014.

² <http://www.carbontracker.org/resources/>. See also <http://www.smithschool.ox.ac.uk/research-programmes/stranded-assets/>.

The economics of the oil and gas industry are changing rapidly as exploration and production costs increase. As conventional oil and gas reserves decline, companies have been forced to increase investments in high cost, carbon intensive “unconventional” exploration projects. Kepler Cheuvreux has called this a “capex crisis” driven by the need for more costly investments in unconventional crude development projects to stem decline rates in conventional oil fields.³ Since 2005, annual upstream investment for oil has increased by 100%, from \$220 billion in 2005 to \$440 billion in 2012, while crude oil supply has only increased 3%. In 2014, the global oil industry spent \$650 billion on exploration and development of new reserves, which is producing diminishing marginal returns in terms of new reserves being added.⁴ Thus, the industry is investing more money to produce less oil and has become less profitable in recent years.

The Carbon Tracker Initiative (CTI) estimates oil and gas companies are likely to spend approximately \$1.1 trillion in capex from 2014-2025 on high cost, carbon-intensive exploration projects that require at least an \$80 break-even price.⁵ Due to recent low oil prices, we have seen oil majors cancel or delay billions of dollars worth of projects, and nearly \$1 trillion of projects face the risk of cancellation.

Many of these projects face operational challenges and increasing costs due to the nature of the projects, including Arctic, deepwater, ultra-deepwater, and unconventional production of oil sands, heavy oil, shale oil, extra heavy oil and tight liquids projects. For major oil and gas companies, these higher risk capital expenditures represent 18-28% of total projected capex through 2025.⁶

The increase in high risk, carbon intensive capital expenditures comes at a time when governments are focusing on reducing carbon emissions to prevent catastrophic climate change. Last October, EU leaders agreed to a binding target for reducing domestic greenhouse gas emissions by at least 40% compared to 1990. In November, President Obama and Chinese President Xi Jinping announced an agreement to ambitiously reduce both nations’ carbon emissions. These agreements support the need for reducing dependence on fossil fuels and increases risks associated with expensive, carbon intensive exploration projects.

While discussions continue at the international level, an increasing range of climate-related actions are being taken or are already required by national and subnational governments across the world, including actions to increase energy efficiency (for instance increased fuel economy standards) and to substitute cleaner sources of energy, such as renewables. As more of these measures are implemented, demand for fossil fuel based energy could plateau, which decreases the likelihood that high cost, carbon intensive reserves will be cost-effective to develop and produce.

³ Mark Lewis, Kepler Cheuvreux, *Toil for oil spells danger for majors: Unsustainable dynamics mean oil majors need to become “energy majors”* (September 15, 2014)

⁴ Rineesh Bansal, Stuart Kirk, *Peak carbon before peak oil*, in Deutsche Bank, Konzept, Issue No. 2 (January 20, 2015)

⁵ Carbon Tracker Initiative, *Carbon supply cost curves: Evaluating financial risk to oil capital expenditures* at 16, (May 2014)

⁶ *Id.* at 19.

Investor efforts to improve voluntary disclosure: Institutional investors have and continue to raise these concerns with oil and gas companies through letters,⁷ dialogues and shareholder resolutions.⁸ Starting in 2013, a coalition of 70 investors managing assets of \$3 trillion began collaborating with Ceres, Carbon Tracker, the European Institutional Investors Group on Climate Change (IIGCC) and the Australia/New Zealand Investor Group on Climate Change (IGCC) to engage with the world's largest oil and gas, coal and electric power companies, asking them to assess risks under climate action and 'business as usual' scenarios. In January 2015, fifty institutional investors representing over £160 billion filed resolutions with BP and Shell calling for routine annual reporting beginning in 2016 to include information about asset portfolio resilience to the International Energy Agency's (IEA's) scenarios, low-carbon energy research and development (R&D) and investment strategies, and related items.⁹ In an important development, the boards of both Shell and BP advised shareholders to support the resolutions.¹⁰

