UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

April 11, 2018

Natasha Lamb
Arjuna Capital
natasha@arjuna-capital.com

Re: Exxon Mobil Corporation
Incoming letter dated April 5, 2018

Dear Ms. Lamb:

This letter is in response to your correspondence dated April 5, 2018 concerning the shareholder proposal (the "Proposal") submitted to Exxon Mobil Corporation (the "Company") by Thyrza Weatherly Van Voris et al. We also have received correspondence from the Company dated April 5, 2018. On March 23, 2018, we issued a no-action response expressing our informal view that the Company could exclude the Proposal from its proxy materials for its upcoming annual meeting. You have asked us to reconsider our position or, in the alternative, present the matter to the Commission.

The Division "endeavors to act upon a request for reconsideration within a reasonable time, giving due consideration to the demands of the management's schedule for printing its proxy materials" and to process requests for Commission review "provided they are received sufficiently far in advance of the scheduled printing date for the management's definitive proxy materials to avoid a delay in the printing process." See Statement of Informal Procedures for the Rendering of Staff Advice with Respect to Shareholder Proposals, Exchange Act Release No. 12599 (July 7, 1976). The Company's April 5, 2018 letter states that the Company has already printed its 2018 proxy materials and that any delay or change would be costly and could delay the timing of its annual meeting. In light of these timing considerations, we deny the requests for reconsideration and Commission review.

Copies of all of the correspondence on which this response is based will be made available on our website at http://www.sec.gov/divisions/corpfin/cf-noaction/14a-8.shtml. For your reference, a brief discussion of the Division's informal procedures regarding shareholder proposals is also available at the same website address.

Sincerely,

David R. Fredrickson
Chief Counsel

cc: James E. Parsons
Exxon Mobil Corporation
james.e.parsons@exxonmobil.com

Exxon Mobil Corporation
5959 Las Colinas Boulevard
Irving, Texas 75039-2298
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James E. Parsons
Coordinator
Corporate Securities & Finance

April 5, 2018

VIA Email

Office of Chief Counsel
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, NE
Washington, D.C. 20549
via email: shareholderproposals@sec.gov

Ladies and Gentlemen:

On behalf of Exxon Mobil Corporation, a New Jersey corporation (the "**Company**"), we are writing in response to the letter dated today submitted to the Staff of the Division of Corporation Finance (the "**Staff**") by Arjuna Capital (the "**Proponent**") requesting reconsideration of the Staff's no-action letter dated March 23, 2018, allowing the Company to exclude the Proponent's proposal requesting a report regarding how the Company could adapt its business model to align with a "decarbonizing economy" with the goal of reducing "societal greenhouse gas emissions" and to "protect shareholder value." (the "**Proposal**") from the proxy materials for the Company's 2018 Annual Meeting of Shareholders (the "**2018 Proxy Materials**"). In its March 23, 2018 no-action response, the Staff agreed that the Company's public disclosures compared favorably with the guidelines of the Proposal and that the Company had therefore substantially implemented the Proposal pursuant to Rule 14a-8(i)(10).

The Proponent requests reconsideration of the Staff's March 23, 2018 decision, citing to a recent article critical of the Company's 2018 Energy and Carbon Summary and a GAO report discussing the Commission's disclosure standards and guidance for climate risks and related matters.

As the Company's no-action letter demonstrated, the Company has substantially implemented the Proposal. The Staff made the correct decision on March 23, 2018. Nothing in the Proponent's reconsideration request provides any new or additional information that warrants reconsideration and the request should be denied.

The Company has approximately 2.5 million individual shareholder accounts. Our 2018 Proxy Materials – excluding the Proposal in accordance with the Staff's decision – have already been printed and are currently in the process of being bound, sorted, packaged, and shipped to distribution centers so that mailing can commence shortly. Given the size of the Company's shareholder base, the preparation of our 2018 Proxy Materials is a major project which requires several weeks and involves establishing schedules and reserving time with the many service providers involved in preparing and mailing the material far in advance. Any disruption or change in the process at this point would be highly burdensome and costly for the Company and its shareholders and would almost certainly necessesitate a significant delay of the Company's currently scheduled 2018 Annual Meeting of Shareholders.

We note that the Staff has in the past recognized that delays or changes in the printing or delivery of proxy materials caused by reconsideration requests can impose a substantial hardship on companies. (*Pfizer Inc.*, reconsideration denied when reconsideration request was received 11 days after the no-action letter decision, March 10, 2015). For this reason, the Company urges the Staff to reject the Proponent's reconsideration request.

If you have any questions or require additional information, please contact me directly at 972-444-1478. In my absence, please contact Lisa K. Bork at 972-444-1473.

This letter and enclosures are being submitted to the Staff by email. A copy of this letter and the enclosures is also being sent to the Proponent by email.

Sincerely,

James Earl Parsons

JEP/jep
Enclosures

cc w/ enc: Natasha Lamb
Arjuna Capital
natasha@arjuna-capital.com

Danielle Fugere
As You Sow Foundation
dfugere@asyousow.org

Pat Miguel Tomaino
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Ning Chiu
Davis Polk & Wardwell LLP
ning.chiu@davispolk.com

April 5th, 2018

VIA e-mail: shareholderproposals@sec.gov

Office of Chief Counsel
Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549
Via email: shareholderproposals@sec.gov

Re: The Security and Exchange Commission's March 23rd No Action decision to allow exclusion of Arjuna Capital and As You Sow's proposal regarding climate change and a low carbon business model.

Dear Sir/Madam:

This letter is submitted by Arjuna Capital on behalf of lead filers Thyrza Weatherly Van Voris & Jonathan M. Beall and As You Sow on behalf of the Park Foundation, and co-filer Zevin Asset Management on behalf of Alison S. Gottlieb Revocable Trust (the "Proponents"), who are beneficial owners of shares of common stock of ExxonMobil Corp ("Exxon" or the "Company"), and who submitted a shareholder proposal ("the Proposal") to Exxon, to respond to the March 23rd decision of the Office of Chief Counsel to allow exclusion of the Proponents' shareholder proposal regarding climate change and a low carbon business model from the Company's 2018 proxy statement under Rules 14a-8(i)(10) and 14a-8(i)(7).

The full text of the Proposal is attached as Attachment A, which requests:

> **RESOLVED:** With board oversight, shareholders request ExxonMobil issue a report (at reasonable cost, omitting proprietary information) describing how the Company could adapt its business model to align with a decarbonizing economy by altering its energy mix to substantially reduce dependence on fossil fuels, including options such as buying, or merging with, companies with assets or technologies in renewable energy, and/or internally expanding its own renewable energy portfolio, as a means to reduce societal greenhouse gas emissions and protect shareholder value.

On March 23, 2018, the Office of Chief Counsel issued a no-action letter (Exxon Mobil no-action letter) which stated:

> There appears to be some basis for your view that the Company may exclude the Proposal under rule 14a-8(i)(10). Based on the information you have presented, it appears that the Company's public disclosures compare favorably with the guidelines of the Proposal and that the Company has, therefore, substantially implemented the Proposal. Accordingly, we will not recommend enforcement action to the Commission if the Company omits the Proposal from its proxy materials in reliance on rule 14a-8(i)(10). In reaching this position, we have not found it necessary to address the alternative basis for

omission upon which the Company relies

We hereby request reconsideration of the Staff's grant of the no-action letter and if reconsideration is denied that, pursuant to 17 CFR 202.1 (d), the matter be presented to the Commission for its consideration. A copy of this request is being provided to Ning Chiu at Davis Polk via email at ning.chui@davispolk.com and Exxon's Coordinator for Corporate and Securities Law, James Parsons via e-mail at james.e.parsons@exxonmobil.com.

The basis for our reconsideration request is that after receiving the Staff's decision, two recently released publications came to the Proponents' attention which provide additional persuasive evidence that the decision was in error.

The first of these publications is an independent evaluation of Exxon's climate risk assessment that formed the basis of the company's substantial implementation argument. The assessment was published by a distinguished attorney and accountant, C. Gregory Rogers. The findings of the assessment strongly support a conclusion that the proposal was not substantially implemented. The publication, "Grading Exxon's First Climate Risk Assessment," evaluated the company's report on its disclosure of climate related strategic planning and financial reporting and graded the report as Unsatisfactory from the standpoint of providing information to investors on either of those issues. The findings of the assessment provide independent verification from a corporate attorney and accountant that the Company has not provided the information requested by the proposal.

The second of these publications, a report of the General Accounting Office, notes that the Securities and Exchange Commission lacks necessary tools for assessing the adequacy of companies' climate related disclosures. The GAO report provides a further policy argument that the Securities and Exchange Commission, in the absence of effective enforcement of climate disclosure, should not be interfering with shareholders' efforts to bring about effective disclosure through private ordering.

Grading Exxon's First Climate Risk Assessment

C. Gregory Rogers who prepared the assessment of Exxon's climate disclosures is an attorney and CPA, and author of the authoritative environmental accounting book, Financial Reporting of Environmental Liabilities & Risks after Sarbanes-Oxley (Wiley). He is also the founder and coordinator of the LinkedIn Group on Climate-Related Financial Disclosure. His firm Advanced Environmental Dimensions, LLC[1] was created in the wake of the Enron and WorldCom accounting scandals and the resulting passage of the Sarbanes-Oxley Act to promote best practices in environmental accounting and disclosure. AED specializes in the identification, quantification, management, analysis and disclosure of environmental liability and risk for corporations, investors, and asset managers. The report was published by Eratosthenes[2] a specialized research and consulting firm with expertise in the financial estimation, reporting and management of environmental liabilities and risks. Eratosthenes' key areas of focus are financial quantification, accounting and disclosure, internal control, financial assurance, asset retirement

[1] https://www.linkedin.com/company/advanced-environmental-dimensions-llc/?trk=ppro_cprof
[2] http://www.era-tos-thenes.com/about_us.htm/

planning, insurance underwriting and pricing.

In "*Grading Exxon's First Climate Risk Assessment*"[3,4] (Rogers report), Rogers applied an objective set of accounting principles to evaluate the Exxon report. In concluding the Exxon report was "unsatisfactory" Roger states:

> When evaluated for its effectiveness in achieving key objectives based on the criteria set forth [below], we believe Exxon's report objectively merits an overall score of "U" for unsatisfactory. Whether or not Exxon is in fact doing so, the report does not demonstrate that the company is undertaking the appropriate steps to build and maintain a climate-resilient business model. Nor does the report provide decision-useful analysis of potential future climate-related financial impacts. Finally, we believe more assurance on governance and greater transparency into key assumptions underlying its 2°C assessment is needed to build investor confidence in the Exxon's ability to mitigate legal risks and create shareholder value throughout the transition to a low carbon economy.