Organizations working with investors have issued carbon asset risk disclosure guidelines, expectations and requests, including the Global Investor Coalition on Climate Change¹¹, CDP¹², the Climate Disclosure Standards Board¹³ and the Sustainability Accounting Standards Board.¹⁴ As discussed in these guidelines, investors are seeking low carbon scenario assessments; capital expenditure plans for new reserves, including rates of return, payback periods, and alternative uses of capital; potential greenhouse gas emissions of unproduced reserves by resource type and by country; average breakeven oil price for their portfolio, including how breakeven prices are calculated for both planned and existing projects, and a further breakdown of breakeven prices by project or hydrocarbon type; and a discussion of the risks to unproduced reserves from pricing, standards, reduced subsidies or reduced demand.

However, there has been a lack of meaningful, substantive carbon asset risk disclosures in response to these investor requests. A recent report analyzing voluntary climate risk reporting by 49 oil and gas companies found low levels of assessment of these risks and application of the findings to current and future exploration projects.¹⁵ Ten of these companies acknowledged running scenario analyses of different global temperature increases, eight ran internal carbon price stress tests for prospective investments, and five ran stress tests regarding the resilience of their capital expenditures under a scenario consistent with limiting the average global temperature increase to 2°C. However, no companies disclosed their stress testing parameters, leaving investors unable to objectively assess the adequacy of these resilience tests.

⁷ Ceres, Investors ask fossil fuel companies to assess how business plans fare in low-carbon future: Coalition of 70 investors worth \$3 trillion call on world's largest oil & gas, coal and electric power companies to assess risks under climate action and 'business as usual' scenarios (Oct. 24, 2013)

⁸ See, for example, <http://www.nytimes.com/2014/03/21/business/in-a-shift-exxon-agrees-to-report-on-carbon-asset-risk.html>.

⁹ http://www.ccla.co.uk/ccla/press/Aiming_for_A_21st_January_Press_Release_FINAL.pdf

¹⁰ <http://www.ipe.com/news/esg/bp-follows-shell-to-back-climate-change-resolution/10006577.fullarticle>

¹¹ On December 9, 2014, the Global Investor Coalition released *Investor Expectations: Oil and Gas Company Strategy—Supporting investor engagement on carbon asset risk*.

¹² Carbon asset risk questions have been incorporated into the 2014 and 2015 CDP climate change questionnaires.

¹³ CDSB, Proposals for reporting Carbon Asset Stranding Risks.

¹⁴ SASB Oil & Gas Exploration & Production sustainability accounting standard, reserves valuation and capital expenditures accounting metrics.

¹⁵ Carbon Tracker Initiative, *Recognising Risk, Perpetuating Uncertainty: A baseline survey of climate disclosures by fossil fuel companies* at 21-22 (October 2014).

Carbon asset risks are material under SEC rules: According to the SEC, “Registrants must identify and disclose known trends, events, demands, commitments, and uncertainties that are reasonably likely to have a material effect on financial condition or operating performance.” The SEC also notes, “Disclosure of a trend, demand, commitment, event or uncertainty is required unless a company is able to conclude either that it is not reasonably likely that the trend, uncertainty or other event will occur or come to fruition, or that a material effect on the company's liquidity, capital resources or results of operations is not reasonably likely to occur.”

The 2010 SEC interpretive guidance on climate change disclosure provides additional guidance, noting, “Legal, technological, political and scientific developments regarding climate change may create new opportunities or risks for registrants. These developments may create demand for new products or services, or decrease demand for existing products or services.” Specifically, the guidance suggests disclosing potential “decreased demand for goods that produce significant greenhouse gas emissions.”

Carbon asset risks have undoubtedly become “known trends” within the meaning of the Commission’s regulatory standards and therefore must be discussed in SEC filings. The risk of reduced demand for oil, uneconomic projects and stranded assets due to the factors discussed above is material to the companies and their investors, as it directly affects the profitability and valuation of the companies.

Investors and other groups have asked the SEC and other regulators to improve reporting on carbon asset risks. In February 2015, the Carbon Tracker Initiative wrote to the Commission asking for improved MD&A disclosure by fossil fuel companies of the effects of low carbon scenarios on commodity demand and price and subsequent effects of those shifts on future capital expenditure plans, liquidity and reserves valuations. The letter also suggested changes to regulations, including uniform requirements for future capital expenditure disclosure and standards for reporting the carbon content of reserves and resources. In 2013, Carbon Tracker, former SEC Commissioner Bevis Longstreth and former Deputy Chief Accountant Jane Adams petitioned FASB, asking that disclosure of carbon content of reserves should be required for companies with significant fossil fuel reserves.

In 2008, a group of investors and other groups wrote to the SEC regarding the *Modernization of Oil and Gas Reporting Requirements*, concerned that climate change and policies adopted to combat greenhouse gas emissions could render certain assets—particularly those with high carbon intensity—uneconomic. The letter asked that the revised rule ensure that companies disclose material risks posed by the extraction and development of additional reserves as well as reported reserves that have higher than average full lifecycle greenhouse gas emissions associated with their extraction, production and combustion.

Examples of carbon asset risk disclosure: ExxonMobil, Chevron and Canadian Natural Resources: As a result of the investor letters, dialogues and resolutions mentioned earlier, oil and gas companies have provided limited voluntary disclosure relating to carbon asset risks, but they have provided no or poor reporting in their SEC filings.

While the three companies discussed below provided little carbon asset risk disclosure in their annual SEC filings, we emphasize that other oil and gas companies likewise reported little or nothing about the range of risks from existing and future laws and trends, such as those related to carbon pricing, pollution and efficiency standards, removal of subsidies, fuel switching and other factors that may reduce demand for oil and gas.

In response to investor requests, ExxonMobil released two reports in March 2014 concerning carbon asset risk and climate change.¹⁶ The company stated it is confident its hydrocarbon reserves are not and will not become stranded through 2040. However, it did not provide a well-supported analysis, instead including only a brief discussion of a “low carbon scenario” through 2040 and failing to discuss current and anticipated laws and trends that are likely to affect demand for its products. The company did not consider the financial risks it could face from a reduction in demand for oil within 10-15 years, nor the implications for its business model of a scenario in which carbon dioxide is kept under 450 parts per million (ppm).¹⁷ While the company stated that it tests investment opportunities against low price scenarios that could be representative of a carbon-constrained environment, it did not discuss how those tests are performed or the scenarios it analyzed, let alone the results.

In its latest 10-K filing, ExxonMobil provided virtually no information about carbon asset risks. The company mentioned that government regulations could “reduce demand for hydrocarbons”, shift demand “toward relatively lower-carbon sources such as natural gas” and increase costs in other ways, without providing any further discussion. It stated that it expects oil to remain the largest source of the world’s energy—about one-third—in 2040, without discussing other possible scenarios for the world’s energy mix. It discussed its capital and exploration expenditures in 2013 and 2014 and mentioned they should average about \$34 billion per year “for the next few years.”

ExxonMobil also discussed projections for total renewable energy growth (15% of total energy by 2040) and the International Energy Agency’s (IEA) fossil fuel energy investment projection from 2014-2040 (about \$28 trillion). The company did not mention IEA research that examined other realistic scenarios. A 2013 IEA report¹⁸ found that a world in which atmospheric CO₂ is kept below 450 ppm “requires . . . reduced investment in fossil-fuel supply [\$4.0 trillion lower than in the “New Policies Scenario” through to 2035]. However, this saving is more than offset by a \$16.0 trillion increase in investment in low-carbon technologies, efficiency measures and other forms of intervention.” The report also found, “In the case of oil and gas fields that have yet to start production, or have yet to be found, the lower level of demand in the 450 Scenario means that fewer of them justify the investment to bring them into production (or to find them) before 2035. . . .”

Chevron has provided some limited voluntary reporting related to carbon asset risks. For example, in its response to the CDP climate change survey, the company said it does not conduct scenario analyses based on a 450ppm goal because, it argued, the risk exposure to current assets

¹⁶ ExxonMobil, *Energy and Carbon – Managing the Risks* (March 2014) and *Energy and Climate* (March 2014).