Specifically with regard to whether the report provides a decision-useful 2°C analysis in line with the Paris Agreement, the Roger's report at page 6 finds:

> Exxon's 2°C scenario assessment fails to consider plausible policy actions in line with the Paris Agreement to keep global temperature rise this century below 2°C above previous levels and to support efforts to limit the temperature increase to no more than 1.5°C".
>
> **Strategic Planning: "Unsatisfactory"**
> *Grading criteria*: Does the report demonstrate that management is undertaking the appropriate steps to build and maintain a climate-resilient business model? More broadly, does the report demonstrate that management is using decision analysis to rigorously analyze the varying impacts of a wide range of potential future climate scenarios, and that management has undertaken the necessary steps to evaluate alternative strategies and to identify and implement an optimal strategy to realize shareholders' long-term objectives? We believe Exxon's report falls short in meeting this objective in several ways. First, the report provides no evidence of a rigorous climate-related decision analysis. Second, Exxon's Outlook for Energy scenario, which Exxon says "forms the foundation of the company's strategic decisions, business plans, and investments," does not extend beyond 2040. Finally, Exxon's 2°C scenario assessment fails to consider plausible policy actions in line with the Paris Agreement to keep global temperature rise this century below 2°C

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3 http://www.era-tos-thenes.com/wp-content/uploads/2018/03/Grading-Exxon%E2%80%99s-First-Climate-Risk-Assessment.pdf

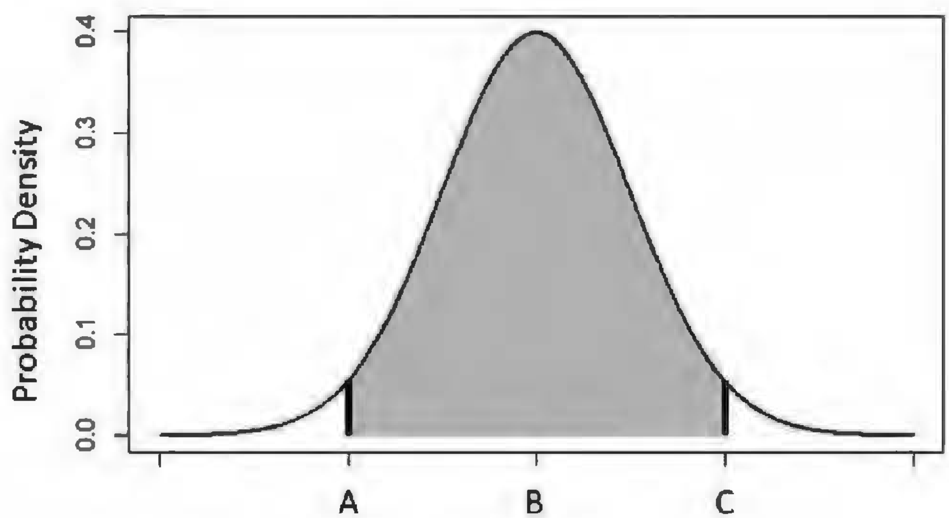
4 The Carbon Tracker Initiative also recently issued a report finding Exxon's report insufficient. ("Response to Exxon: An Analytical perspective", https://www.carbontracker.org/reports/response-to-exxon-an-analytical-perspective/). The report finds, among other issues, that "[i]n the context of the information requested by Exxon's shareholders in 2017, we consider Exxon's disclosure to be inadequate." The conclusion states, "Ultimately, this means that Exxon's report is fundamentally lacking the kind of information investors need to understand how Exxon is positioned for a low carbon outcome and that shareholders requested in the 2017 resolution."

above previous levels and to support efforts to limit the temperature increase to no more than 1.5°C.

No indication of climate-related decision analysis

For a large and sophisticated company like Exxon we believe robust climate-related decision analysis would, at a minimum, include the following:

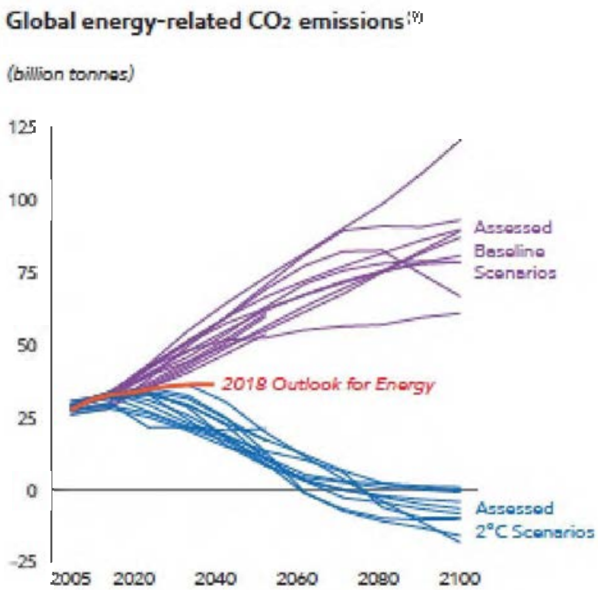
- Use of multi-period, multi-objective asset and liability planning, analysis and modeling of alternative management strategies (as used by insurance and reinsurance companies to assess their enterprise risk exposure).
- Consideration of several generally accepted climate scenarios, such as the International Energy Agency's (IEA) sustainable development scenario (SDS). . .
- Most importantly, an explanation of the optimal strategy selected by management to minimize the adverse impact of climate risk and maximize the company's opportunity of economic success. . .



The Roger's report finds that there is no clear indication in Exxon's report that it performed a rigorous climate-related decision analysis, noting that Exxon's 2018 Outlook for Energy represents the company's updated view of the "most likely" future for the global energy system and suggesting that:

> . . . Exxon may be ignoring plausible low probability, high impact scenarios by "chopping the tails off the distribution" (e.g., the outcomes to the right of "C" in the above probability density graph). The chart below reprinted from page 7 of the report shows the energy-related CO2 emissions trajectories under Exxon's "assessed baseline scenarios" (assuming essentially no policy evolution beyond those that existed in 2010) and Exxon's assessed 2°C scenarios — a range of 13 "full technology" scenarios developed by the Energy Modeling Forum Study 27 (EMF 27) in 2012 and submitted for publication in January 2013, almost two years before the Paris Climate Accord (COP 21) in December 2015. Accordingly, the EMF 27 scenarios "assessed" by Exxon in February of 2018 were developed without the benefit of knowledge of the terms of COP 21with respect to greenhouse gas emissions mitigation, adaptation and finance, or the commitments, as of February 2018, of 174 states and the European Union, representing more than 88% of global greenhouse gas emissions.

The chart shows that nearly all of the 2°C scenarios assessed by Exxon assume net negative global emissions between 2060 and 2100 in order to achieve a 2°C target by 2100. The blue lines extending below the zero axis represent net negative global emissions achieved through technologies such as carbon capture and sequestration. Exxon's preference for climate solutions that include negative emissions technologies is understandable. Future net negative global emissions allow a slower fall in near-term emissions for the same temperature outcome. However, the feasibility of future net negative global emissions is uncertain. Global negative emissions would require large-scale deployment of technologies that achieve net removal of CO2 from the atmosphere, all of which face severe technical, economic and resource constraints.



Reprinted from Exxon's 2018 Energy & Carbon Summary

Exxon excluded from its "Assessed 2°C scenarios" any scenarios developed over the past five (5) years and any scenarios that seek to limit global temperature increase to 1.5°C. It also considered only scenarios that tend to overshoot emissions objectives before 2070 and then rely upon implementation of "full technology" negative emissions technologies (assumed in the EMF 27 scenarios) to get back to 2°C by 2100. The exclusion of a wide range of climate scenarios consistent with COP 21 [the Paris Agreement], which Exxon says it supports, calls for more explanation than provided in the report.

When presented with a range of scenarios, managers often incorrectly tend to choose one or two immediately to the right and left of what they believe to be the "most likely" case. They regard the extreme scenarios as a waste because "they won't happen" or, if they do happen, "all bets are off." By ignoring the outer scenarios and focusing exclusively on moderate improvements or deteriorations from an assumed base case, management often leave themselves exposed to dramatic changes that occur in the "fat tails" of the distribution of potential results — particularly on the downside. This is precisely what a majority of Exxon's shareholders is concerned about, as evidenced by the shareholder resolution.

The Roger's report further goes on to evaluate the adequacy of ***financial reporting*** on climate-related risks, assessing whether it addresses potential climate-related financial impacts on existing petroleum resources and offers justification for future investments in new resources, the evaluation notes that the report omits detailed quantitative analysis of climate-related impacts on existing and future petroleum reserves and discussion of asset retirement obligations.

The full report, "Grading Exxon's First Climate Risk Assessment," is included as Appendix B to this letter.

<u>General Accounting Office Confirms Lack of SEC Plans to Rectify Climate Disclosure Gaps</u>

In February 2018, the General Accounting Office February 2018 issued an assessment of the SEC's attention to Climate Related Risks. Enclosed as Appendix C. Evaluating the implementation of the SEC's Climate Guidance of 2010, the report noted that the SEC has no current plans to strengthen rules over climate change and financial disclosure. Although some companies do file climate disclosures to inform investors of the related risks, the assessment notes that those statements are limited and often "boilerplate," and the SEC is met with significant "constraints" in reviewing them because the agency relies on information the companies provide.

In light of the limitations of current disclosure guidance and enforcement, the shareholder proposal at Exxon Mobil seems all the more important in ensuring that an oil and gas giant like Exxon Mobil provides shareowners with proper disclosure of strategic planning and financial reporting to allow them to understand the manner in which the company will address the risks it faces in a decarbonizing economy.

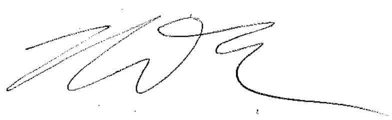
Conclusion

For the reasons provided above, we respectfully request that the Division conclude Exxon Mobil's request for a no-action letter should have been denied.

In the event that upon reconsideration of the Staff maintains its position, we hereby request the matter be referred to the Commission for its review.

Please contact Natasha Lamb at (978) 704-0114 or natasha@arjuna-capital.com and Danielle Fugere at DFugere@asyousow.org with any questions about this matter, or if the Staff wishes any further information.

Sincerely,



Natasha Lamb
Managing Partner, Arjuna Capital

Exhibit A

Low Carbon Business Model

WHEREAS: A global transition toward a low carbon economy is occurring and trends to reduce global demand for carbon-based energy are accelerating. Major oil companies face unprecedented disruption to their business model driven by global imperatives to limit global warming to well below 2 degrees Celsius and resultant growth in non-carbon-emitting technologies and energy sources.

Goldman Sachs pegs the low carbon economy at a $600 billion-plus revenue opportunity, estimating that solar PV and wind will add more to the global energy supply between 2015 and 2020 than shale oil production did between 2010 and 2015.

Low carbon market forces, including competition from electric cars, will be a "resoundingly negative" threat to the oil industry. The CEOs of Statoil and Shell have predicted that peak oil demand may occur as early as the 2020s. Citigroup has estimated the value of unburnable fossil fuel reserves could reach $100 trillion through 2050. In 2016, Fitch Ratings urged energy companies to plan for "radical change."

A failure to plan for this transition may place investor capital at substantial risk. Carbon Tracker (CTI) estimates 40 to 50 percent of ExxonMobil's potential upstream capex through 2035 is outside the Paris Agreement's goal of less than 2 degrees global warming. CTI notes $2.3 trillion of industry-wide upstream projects are inconsistent with global commitments to limit climate change and rapid advances in clean technologies.

While Exxon has recently slowed capital expenditures in the face of lower oil prices, a decade of historic spending on high cost, high carbon assets has made our company vulnerable[5] to further downturns in demand and falling oil prices. Global climate action and low carbon technological advancements make it vital that our company transition its business plan to remain successful in an increasingly decarbonizing economy.

Peers including Total, Shell, and Statoil have already begun investing in clean energy projects including wind, solar, and renewables storage. In 2016, oil majors' investments in clean energy more than doubled. Total has a stated goal to increase renewable and low carbon businesses to 20 percent of the company's portfolio and made the largest number of investments in clean energy companies in 2016. By 2020, Shell plans to spend approximately 1 billion dollars annually to adapt to the transition toward renewable power and electric cars. Statoil has established a new energy unit to capitalize on the growing renewable energy sector.

RESOLVED: With board oversight, shareholders request ExxonMobil issue a report (at reasonable cost, omitting proprietary information) describing how the Company could adapt its business model to align with a decarbonizing economy by altering its energy mix to substantially reduce dependence on fossil fuels, including options such as buying, or merging with, companies with assets or technologies in renewable energy, and/or internally expanding its own renewable energy portfolio, as a means to reduce societal greenhouse gas emissions and protect shareholder value.

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[5] *See* https://www.asyousow.org/ays_report/unconventional-risks-the-growing-uncertainty-of-oil-investments/

ERA·TOS·THENES

Grading Exxon's First Climate Risk Assessment

Greg Rogers March 15, 2018

In this article, we grade Exxon's landmark 2018 Energy and Carbon Summary for the purpose of informing senior management and boards *of other companies* on the emerging discipline of *climate-related financial disclosure*. This article is specifically intended for those with managerial or oversight responsibility for external corporate communications on the financial impacts of climate change, but may also be of interest to investment professionals specializing in ESG (environmental, social and governance), responsible investment, and stewardship.

Exxon's maiden climate risk assessment is well written and beautifully presented. However, skeptical readers may ask whether the report is a milestone in corporate disclosure or a finely crafted public relations piece designed to deflect criticism and placate investors.

Our aim is to critically evaluate Exxon's report and not the company. We do not wish to pass judgment on Exxon, its management, or the company's climate strategy. We acknowledge that this is merely the first of many such reports that Exxon and others will prepare in the future. Our goal is to evaluate Exxon's effort in order to improve the quality of climate-related financial disclosure over time

We have organized our review into four sections. We start with a summary of our scoring criteria and results to help readers understand our overall perspective before getting into the details. Next we review the unusual circumstances causing Exxon to publish its first climate risk assessment, followed by a brief explanation of how recent developments have shaped our understanding of the proper aims of such communications. We then evaluate how the Exxon report stacks up against these objectives.

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Summary

At the outset, to grade Exxon's effort one needs a scorecard with "par" clearly indicated for each "hole played". In other words, what are the criteria by which investors and other stakeholders should judge this report and others like it?

We start with our view that investors' concern about the effects of climate change is driving the convergence of three historically distinct corporate management responsibilities — strategic planning, financial reporting, and public relations — into what is now becoming known as "climate-related *financial* disclosure." We then evaluate Exxon's climate report based on whether it effectively achieves key objectives in each of these three areas.

As there are no generally accepted criteria for scoring performance in this new form of corporate communications, we had to develop criteria that will be applicable to most companies. The following table shows the yardsticks we chose. We tailored the public relations objective slightly to fit Exxon's specific situation as a major oil company, emphasizing the risks to the company from lawsuits and the energy transition to a low-carbon economy over the physical risks resulting from climate change. For other companies, physical risks might be equally or more important than transition and legal risks.

Objective	Key Scoring Criteria
Strategic planning	Does the report demonstrate that management is undertaking the appropriate steps to build and maintain a climate-resilient business model?
Financial reporting	Does the report provide decision-useful analysis of potential future climate-related financial impacts?
Public relations	Does the report build confidence in the company's ability to mitigate legal risks and create shareholder value throughout the transition to a low carbon economy?

Using a four-point grading scale — **E** (Excellent), **S** (Satisfactory), **NI** (needs improvement) and **U** (unsatisfactory) — we evaluated the degree to which the report satisfied these criteria. We summarize our findings in the table below.

Objective	Strengths	Weaknesses	Grade
Strategic planning	Describes capabilities and actions to mitigate climate-related physical and transition risks	Does not provide evidence of management's ability to evaluate a full range of plausible scenarios in order to determine an optimal strategy; does not report on planning beyond 2040 in its base case; fails to stress test against full implementation of the Paris Agreement	U
Financial reporting	Addresses potential climate-related financial impacts on existing petroleum resources and offers justification for future investments in new resources	Omits detailed quantitative analysis of climate-related impacts on existing and future petroleum reserves and discussion of asset retirement obligations	U
Public relations	Acknowledges climate-related financial risks	Deviates from shareholder expectations for a "globally agreed" 2°C scenario and fails to clearly and prominently disclose key assumptions and uncertainties	NI

The Setting

Our evaluation of Exxon's climate risk assessment starts with recognition of the highly unfavorable public relations setting that gave rise to its publication.

Last year, the New York State Common Retirement Fund and the Church of England co-filed a shareholder resolution requesting that the company analyze how worldwide efforts to adopt the Paris Agreement goals for reducing global warming might impact its business. The resolution stated:

> RESOLVED: Shareholders request that, beginning in 2018, ExxonMobil publish an annual assessment of the long-term portfolio impacts of technological advances and global climate change policies, at reasonable cost and omitting proprietary information. The assessment can be incorporated into existing reporting and should analyze the impacts on ExxonMobil's oil and gas reserves and resources under a scenario in which reduction in demand results from carbon restrictions and related rules or commitments adopted by governments ***consistent with the globally agreed upon 2 degree target.*** This reporting should assess the resilience of the company's full portfolio of reserves and resources ***through 2040 and beyond***, and address the financial risks associated with such a scenario. [Emphasis added]

At the company's 2017 annual meeting in Dallas, investors with 62.3 percent of shares voted to approve the resolution on climate disclosure over the objections of Exxon's management and the board. In December 2017, the company notified the Securities Exchange Commission (SEC) and issued a letter to the New York Director of Corporate Governance stating:

> Consistent with ExxonMobil's *Corporate Governance Guidelines,* the Company's Board of Directors has reconsidered the proposal requesting a report on impacts of climate change policies that the New York State Common Retirement Fund submitted for the 2017 Annual Shareholders Meeting. In reconsidering the proposal, the Company sought input from a number of parties, such as the proponents and major shareholders. As such, the Board has decided to further enhance the Company's disclosures consistent with the proposal and will seek to issue these disclosures in the near future. These enhancements will include energy demand sensitivities, implications of two degree Celsius scenarios, and positioning for a lower-carbon future.

Three other ongoing developments give added context to the shareholder resolution. First, in January 2018, New York City sued ExxonMobil and the world's four next largest publicly traded oil companies, seeking to hold them responsible for present and future damage to the city from climate change. The suit claimed that BP, Chevron, Conoco-Phillips, ExxonMobil and Royal Dutch Shell together had produced 11 percent of all of global-warming gases through the oil and gas products they had sold over the years. It also charged that the companies and the industry they are part of had known for some time about the consequences but sought to obscure them. Seven California cities and counties filed similar legal claims in 2017, demanding ExxonMobil and others pay billions to cover losses from rising seas. ExxonMobil recently filed a counter claim, alleging that the California jurisdictions had conspired to vilify and taunt the oil industry.

Second, New York's attorney general has alleged that Exxon may have misled investors about how it accounts for the impact of climate change on its operations by using internal estimates that differed from its public statements. In June last year, Eric Schneiderman claimed he had evidence showing that Exxon's process for estimating the potential future costs of greenhouse gas regulations on its business "may be a sham."

Third, in April 2015, after having identified climate change as a potential systemic risk to global financial stability, G20 Finance Ministers and Central Bank Governors asked the Financial Stability Board (FSB) to review how the financial sector could take account of climate-related issues. This led to the formation of the Taskforce on Climate-related Financial Disclosures (TCFD), which was tasked with developing a framework of financial disclosures that "would enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks." Using these climate-related financial disclosures, the FSB envisioned that:

> ***[F]inancial institutions and other relevant stakeholders could then assess the credibility of firms' transition plans and their ability to execute them, and analyze the potential changes in value of their assets and liabilities that could result from a transition to a lower carbon economy or to other climate-related events (e.g. physical or legal risks).*** This would allow stakeholders not only to manage and price these risks accordingly but also, if they wish, to take lending or investment decisions based on their view of transition scenarios. [Emphasis added]

The TCFD's final report issued in July 2017 recommended a sweeping new climate disclosure framework covering governance, risk management, strategy and performance metrics and targets. Significantly, it recommended that preparers include this information in their annual financial reports instead of (or in addition to) other locations in order to improve credibility with investors and foster shareholder engagement.

Convergence

The TCFD's recommendations have shaped our view that climate change is driving the convergence of strategic planning, financial reporting, and public relations. Let us explain.

Convergence of public relations and financial reporting

Public relations and financial reporting are converging. Historically, corporations have provided voluntary climate-related disclosures to achieve public relations objectives. Large corporations are accustomed to publishing voluntary reports touting their ESG bona fides. A typical ESG report costs less than $25,000, making ESG reporting a cost-effective public relations opportunity to influence ESG ratings providers and asset managers offering ESG financial products. Unlike financial disclosure, ESG disclosure is most often voluntary and free from independent audit and internal control requirements. Management has complete discretion, and the motivation to selectively disclose is strong.

The term "climate-related *financial* disclosure" itself implies that henceforth climate-related disclosures will be seen as financial in nature, even though they may not be reflected as line items in the financial statements. The TCFD further emphasized this point by recommending that financial statement preparers include such disclosures in their annual financial reports. Going forward, management will need to temper its PR-inspired motivation to selectively disclose with the legal duty to "fairly present". Public relations and financial reporting objectives and responsibilities now overlap.

Convergence of strategic planning and financial reporting

Strategic planning and financial reporting are also converging. The need identified by the FSB for investors to "assess the credibility of firms' transition plans and their ability to execute them" requires new forms of financial analysis and disclosure based on future expectations rather than historical experience.

Since the enactment of the U.S. Securities Exchange Act of 1934, financial reporting and securities analysis based upon such reporting have not fundamentally changed in the sense that the focus has largely remained on historical data compiled in accordance with generally accepted accounting principles, supplemented by management's *near-term* financial projections.

Until the early 1970s, the SEC banned disclosure of forward-looking information, based primarily on the perception that such information was inherently unreliable, and that unsophisticated investors would place undue emphasis on such information in making investment decisions. Corporate managers also opposed forward-looking disclosures out of concern that predictions or statements of opinion could be considered to be "facts" which later could be said to be false or misleading for purposes of liability under the securities laws. The SEC now allows properly caveated forward-looking disclosures, and analysts report that they view management's own near-term performance projections to be critical to their own forecasts of a company's future performance.

Climate change has forced a reconsideration of whether backward-looking financial disclosures and near-term financial forecasts are sufficient to properly price stocks and bonds. Investment analysts are now developing tools to estimate potential future climate-related impacts to company profitability, cash flows, and capital expenditures that can then be used to feed financial analysts' discounted cash flow and other valuation models. Credit ratings agencies such as S&P Global are gearing up to use the same information to determine whether climate risks pose a material impact on credit worthiness.