¹⁷ Carbon Tracker Initiative, *Responding to Exxon – A Strategic Perspective* (September 2014)

¹⁸ International Energy Agency, *Redrawing the Energy-Climate Map: World Energy Outlook Special Report*, June 10, 2013.

and capital is minimal in view of the continuing global demand for oil and gas, the future investment required to meet that demand, and other factors. The company discussed how it may fare under the IEA's global energy demand and 450ppm scenarios, and the embedded carbon within different types of fossil fuel reserves. It did not provide most of the information investors require, such as capex plans for new reserves including payback periods and alternative uses of capital, potential GHG emissions of unproduced reserves by resource type and a discussion of existing and long term risks to unproduced reserves.

In its latest 10-K filing, Chevron provided almost no information about carbon asset risks. The company briefly mentioned that "incentives to conserve or use alternative energy sources" could reduce demand for its products and affect sales volumes, revenues and margins. It discussed regulatory and physical risks related to climate change, renewables projects, a range of environmental issues, oil and gas reserves and related matters. It discussed its oil sands and heavy crude oil projects and the differential in crude oil prices between high-quality and lower quality crudes. It discussed its capital and exploration expenditures in 2012-2014, and it estimated \$35 billion in expenditures in 2015: a "planned reduction" compared to 2014, "in large part a response to current market conditions." However, it did not disclose the trend towards increasingly high cost, carbon intensive oil and gas exploration projects nor other information investors require about carbon asset risks.

Canadian Natural Resources is included here as an example of a company with more than 50% of its capex exposed to high risk, carbon intensive projects, according to the Carbon Tracker Initiative. The company provided almost no voluntary disclosure of carbon asset risks. In its CDP response, the company said it does not conduct scenario analyses based on a 450ppm goal but instead completes scenario planning exercises to identify "various risks" to the business. The company mentioned its six core principles for GHG emissions management, which do not include consideration of carbon asset risks. While the company discussed the four techniques it uses to extract bitumen from oil sands, it did not disclose information about the relative energy intensity of each method or breakeven costs for such projects.

In its form 40-F filed on March 24, 2014, Canadian Natural Resources discussed climate-related and oil sands regulations, its emissions reduction efforts and related issues. It did not discuss carbon asset risks, apart from briefly mentioning differing market prices for heavy crude oil and bitumen vs. light and medium crude, and possible U.S. regulation to limit purchases of oil in favor of less energy intensive sources.

Request to the Commission: We believe it is crucial that SEC staff closely scrutinize oil and gas companies' reporting on carbon asset risks under existing SEC rules. We appreciate the attention you already pay to carefully examining disclosures in all industries. A recent report¹⁹ found that the SEC issued 1,528 comments to energy and mining companies²⁰ from October 2013 to September 2014. However, while the Upstream subsector received the most comments

¹⁹ PwC, Stay informed: SEC comment letter trends—Energy and Mining (December 10, 2014).

²⁰ The report analyzed the following energy subsectors and Standard Industry Classification codes: Downstream (2911, 5171), Midstream (4610, 4922), Oilfield services (1381, 1382, 1389, 3533), Upstream (1311, 5172, 6792) and Mining (1000, 1040, 1090, 1220, 1221, 1400).

in this group, and the primary areas of focus for comments were proven undeveloped reserves, third party reports and proven reserves, the comment letters did not address carbon asset risks.

Specifically, we ask that staff scrutinize disclosures in annual filings by ExxonMobil, Chevron, Canadian Natural Resources and other oil and gas companies regarding carbon asset risks, and provide comments to these issuers that address reduced demand scenarios, risks associated with capital expenditures on high cost unconventional resource projects and associated stranded asset risks.

Jim Coburn at Ceres will follow up on our behalf with a request for a meeting to discuss our concerns. Thank you very much for your consideration of these issues.

Sincerely,

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Natasha Lamb
Director of Equity Research & Shareholder
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Arjuna Capital

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