Responding to the need for forward-looking disclosures that appropriately address the uncertain timing, probability and magnitude of climate risk, **the TCFD's recommendations call for companies to "describe the resilience of the organization's strategy, taking into consideration a wide range of different climate-related scenarios, including a 2°C or lower scenario."** As a guide for those unfamiliar with the methodology, the TCFD included a technical supplement on the use of climate-related scenario analysis, which it describes as a means to better understand how a business might perform under different future states.

Scenario analysis is a component of what is now commonly known as "decision analysis," which refers to a systematic, quantitative and interactive approach to decision-making under conditions of uncertainty. The strategic planning departments of many large companies are accustomed to using decision analysis to inform strategy based on consideration of a broad range of uncertain future costs, prices, and growth, interest, and exchange rates. To assess their risk exposure and to price insurance policies, insurers and reinsurers routinely use stochastic scenario generation systems as a component of multi-period, multi-objective asset and liability planning, analysis and modeling of alternative management strategies (*see, e.g.*, Financial planning via multi-stage stochastic optimization). Given the long time horizons and the uncertain nature, probability and magnitude of climate risk, decision analysis is a particularly useful, and we would argue a necessary, tool for building a climate-resilient strategy.

Corporations are exposed to some degree of climate risk whether they like it (or acknowledge it) or not. Management therefore has a responsibility to assess the organization's climate risk exposure and determine how to best manage it (mitigate it, transfer it, avoid it, accept it, or a combination of all or some of the four). This is nothing new. Climate risk is simply another aspect of enterprise risk management. What is new is the expectation that management should disclose the results of the organization's climate-related analysis and planning, including management's plans for execution of its preferred strategy.

Going forward, disclosure will be a critical consideration. If management uses climate-related decision analysis to inform corporate strategy, it should ask whether such analysis is *ipso facto* material to investors. Indeed, perhaps they should ask how such analysis could conceivably *not* be material to investors. From the organization's silence, investors can infer that management is not using decision analysis to plan for potential climate-related financial impacts, which will tend to undermine management's credibility, along with the company's investor base and stock price. When organizations speak about the results of their forward-looking financial analysis, as in Exxon's report, disclosures should build confidence in management's ability to build and maintain a climate-resilient business model while also being complete, clear, balanced, understandable, reliable, verifiable, and objective. The introduction of decision analysis into climate-related financial disclosure means that strategic planning and financial reporting objectives and responsibilities now overlap.

Grading

We began our evaluation with strategic planning because that is where the analysis to inform climate-related financial disclosure should begin. In the temporal progression, internal corporate analysis informs disclosure, which in turn informs investment analysis to determine if stockholders should buy, sell or hold a company's securities

Strategic Planning: "Unsatisfactory"

Grading criteria: Does the report demonstrate that management is undertaking the appropriate steps to build and maintain a climate-resilient business model? More broadly, does the report demonstrate that management is using decision analysis to rigorously analyze the varying impacts of a wide range of potential future climate scenarios, and that management has undertaken the necessary steps to evaluate alternative strategies and to identify and implement an optimal strategy to realize shareholders' long-term objectives?

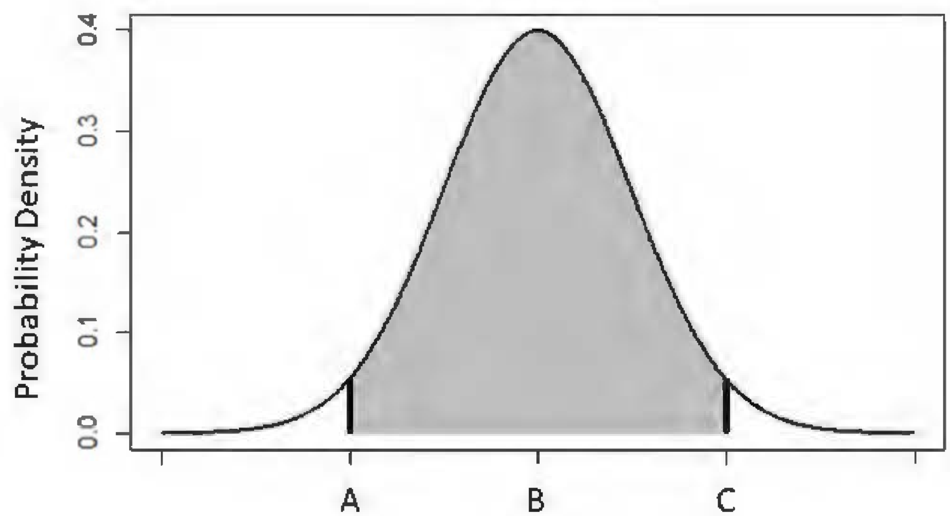
We believe Exxon's report falls short in meeting this objective in several ways. First, the report provides no evidence of a rigorous climate-related decision analysis. Second, Exxon's Outlook for Energy scenario, which Exxon says "forms the foundation of the company's strategic decisions, business plans, and investments," does not extend beyond 2040. Finally, Exxon's 2°C scenario assessment fails to consider plausible policy actions in line with the Paris Agreement to keep global temperature rise this century below 2°C above previous levels and to support efforts to limit the temperature increase to no more than 1.5°C.

No indication of climate-related decision analysis

For a large and sophisticated company like Exxon we believe robust climate-related decision analysis would, at a minimum, include the following:

- Use of multi-period, multi-objective asset and liability planning, analysis and modeling of alternative management strategies (as used by insurance and reinsurance companies to assess their enterprise risk exposure).
- Consideration of several generally accepted climate scenarios, such as the International Energy Agency's (IEA) sustainable development scenario (SDS).
- Perturbation of the key variables within those scenarios using a stochastic scenario generation system. Consideration of financial outcomes under a range of potential scenarios in this manner provides a mathematically and statistically robust distribution of potential results.

- Acknowledgement that there is no "base case" scenario that is more likely than any other and that the multitude of uncertainties means the probability of any one scenario materializing exactly as described is negligible. Instead of a base case, there may be a central tendency of the wide distribution of potential scenarios that can be described by the mean, median or mode of the distribution.
- A probability distribution graph similar to the example shown below. In this way a company can say to its investors, as insurers often state following a loss resulting from an insured event, "Our best estimate of the result of event X is a loss of B with a 90% probability of the range of that loss being between A and C."
- Most importantly, an explanation of the optimal strategy selected by management to minimize the adverse impact of climate risk and maximize the company's opportunity of economic success.

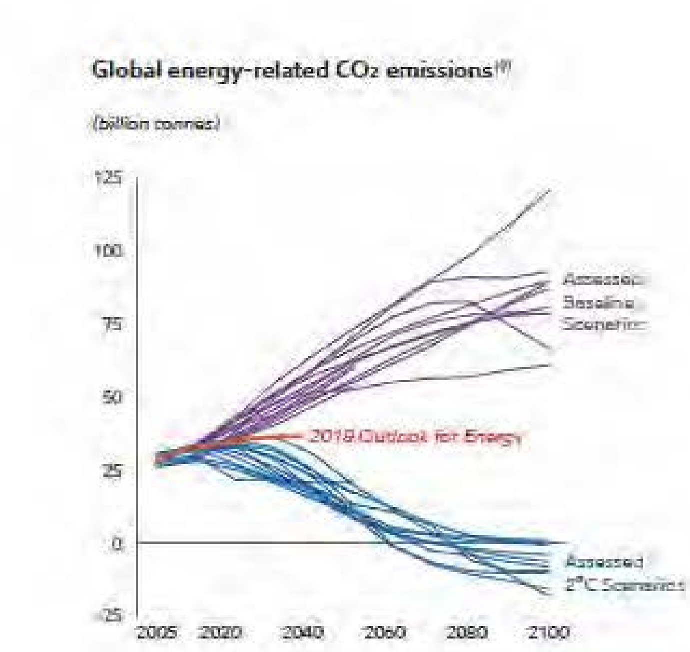


Probability density graph

The report does not contain a probability density graph and related discussion, and there is no clear indication in the report that Exxon performed a rigorous climate-related decision analysis. Also, Exxon says its 2018 Outlook for Energy represents the company's updated view of the "most likely" future for the global energy system. This implies that Exxon is planning around a base case instead of a central tendency, which is inconsistent with decision analysis.

The report also suggests that Exxon may be ignoring plausible low probability, high impact scenarios by "chopping the tails off the distribution" (e.g., the outcomes to the right of "C" in the above probability density graph). The chart below reprinted from page 7 of the report shows the energy-related CO_2 emissions trajectories under Exxon's "assessed baseline scenarios" (assuming essentially no policy evolution beyond those that existed in 2010) and Exxon's assessed 2°C scenarios – a range of 13 "full technology" scenarios developed by the Energy Modeling Forum Study 27 (EMF 27) in 2012 and submitted for publication in January 2013, almost two years before the Paris Climate Accord (COP 21) in December 2015. Accordingly, the EMF 27 scenarios "assessed" by Exxon in February of 2018 were developed without the benefit of knowledge of the terms of COP 21with respect to greenhouse gas emissions mitigation, adaptation and finance, of the commitments, as of February 2018, of 174 states and the European Union, representing more than 88% of global greenhouse gas emissions.

The chart shows that nearly all of the 2°C scenarios assessed by Exxon assume net negative global emissions between 2060 and 2100 in order to achieve a 2°C target by 2100. The blue lines extending below the zero axis represent net negative global emissions achieved through technologies such as carbon capture and sequestration. Exxon's preference for climate solutions that include negative emissions technologies is understandable. Future net negative global emissions allow a slower fall in near-term emissions for the same temperature outcome. However, the feasibility of future net negative global emissions is uncertain. Global negative emissions would require large-scale deployment of technologies that achieve net removal of CO2 from the atmosphere, all of which face severe technical, economic and resource constraints.



Reprinted from Exxon's 2018 Energy & Carbon Summary

Exxon excluded from its "Assessed 2°C scenarios" any scenarios developed over the past five (5) years and any scenarios that seek to limit global temperature increase to 1.5°C. It also considered only scenarios that tend to overshoot emissions objectives before 2070 and then rely upon implementation of "full technology" negative emissions technologies (assumed in the EMF 27 scenarios) to get back to 2°C by 2100. The exclusion of a wide range of climate scenarios consistent with COP 21, which Exxon says it supports, calls for more explanation than provided in the report.

When presented with a range of scenarios, managers often incorrectly tend to choose one or two immediately to the right and left of what they believe to be the "most likely" case. They regard the extreme scenarios as a waste because "they won't happen" or, if they do happen, "all bets are off." By ignoring the outer scenarios and focusing exclusively on moderate improvements or deteriorations from an assumed base case, management often leave themselves exposed to dramatic changes that occur in the "fat tails" of the distribution of potential results – particularly on the downside. This is precisely what a majority of Exxon's shareholders is concerned about, as evidenced by the shareholder resolution.

Exxon's base case scenario does not extend beyond 2040

The report says Exxon's 2018 Outlook for Energy, which does not look out beyond 2040, **"forms the foundation of the company's strategic decisions, business plans, and investments."** Readers can therefore infer that Exxon's current business strategy and investment policies do not consider potential policy constraints on CO_2 emissions beyond 2040, notwithstanding that upstream investments made in coming years will need to remain economic long afterward. It is these future investments that are most at risk to climate-related impacts, most within the control of management, and of greatest concern to investors.

Exxon's 2°C "stress test" sidesteps COP 21

Exxon's 2°C assessment is not a really scenario analysis at all, but a "what if" analysis, intended to respond to investor concerns about the company's financial condition "under a scenario in which reduction in demand results from carbon restrictions and related rules or commitments adopted by governments consistent with the globally agreed upon 2 degree target." However, if Exxon's shareholders were expecting a demanding 2°C stress test, it is not what they got. Instead, Exxon limited its 2°C assessment to "full technology" scenarios in which emissions overshoot 2°C stabilization targets prior to 2100 before technology-enabled net negative global emissions kick in between 2070 and 2100 to bring CO_2 concentrations back in line with 2°C targets. This approach of robbing Peter (in the form of future net negative global emissions) to pay Paul (prior cumulative emissions exceeding 2°C targets) helps Exxon avoid hard decisions and justify continuation of business as usual.

Because it omits evidence of a robust climate-related decision analysis, does not report on planning beyond 2040, and fails to stress test against COP 21, we give the report a "U" for meeting the its strategic planning objectives.

Financial reporting: "Unsatisfactory"

Grading criteria: Does the report provide decision-useful analysis of potential future climate-related financial impacts?

The results of climate-related decision analysis are what the International Accounting Standards Board (IASB) calls "other" financial information, or "information intended to complement the financial statements by providing insight into the company's strategy for creating shareholder value over time, its progress in implementing that strategy, and the potential impact on future financial performance not yet captured by the financial statements" (see IASB Staff Paper on Wider Corporate Reporting).

Figure 3 from the TCFD implementation annex (reprinted below) outlines the main climate-related risks (transitional and physical) and opportunities organizations should consider as part of their strategic planning and risk management to determine potential financial implications. How does Exxon's report stack up against this template?

Climate-Related Risks, Opportunities, and Financial Impact

Reprinted from TCFD Final Report

Revenues & Expenses

Exxon addresses future income statement impacts under its 2°C assessment as follows:

> We test our investments over a wide range of commodity price assumptions and market conditions. As we consider a third-party's estimate of future prices under its 2°C pathway [*referencing IEA: Perspectives for the Energy Transition, Estimate for IEA crude oil and Natural gas and future prices for 2020, 2030, and 2040*], we note that these fall within the range we use to test our investments.
>
> Additionally, over our long history we have successfully competed in periods where supply exceeds demand. In such a business environment, the lowest cost of supply will be advantaged. ExxonMobil's long-standing focus on efficiency and continuous improvement will help ensure we compete successfully.

In sum, the company's view appears to be that whatever the future may bring, the world will still need a significant amount of oil and gas, and Exxon will be competitive as a low cost supplier. To add credibility to this assertion, the report includes a chart showing Exxon's significant low cost competitive advantage in refinery operating expenses relative to the industry average. The report does not provide a similar chart for the company's upstream costs or its capital expenditures on exploration and production relative to peers even though many industry analysts view the period between 2003 and 2012 as a period of largely unproductive "binge" capital expenditures on exploration and production. The report also omits data on Exxon's marginal production costs relative to peers to support its contention that it will be the last man standing.

Assets

The shareholder resolution specifically requested that Exxon analyze the impacts of climate change on its "full portfolio of reserves and resources through 2040 and beyond." Exxon reported on existing proved and unproved reserves as of 2016 as follows.

> Based on currently anticipated production schedules, we estimate that by 2040, over 90 percent of our year-end 2016 proved reserves will have been produced. Considering that the 2°C Scenarios Average [Exxon's selected 2°C scenario] implies significant use of oil and natural gas through the middle of the century, we believe these reserves face little risk.
>
> For the less than 10 percent of our year-end 2016 proved reserves that are projected to be produced beyond 2040, the reserves are generally associated with assets where the majority of development costs have been incurred before 2040. While these proved reserves may be subject to more stringent climate policies in the future, we believe that investments could mitigate production-related emissions and associated costs. In addition, these assets have generally lower risk given the subsurface and operational knowledge that accumulates over many decades of production. Accordingly, we believe the production of these reserves will likely remain economic even under the 2°C Scenarios Average.
>
> For producing assets that do not currently meet the SEC's definition of proved reserves, we expect to continue producing these assets through the end of their economic lives. We continue to enhance the long-term viability of these assets through increased efficiency, cost reductions, and the deployment of new technologies and processes.
>
> At the end of 2016, ExxonMobil's non-proved resources totaled about 71 billion oil-equivalent barrels. The size and diversity of ExxonMobil's undeveloped resource base provide us with considerable flexibility to profitably develop new supplies to meet future energy demand and replenish our proved reserves. We also continue to increase the quality of our resources through successful exploration drilling, acquisitions, and ongoing development planning and appraisal activities.

Conclusions about the economic viability of Exxon's existing petroleum reserves under its 2°C assessment are, of course, conditioned on the embedded assumption that excess carbon emissions from these resources between now and 2040 will be offset by negative emissions later on. The report offers no detailed quantitative analysis of the conditions under which Exxon's existing reserves would become non-economic.

Liabilities

The report omits any reference to the potential impact of climate change on the company's liabilities. This is a significant deficiency. Oil companies are legally obligated to decommission, plug and abandon their oil and gas wells and platforms when these assets reach the end of their useful economic lives. These liabilities, called "asset retirement obligations," appear on oil company balance sheets as discounted present value estimates of costs expected to be incurred 10, 20, 30 or more years in the future as existing producing assets become noneconomic. If climate-related factors cause the premature retirement of oil and gas assets — those in existence today or those resulting from future investments — this will accelerate the maturity of corresponding asset retirement obligations, causing present value estimates to increase.

Exxon's 2017 Form 10-K reports asset retirement obligations of $12.7 billion as of December 31, 2017 (down from $13.2 billion at December 31, 2016). Yet, as reported by the Journal of Petroleum Technology, Exxon acknowledged in February 2018 at DecomWorld's Decommissioning and Abandonment Summit that it has asset retirement obligations of around $35 billion, or three times its reported accounting estimate. Suffice it to say that these obligations are highly uncertain and extremely material.

The report's failure to consider asset retirement obligations in its 2°C assessment is a shortcoming that should be addressed in future assessments. Exxon should also address the uncertainty and variability surrounding decommissioning cost estimates in its 10-K disclosures on "critical accounting estimates," particularly given Exxon's historical record of repeated and significant upward revisions to previously reported estimates of asset retirement obligations. *See* Environmental Disclosure Report Card: Oil and Gas Decommissioning Liabilities 2003-2014.

Omission of any discussion or analysis of asset retirement obligations obscures a significant climate-related financial risk. The oil industry pays for decommissioning costs as they come due from current operations. There is no retirement savings account. If climate-related events trigger the early retirement of producing assets, and extra cash is needed for decommissioning costs, Exxon will not have the option of turning to the capital markets. Decommissioning costs produce a "return on environment" but offer no return on investment. Investors are right to be concerned that a combination of declining revenues and rising expenditures for decommissioning costs could trigger a liquidity crisis in a 2°C scenario.

For more on oil and gas industry asset retirement obligations, see Why the Oil Industry Cannot Afford to Retire.

Capital & Financing

Exxon justifiably claims that its financial strength and access to capital gives it added flexibility to deal with an uncertain future. The report also points to the company's "disciplined operating and investment capabilities" as reason to believe its future upstream investments will produce acceptable returns and cites past evidence of its ability to successfully redeploy resources and capital when needed (e.g., downstream rationalization).

Aside from these conclusory statements, however, the report omits any detailed quantitative analysis of projected capital expenditures (Capex) to find and develop new petroleum resources. Exxon's has a massive Capex budget for exploration and production and anticipates continuing to acquire and find new reserves between now and 2040. The report references the IEA New Policies Scenario, which estimates cumulative oil and natural gas investment may reach approximately $21 trillion between 2017 and 2040. Exxon invested $22 billion on upstream Capex in 2017. At this pace, total upstream Capex on post-2016 reserves could well exceed $500 billion by 2040. As noted above, it is these future investments that are most at risk to climate-related impacts, most within the control of management, and of greatest concern to investors.

The report offers no analysis of the conditions under which resources acquired through post-2016 Capex might become non-economic. For example, unlike competitors Eni, Shell, and Total, Exxon makes no references to investment analysis based on internal carbon prices, carbon intensity, or the NPV impact of alternative strategies. Here again, asset retirement obligations, which are in essence back-end capital expenditures, must be considered in evaluating the projected return on future investments.

Exxon, like other oil companies, is between a rock and a hard place when it comes to planning for future investments. Because analysts value Exxon's shares in large part based on the company's ability to replace production to meet future demand, management is incentivized to issue reports like this one: "ExxonMobil Adds 2.7 Billion Barrels to Reserves; Replaces 183 Percent of 2017 Production." Yet, to satisfy investors concerned about the company's performance under a 2°C pathway, Exxon needs to demonstrate that massive investments in new petroleum resources will not be at risk. Investors may seem two-faced for wanting their cake while eating it too, but it is management's job to resolve these conflicting objectives. Exxon's challenge is to assure investors that it is capable of creating shareholder value now when reserve replacement is important *and* in a foreseeable future when it is not. This is the essence of a climate-resilient business model.

Because it provides no detailed quantitative analysis of climate-related impacts on existing and future petroleum resources and omits any discussion of asset retirement obligations, we gave the report a "U" for meeting its financial reporting objectives.

Public relations: "Needs Improvement"

Grading criteria: Does the report build investor confidence in the company's ability to mitigate legal risks and create shareholder value throughout the transition to a low carbon economy?

To answer this question, it helps to think first about how a company's management of climate risk may add or subtract from shareholder value over the long term. In its Foundations of ESG Investing – Part 1: How ESG Affects Equity Valuation, Risk And Performance, MSCI explored the causal link between environmental, social and governance (ESG) information and the valuation and performance of companies. Its research indicates that companies with a strong ESG profile increase their discounted cash flow (DCF) valuations through three distinct channels, summarized as follows:

- *Increased cash flow*. Companies with a strong ESG profile are more competitive than their peers. They use their competitive advantage to generate abnormal returns, which ultimately leads to higher profitability and higher dividends.
- *Lower company-specific risk*. Companies with strong ESG characteristics typically have above-average risk control and compliance standards across the company and within their supply chain management. As a result, they suffer less frequently from severe incidents. This lowers stock-specific downside tail risk in the company's stock price.
- *Lower cost of capital*. Companies with a strong ESG profile are less vulnerable to systematic market shocks and therefore show lower systematic risk. Ultimately, this translates into a larger investor base and a lower cost of capital. Companies with a strong ESG profile have a relatively large investor base due to two effects:
    - *Investor preferences*: Risk-averse investors and socially conscious investors tend to avoid exposure to companies with poor ESG profiles.
    - *Information asymmetry*: Companies with strong ESG profiles are typically more transparent with respect to identification and management of ESG risk exposures.

Drawing on MSCI's research, we compiled a checklist of climate-related ESG performance characteristics that a company should emphasize in order to build investor confidence in its ability to deliver sustainable shareholder value. The list includes:

- Strong business competitiveness relative to peers
- Strong risk management
- Strong governance
- Transparent disclosure

We then checked to see whether Exxon's report credibly laid claim to these characteristics.

Business competitiveness

The report touts the company's competitiveness relative to peers, stating, "over our long history we have successfully competed in periods where supply exceeds demand. In such a business environment, the lowest cost of supply will be advantaged. ExxonMobil's long-standing focus on efficiency and continuous improvement will help ensure we compete successfully." Exxon attributes its competitiveness in part to its "disciplined operating and investment capabilities". As credible evidence, Exxon points to how, over the past twenty years during a period of over capacity and industry rationalization, its downstream refining business strengthened its competitive position by divesting smaller, less competitive facilities and redeploying resources and capital to its larger, more efficient integrated petrochemical sites.

We find that Exxon makes a credible case for its historical competitiveness relative to peers.

Risk management

The report characterizes the company's risk management systems as "mature" and lists four pillars of its climate change risk management strategy: mitigating emissions in its own operations (notably including fugitive methane emissions); developing scalable technology solutions; providing solutions for its customers; and engaging on climate change policy. The report then dedicates a full page or more to each of these pillars.

We believe Exxon makes a credible case that it has a strong risk management program.

Governance

The report highlights that, "Climate risk oversight ultimately is the responsibility of the Board of Directors" and provides considerable detail on the climate-related responsibilities of the board and senior management. It also states, without supporting detail, that the company's executive compensation program incentivizes long-term risk management with long restriction periods on performance share awards and key performance metrics for safety, operations integrity, and sustainability.

The report does not address the pending investigations and legal proceedings described in the background section above. Exxon's current legal situation appears to us to reflect past governance failures. We can understand why the company does not want to discuss pending legal matters for fear of prejudicial effect. Nonetheless, the report does little to assuage shareholder concerns about climate-related legal risk.

Overall, we find that the report falls short in providing reasonable assurance that the board is exercising adequate oversight of climate-related risks.

Transparent disclosure

Given the background context, transparent disclosure of the company's 2°C assessment is by far the most important public relations element of this report. Here Exxon came up short.

On the plus side of transparency, the report acknowledges risks posed by extreme weather and other natural elements, and says that the company actively designs its facilities and operations in consideration of such risks. For added credibility, the report reminds readers that Exxon has long operated facilities in a wide range of challenging physical environments around the globe, and that the company's long history of design, construction, and operations provides it with a solid foundation to address risks associated with different physical environments.

The report is also clear that Exxon's annual Outlook for Energy (highlights of which are included in the report) is the company's base case analysis — i.e., the results obtained from running an economic model with the "most likely" or preferred set of assumptions and input values — and that it forms the foundation of the company's strategic decisions, business plans, and investments. By contrast, Exxon characterizes its 2°C scenario as "hypothetical". Of course, Exxon's base case scenario is also hypothetical.

On the minus side of transparency, key assumptions in Exxon's 2°C scenario analysis are not clearly and prominently stated. Instead, readers must take the time to study the report's diagrams, extensive footnotes and other relevant information outside of the report to understand key assumptions and uncertainties.

In many respects, Exxon's report is an effective public relations effort. However, given the background context, the success or failure of the report from a public relations perspective rests almost entirely on the company's 2°C assessment. Because it deviates from investor expectations for a "globally agreed" 2°C scenario consistent with COP 21 and fails to clearly and prominently disclose key assumptions underlying its analysis, we gave the report a public relations score of "NI".

Conclusion

When evaluated for its effectiveness in achieving key objectives based on the criteria set forth above, we believe Exxon's report objectively merits an overall score of "U" for unsatisfactory. Whether or not Exxon is in fact doing so, the report does not demonstrate that the company is undertaking the appropriate steps to build and maintain a climate-resilient business model. Nor does the report provide decision-useful analysis of potential future climate-related financial impacts. Finally, we believe more assurance on governance and greater transparency into key assumptions underlying its 2°C assessment is needed to build investor confidence in the Exxon's ability to mitigate legal risks and create shareholder value throughout the transition to a low carbon economy.

We want to emphasize again that our aim is to evaluate Exxon's disclosure rather than the company itself. In our judgment, Exxon's report fails to satisfactorily achieve the objectives of this new form of shareholder communications. This suggests that Exxon's management does not fully understand or agree with these objectives. We welcome a discussion about objectives. Climate-related financial reporting is a new discipline. There is much to learn, and before we all start climbing, it would be good to know that our ladder is leaning against the right wall.

In sum, Exxon's 2018 Energy and Carbon Summary is an example of "climate-related *financial* disclosure". Such disclosures will soon become a part of routine annual corporate reporting, often included within or cross-referenced by annual shareholder reports and regulatory filings. This new form of shareholder communications is a convergence of partially overlapping strategic planning, financial reporting, and public relations objectives. With these objectives in mind, boards and senior management of other companies can learn from Exxon's first climate risk assessment when preparing their organizations for climate-resiliency, financial disclosure, and investor engagement. Along with Exxon, many other companies will soon be producing similar reports, and we hope that establishing objective grading criteria for climate related financial disclosure will improve the overall quality of those efforts and enable all stakeholders to:

> ... assess the credibility of firms' transition plans and their ability to execute them, and analyze the potential changes in value of their assets and liabilities that could result from a transition to a lower carbon economy or to other climate-related events (e.g. physical or legal risks).

United States Government Accountability Office

Report to Congressional Requesters

February 2018

CLIMATE-RELATED RISKS

SEC Has Taken Steps to Clarify Disclosure Requirements

GAO-18-188

February 2018

CLIMATE-RELATED RISKS

SEC Has Taken Steps to Clarify Disclosure Requirements

GAO Highlights

Highlights of GAO-18-188, a report to congressional requesters

Why GAO Did This Study

Impacts from a changing climate can pose serious risks to the global economy and affect many economic sectors, according to reports. Public companies are generally required to disclose certain risks in their SEC filings. In 2010, SEC issued guidance to clarify how existing disclosure requirements apply for climate-related matters.

GAO was asked to review (1) steps SEC has taken to clarify to companies their disclosure requirements for climate-related risks, (2) steps SEC has taken to examine changes companies may have made to their climate-related disclosures since the release of its 2010 Guidance, and (3) constraints SEC faces when reviewing climate-related disclosures and stakeholders' views of those disclosures.

GAO reviewed SEC's disclosure requirements, guidance, and reports on changes in climate-related disclosures; queried SEC's filings system to identify comment letters with issues on climate-related disclosures; identified examples of climate-related disclosures in companies' filings; and interviewed SEC staff and representatives of stakeholder groups, such as industry associations from five industry groups, and nonprofit organizations that work with investors. We selected these stakeholders because they either were from industries likely to be affected by climate change-related matters due to the nature of their operations, or have a key interest in climate-related issues.

Senior staff from SEC's Division of Corporation Finance generally agreed with GAO's findings.

View GAO-18-188. For more information, contact Michael Clements, (202) 512-8678 or clementsm@gao.gov, or J. Alfredo Gómez, (202) 512-3841 or gomezj@gao.gov.

What GAO Found

To help clarify to companies their disclosure requirements for climate-related matters, the Securities and Exchange Commission (SEC) issued the *Commission Guidance Regarding Disclosure Related to Climate Change* in 2010 (2010 Guidance). The 2010 Guidance was SEC's primary form of communication to clarify companies' climate-related disclosure requirements. In addition, SEC issued individual comment letters to specific companies on their climate-related disclosures. These letters are publicly available and companies can view these letters to understand SEC's assessment of a particular company's disclosures. Representatives from industry associations with whom GAO spoke stated that they consider the disclosure requirements for climate-related risks to be clear and have no need for additional guidance.

SEC issued two reports to Congress in 2012 and 2014 that examined changes in climate-related disclosures in select industries. SEC found that most of these filings included some level of climate-related disclosures and reported that there were no notable year-to-year changes. SEC staff also continue to periodically assess climate-related disclosures in addition to its regular disclosure review process. Additionally, in April 2016, SEC requested public input on modernizing certain business and financial disclosure requirements, including potential changes on reporting climate-related risks in SEC's filings. As of December 2017, SEC staff said they are considering recommendations for the Commission's consideration based on comments received.

SEC faces constraints in reviewing climate-related and other disclosures because it primarily relies on information that companies provide. SEC senior staff explained that SEC's Division of Corporation Finance staff assess companies' filings for compliance with federal securities laws—which require companies to disclose material risks—but do not have the authority to subpoena additional information from companies. Additionally, companies may report similar climate-related disclosures in different sections of the filings, and climate-related disclosures in some filings contain disclosures using generic language, not tailored to the company, and do not include quantitative metrics. When companies report climate-related disclosures in varying formats and specificity, SEC reviewers and investors may find it difficult to compare and analyze related disclosures across companies' filings. SEC has tools, mechanisms, and resources—including internal supervisory controls, regulations and guidance, a two-level filing review process, internal and external data, and staff training and experience—that help SEC staff consistently review filing disclosures, according to SEC documents and staff. Representatives of industry associations told GAO that they consider the current climate-related disclosure requirements adequate and no additional climate-related disclosures are needed. However, some investor groups and asset management firms have highlighted the need for companies to disclose more climate-related information. But, members of SEC's Investor Advisory Committee told GAO that investors have not agreed on the priority of climate-related disclosures. Also, additional disclosure requirements or increased scrutiny of companies' climate-related information—which, if necessary, SEC and Congress can consider—could have mission and resource implications for SEC's Division of Corporation Finance.

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Abbreviations

2010 Guidance	Commission Guidance Regarding Disclosure Related to Climate Change
C2ES	Center for Climate and Energy Solutions
CDP	formerly known as the Carbon Disclosure Project
Corporation Finance	Division of Corporation Finance
Dodd-Frank Act	Dodd-Frank Wall Street Reform and Consumer Protection Act
DSO	Disclosure Standards Office
EDGAR	Electronic Data Gathering, Analysis, and Retrieval
FACTS	Filing Activity Tracking System
FSB Task Force	Financial Stability Board Task Force on Climate-related Financial Disclosures
OIG	Office of Inspector General
SASB	Sustainability Accounting Standards Board
SEC	Securities and Exchange Commission
SICS	Sustainable Industry Classification System

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Congressional Requesters

Impacts from a changing climate can pose serious risks to the global economy and affect many economic sectors, according to reports. For example, as observed by the United States Global Change Research Program, U.S. energy facilities and systems, especially those located in coastal areas, are vulnerable to extreme weather events.[1] Wind and storm surge damage by hurricanes already causes significant infrastructure losses on the Gulf Coast. The impacts and costs of floods, droughts, and other weather events will increase in significance as what are considered “rare” events become more common and intense. [2] Superstorm Sandy in 2012, for example, cost the United States an estimated $70 billion in direct damages and lost economic output. In the first 6 months of 2017, the United States had 10 weather and climate disasters with losses reaching or exceeding $1 billion each. More recently, in August and September 2017, Hurricanes Harvey, Irma, and Maria caused significant damage to parts of the United States, and, as of October 3, 2017, the Federal Emergency Management Agency has approved over $1 billion in assistance funds in response to these three hurricanes.

In February 2013, we recognized that climate change presents a significant financial risk to the federal government and added the area of limiting the federal government’s fiscal exposure by better managing climate change risks as a high-risk area.[3] In the February 2015 and 2017 updates to our high risk list, we recognized that climate change also poses risks to private-sector decision makers such as public companies, and these decision makers can also drive federal climate-related fiscal exposures because they are responsible for planning, constructing, and maintaining certain types of vulnerable infrastructure paid for with federal

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[1]U.S. Global Change Research Program. J. Dell, S. Tierney, G. Franco, R. G. Newell, R. Richels, J. Weyant, and T. J. Wilbanks, *Ch. 4: Energy Supply and Use. Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, eds. (2014), 113-129.

[2]While it may not be possible to link any individual weather event to climate change, these and other observed impacts of such events disrupt people’s lives and affect many sectors of our economy, including the budgets of federal, state, and local governments.

[3]GAO, *High-Risk Series: An Update*, GAO-13-283 (Washington, D.C.: February 2013).

funds, insured by federal programs, or eligible for federal disaster assistance.[4]

Public companies are generally required to disclose, among other things, known trends, events, and uncertainties that are reasonably likely to have a material effect on the company's financial condition or operating performance through annual and other periodic filings with the Securities and Exchange Commission (SEC).[5] These disclosures may include information on climate-related risks.[6] In February 2010, SEC issued *Commission Guidance Regarding Disclosure Related to Climate Change* (hereafter referred to as the 2010 Guidance) to provide guidance to companies on how existing disclosure requirements apply for climate-related matters.[7] We reported in 2016 that SEC considers climate-related information as part of its routine filing review process.[8] Furthermore, SEC's Office of Inspector General (OIG) examined SEC's process for comment letters issued to individual companies on issues identified through the filing review and reported in September 2017 that SEC's

[4]GAO, *High-Risk Series: An Update,* GAO-15-290 (Washington, D.C.: Feb. 11, 2015) and *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, GAO-17-317 (Washington, D.C.: Feb. 15, 2017).

[5]Material means that there is a substantial likelihood that a reasonable investor would attach importance in determining whether to buy or sell the securities registered. *See Basic Inc. v. Levinson*, 485 U.S. 224, 231-32 (1988) (quoting *TSC Industries, Inc. v. Northway, Inc.*, 426 U.S. 438, 449 (1976)) ("[T]o fulfill the materiality requirement 'there must be a substantial likelihood that the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available.'"); *see also* 17 C.F.R. § 240.12b-2. For the purposes of this report, when we use the word "companies," we are referring to those public companies subject to the registration and reporting requirements of the Securities Act of 1933 and the Securities Exchange Act of 1934.

[6]This report refers to "climate-related risks," which we define as vulnerabilities of natural and human systems, such as environmental and economic systems, due to changes in the earth's climate, including higher temperatures, changes in precipitation, rising sea levels, and increases in the severity and frequency of severe weather events.

[7]*Commission Guidance Regarding Disclosure Related to Climate Change*, 75 Fed. Reg. 6290 (Feb. 8, 2010).

[8]GAO, *Supply Chain Risks: SEC's Plans to Determine If Additional Action Is Needed on Climate-Related Disclosure Have Evolved*, GAO-16-211 (Washington, D.C.: Jan. 6, 2016).

Division of Corporation Finance's (Corporation Finance) controls over its comment letter process are generally effective.[9]

You asked us to review SEC's efforts to implement its 2010 Guidance.[10] This report examines: (1) steps SEC has taken to help companies understand disclosure requirements for climate-related risks, (2) steps SEC has taken to examine changes companies may have made to their climate-related disclosures since the release of its 2010 Guidance, and (3) constraints SEC faces when reviewing climate-related disclosures and stakeholders' views of those disclosures.[11]

To address all three objectives, we reviewed SEC documents, including the 2010 Guidance and internal filing review guidance, related to companies' annual filings. We also reviewed SEC's 2012 and 2014 congressional reports and additional information on SEC staff's ongoing reviews of climate-related disclosures.[12] In addition, we reviewed prior GAO and SEC OIG reports related to the 2010 Guidance and SEC's filing review process, and reports from stakeholders, including the report on recommendations from the Financial Stability Board Task Force on

[9]Securities and Exchange Commission, Office of Inspector General, *Evaluation of the Division of Corporation Finance's Disclosure Review and Comment Letter Process*, Report No. 542 (Washington, D.C.: Sept. 13, 2017). The OIG review was conducted in response to a joint request from some congressional members to GAO and the OIG. As part of the filing review process, SEC staff may issue "comment letters" to companies to obtain additional information, clarification on the companies' disclosures, or to elicit better compliance with applicable requirements. The findings of the OIG review are described in this report's Background section.

[10]This review was conducted in response to a 2016 request from Representative Matthew Cartwright—then Ranking Member, Subcommittee on Healthcare, Benefits and Administrative Rules.

[11]For this report, we focus on SEC's review of climate-related disclosures in companies' annual filings on Form 10-K. Some companies may file annual reports on other forms, such as Form 20-F and Form 40-F. We use filing review to broadly refer to review of annual 10-K filings unless otherwise noted.

[12]The 2012 and 2014 reports were titled *Staff Report to the Senate Committee on Appropriations Regarding Climate Change Disclosure*. Senate Committee on Appropriations reports accompanying Financial Services and General Government Appropriations bills for fiscal years 2012 and 2013 directed SEC to submit reports to the committee on public company disclosures about climate change-related matters. S. Rep. No. 112-79, at 111 (2011); S. Rep. No. 112-177, at 109 (2012).

Climate-related Financial Disclosures (FSB Task Force).[13] We selected five industries to focus on for this report: oil and gas, mining, insurance, electric and gas utilities, and food and beverage. We selected these industries because they were generally identified by SEC staff as more likely than other industries to be affected by climate change-related matters due to the nature of their operations or because we identified companies in the industry that have submitted climate-related disclosures and can provide perspectives on these disclosures. Views from the selected industries are not generalizable to other industries we did not include in our review.

To address the first objective, we determined the number of comment letters SEC issued to companies on climate-related disclosures from February 2, 2010, through August 11, 2017. We reviewed all these comment letters to understand the climate-related disclosure issues SEC staff has identified. We also interviewed SEC senior staff from the Division of Corporation Finance and representatives from a nongeneralizable sample of industry groups representing companies in the five industries we selected. Views from these industry representatives cannot be generalized to those we did not include in our review.

To address the second objective, we reviewed SEC's April 2016 Concept Release related to business and financial disclosures in Regulation S-K.[14] Further, we interviewed SEC senior staff to understand steps SEC has taken to examine changes in climate-related disclosures since the 2010 Guidance and planned actions related to the April 2016 Concept Release.

To address the third objective, we reviewed information on the New York State Attorney General's investigation of and agreement with Peabody

[13]See for example, GAO, *Securities and Exchange Commission: Management Has Enhanced Supervisory Controls And Could Further Improve Efficiency*, GAO-17-16 (Washington, D.C.: Oct. 6, 2016); GAO-16-211; *Federal Supply Chains: Opportunities To Improve The Management Of Climate-Related Risks*, GAO-16-32 (Washington, D.C.: Oct. 13, 2015); Securities and Exchange Commission, Office of Inspector General Report No. 542; Task Force on Climate-Related Financial Disclosures, *Final Report: Recommendations of the Task Force on Climate-Related Financial Disclosures* (June 2017), and Sustainability Accounting Standards Board, *Climate Risk Technical Bulletin*, Technical Bulletin #: TB001-10182016 (San Francisco, CA: October 2016).

[14]Business and Financial Disclosure Required by Regulation S-K, 81 Fed. Reg. 23916 (Apr. 22, 2016). The Commission at times issues a concept release to seek public input to help identify the appropriate regulatory approach, if any, prior to issuing a rule proposal.

Energy on the company's SEC climate-related disclosures.[15] To identify illustrative examples of climate-related disclosures, we used Ceres' SEC Sustainability Disclosure Search Tool to search annual filings of S&P 500 Index companies, filed in 2016, in the five industries we selected.[16] Additionally, we reviewed comments on SEC's Concept Release submitted by organizations that represent investors, companies in the five industries we selected, or organizations that have a key interest in climate-related issues.[17] We interviewed SEC senior staff to obtain information on SEC's filing reviews and enforcement authority. We also interviewed representatives from the organizations representing investors or focusing on climate-related issues. Views from the representatives of these investor groups cannot be generalized to those we did not include in our review.

Throughout this report, we use certain qualifiers when describing results from interview participants, such as "few," "some," and "most." We define few as two or three; some as four or more but less than most; and most as more than half or nearly all relative to the total number possible. The views of interviewees we selected cannot be generalized to all SEC staff or stakeholders on issues related to climate-related disclosures.[18] See appendix I for more information on our scope and methodology.

We conducted this performance audit from November 2016 to February 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe

[15]The New York State Attorney General launched an investigation under New York State law on Peabody Energy's climate-related disclosures in its SEC filings. The Attorney General reached an agreement with Peabody Energy on November 8, 2015.

[16]Ceres is a nonprofit organization that works with investors, companies, and public interest groups on sustainable business practices. Ceres' SEC Sustainability Disclosure Search Tool searches SEC annual filings and identifies climate-related disclosures. S&P 500 Index is an index that includes 500 leading companies and captures approximately 80 percent coverage of available market capitalization and is widely used as a gauge of large-cap U.S. equities.

[17]Business and Financial Disclosure Required by Regulation S-K, 81 Fed. Reg. 23916 (Apr. 22, 2016).

[18]For the purpose of this report, we refer to organizations that represent companies in the five industries we selected for this review or investors focused on climate-related issues as stakeholders.

that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Overview of SEC

SEC's mission is to protect investors; maintain fair, orderly, and efficient markets; and facilitate capital formation. As part of SEC's strategic plan, SEC strives to promote a securities market that is worthy of the public's trust and is characterized by, among other things, transparent disclosure to investors of the risks of particular investments.

SEC is headed by a five-member Commission composed of the Chair and four Commissioners. SEC's responsibilities are divided among five divisions and 24 offices, including the following offices that are responsible for filing review or investor outreach:[19]

- Corporation Finance is responsible for reviewing documents that publicly-held companies are required to file with SEC, which may include climate-related disclosures. Corporation Finance reviews disclosure documents that companies are required to file, including annual reports. Corporation Finance performs its filing review responsibilities through accounting and legal staff in 11 offices, organized by industry. The division's staff also provides companies with assistance interpreting the Commission's rules and assists the Commission with rule making.
- The Investor Advisory Committee was established under the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) to advise the Commission on regulatory priorities, the effectiveness of disclosure, and initiatives to protect investor interests and to promote investor confidence, among other things.[20] The

[19]The five Commissioners are appointed by the President and confirmed by the Senate. The Commission is responsible for interpreting and enforcing federal securities laws; issuing new rules and amending existing rules; overseeing inspections of securities firms, brokers, investment advisers, and ratings agencies; overseeing private regulatory organizations in the securities, accounting, and auditing fields; and coordinating U.S. securities regulation with federal, state, and foreign authorities.

[20]Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 911, 124 Stat. 1822 (2010).

committee has the authority to submit findings and recommendations for review and consideration by the Commission.

- The Office of the Investor Advocate was established in 2014 pursuant to the Dodd-Frank Act to provide a voice for investors, assist retail investors, study investor behavior, and support the Investor Advisory Committee. The Investor Advocate is required to submit reports directly to Congress, without any prior review or comment from the Commissioners or SEC staff.

SEC Disclosure Requirements, Rule Making, and Guidance

SEC rules generally require public companies to disclose, among other things, known trends, events, and uncertainties that are reasonably likely to have a material effect on the company's financial condition or operating performance through annual and other periodic filings. Information is material if there is a substantial likelihood that a reasonable investor would consider it important in making an investment decision.[21] Regulation S-K, promulgated by SEC, contains disclosure requirements that are applicable to the nonfinancial statement portion of annual filings and other periodic reports filed with SEC.

The Commission occasionally provides guidance on topics of general interest to the business and investment communities by issuing interpretive releases, which publish the Commission's views and interpret federal securities laws and SEC regulations. The 2010 Guidance was published by the Commission to provide guidance to companies on how existing disclosure requirements apply for climate-related matters.

The 2010 Guidance identifies four items in Regulation S-K that may be most likely to require climate-related disclosure in companies' annual filings. The four items are as follows:[22]

- **Description of business.** This section of a company's annual filing requires a description of the company's business, including its main products and services, and what markets it operates in. This item expressly requires disclosure of certain material effects of complying with environmental laws.
- **Legal proceedings.** This section requires a company to include information about certain material pending legal proceedings,

[21]See n. 5, *supra*.

[22]The annual filing on Form 10-K includes 4 parts and 21 total items.

including, in certain circumstances, those arising under any federal, state, or local provisions that have been enacted or adopted regulating the discharge of materials into the environment or primarily for the purpose of protecting the environment.

- **Risk factors.** This section discusses the most significant factors that make investment in the company speculative or risky. Disclosure under this section should clearly state risks and specify how each risk affects the particular company and should not present risks that could apply to any company.
- **Management's discussion and analysis.** This section presents management's perspective on material past and anticipated future business results. The information provided in this section is intended to give the investor an opportunity to look at the company through the eyes of management by providing both a short- and long-term analysis of the company's financial condition. Additionally, in this section companies must identify and disclose known trends, events, demands, commitments, and uncertainties that are reasonably likely to have a material effect on their financial condition or operating performance.

The 2010 Guidance also identifies four different topics under which climate-related risks can be categorized (see table 1). Regardless of whether a company's identified risk falls under one of these categories, companies need to disclose the information required by the federal securities laws and regulations, and any additional material information necessary to make the required statements, in light of the circumstances under which they are made, not misleading.

Table 1: Categories of Climate-Related Risks Identified by the Securities and Exchange Commission and Examples of How They Could Trigger Disclosure Rules

Category of climate-related risk	Definition	Examples
Legislation and regulation	Pending or existing regulations or legislation related to climate change at all levels of government.	Companies could face costs to improve facilities and equipment to reduce emissions to comply with regulatory limits; or to purchase, or profit from the sale of, allowances or credits under a "cap and trade" system.[a]
International accords	Treaties or international accords relating to climate change.	The European Union Emissions Trading System could have a material impact on a company's business,[b] which could potentially be the same as the impact from U.S. climate change legislation and regulation.
Indirect consequences of regulation or business trends	New opportunities or risks created by legal, technological, political, or scientific developments related to climate change.	Companies may face decreased demand for goods that produce significant greenhouse gas emissions and may face potential adverse consequences to business operations or financial condition, from the public's perception of publicly-available data about their greenhouse gas emissions.
Physical impacts	Significant physical effects of climate change such as severity of storms, sea levels, and water availability.	Severe weather could cause property damage and disruptions to operations for companies with operations concentrated on coastlines. It could also cause indirect financial and operational impacts from disrupting the operations of major customers or suppliers.

Source: Securities and Exchange Commission. | GAO-18-188

[a]Under a cap-and-trade system, an overall emissions cap is set, and entities covered by the system must hold tradable permits—or allowances—to cover their emissions.

[b]The European Union Emissions Trading System was established by a directive, approved by the European Parliament and the Council of the European Union in 2003. Under the directive, as amended, the European Union established a cap on greenhouse gas emissions from covered entities, which receive or purchase emission allowances from member states that can be traded if not needed for compliance.

Additionally, SEC staff may issue guidance that includes a summary or explanation of rules adopted or amended by the Commission. For example, SEC staff issued a Staff Accounting Bulletin on materiality that provides guidance in applying quantitative materiality thresholds to the preparation of financial statements filed with SEC. According to SEC, staff guidance is not a substitute for any rule, and only the rule itself can provide complete and definitive information on its requirements.

The Commission can adopt new rules through the rule-making process. According to SEC, rule making can involve several steps: concept release, rule proposal, and rule adoption.

- **Concept release.** The Commission at times issues a concept release to seek public input to help identify the appropriate regulatory approach, if any, prior to issuing a rule proposal. In a concept release, SEC describes the area of interest and the Commission's concerns; identifies different approaches to address the problem; and includes a series of questions that seek the views of the public on the issue.
- **Rule proposal.** The Commission publishes a detailed formal rule proposal for public comment. A rule proposal advances specific objectives and methods for achieving them. The Commission typically provides between 30 and 90 days for public review and comment. Public comment is considered vital to the formulation of a final rule.
- **Rule adoption.** The Commissioners consider what they have learned from public input on the rule proposal and seek to agree on the specifics of a final rule. If a final rule is adopted by the Commission, it becomes part of the official rules that govern the securities industry.

SEC's Annual Filing and Disclosure Review Process

According to SEC senior staff, SEC reviewers examine climate-related disclosures as part of their review of all disclosures included in the companies' annual filings. Corporation Finance selects annual filings for review and determines the extent to which annual filings are reviewed based on the requirements of the Sarbanes-Oxley Act of 2002 and review goals established by senior leadership (see fig. 1).[23] The Sarbanes-Oxley Act requires SEC to review the financial statements of each reporting company at least once every 3 years. According to SEC senior staff, SEC staff review the financial statements of a significant number of companies more frequently. SEC staff may also review companies' nonfinancial disclosures, which may be reviewed as (a) a part of a full cover-to-cover review or (b) a targeted issue review. SEC reviewed the disclosures of approximately 4,400 companies each in fiscal years 2015 and 2016 and approximately 4,200 companies in fiscal year 2017. Of the reviews in fiscal years 2016 and 2017, over 1,400 and 1,250 resulted in comment letters, respectively.

[23]Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, §408, 116 Stat. 745, 790-91 (2002) (codified at 15 U.S.C. § 7266).

Figure 1: Securities and Exchange Commission's (SEC) Annual Filing Review Process

Source: GAO summary of SEC information. | GAO-18-188

[a]SEC's Division of Corporation Finance selects annual filings for review and determines the extent to which annual filings are reviewed based on the requirements of the Sarbanes-Oxley Act of 2002 and review goals established by senior leadership.

[b]A targeted issue review is one in which the staff will examine the filing for one or more specific items of disclosure for compliance with the applicable accounting standards and/or the disclosure requirements of federal securities laws and regulations.

Corporation Finance generally conducts two levels of review at key steps in the filing review process. Once selected for review, a filing enters the review cycle, which generally includes evaluating the disclosure for material compliance with securities laws, preparation and review of comments, review of company responses to comments, and public posting of filing review correspondence on the SEC website. For most filings, a second-level review is required during each of these phases.[24]

According to some SEC staff, as part of SEC's filing reviews, SEC staff focus on the company's filing for the current year and can supplement the review with information from the company's prior years' filings, filings of other companies in the same industry, SEC's prior filing review reports, and other external data outside of the filings, including companies' sustainability and earning reports and financial analyst reports. Companies may voluntarily disclose climate-related risks through channels outside of SEC filings, including nongovernmental organizations, company websites, and in response to reporting requirements in foreign countries.

As part of the review process, SEC staff may issue "comment letters" to companies to obtain additional information, clarification on the companies' disclosures, or elicit better compliance with applicable requirements. In a

[24]A second-level review examines the first reviewer's work and may agree with, modify, waive, and/or add comments to the ones proposed by the examiner.

review of Corporation Finance's comment letter process, SEC's OIG reported in September 2017 that Corporation Finance has established policies, procedures, and internal controls that provide overall guidance for how staff should conduct disclosure reviews and for how information, including comments, should be documented, tracked, and disseminated to companies and the public.[25] However, the report also found, among other things, that SEC reviewers (1) did not always properly document comments before issuing comment letters to companies and (2) inconsistently documented oral comments to companies. The report recommended that Corporation Finance establish mechanisms or controls and provide detailed guidance to staff to improve documentation in the comment letter process. SEC management agreed with these recommendations.

Furthermore, if SEC reviewers find a material inadequacy in a company's disclosures, the reviewers may refer the potential violations to the Division of Enforcement for investigation. If the Division of Enforcement finds sufficient evidence of a potential violation, SEC may file an action in federal district court or institute an administrative proceeding.[26]

Corporation Finance maintains four distinct electronic databases to track, document, and report on different aspects of its filing review program. One of these is Electronic Data Gathering, Analysis, and Retrieval (EDGAR), which is Corporation Finance's primary record-keeping system of documents related to filing reviews, including companies' filings, SEC's comment letters to companies and their responses to the letters, and SEC staff's filing review reports.[27]

[25]Securities and Exchange Commission, Office of Inspector General, Report No. 542.

[26]We reported in January 2016 that the Division of Enforcement has not filed any actions concerning climate-related disclosure issues, according to SEC staff. See GAO-16-211.

[27]In addition to EDGAR, SEC maintains three other systems. The FACTS (the Filing Activity Tracking System) tracks SEC staff's progress of filing reviews. The Comment Letter Dissemination system enables staff to schedule filing review correspondence for dissemination, review the correspondence before dissemination, confirm that the correspondence is associated with the correct review, and ensure that the correspondence to be disseminated does not contain confidential or personally identifiable information. The Confidential Treatment Request system is used to track the status and disposition of the division's processing of confidential treatment requests.

Developments Associated with Climate-Related Disclosures since the 2010 Guidance

In April 2016, SEC published a Concept Release to seek public comment on modernizing certain business and financial disclosure requirements in Regulation S-K. The 2016 Concept Release specifically requested comments about "Disclosure of Information Relating to Public Policy and Sustainability Matters." Sustainability disclosures—including topics on climate change, resource scarcity, corporate social responsibility, and good corporate citizenship—are often characterized broadly as environmental, social, or governance concerns. The public comment period for the Concept Release ended on July 21, 2016. According to SEC staff, the agency received approximately 370 unique comment letters on the Concept Release.

Since 2010, several voluntary reporting frameworks are available for companies to use to report climate-related information, including the following:

- In June 2017, the FSB Task Force issued final recommendations for four areas of voluntary climate-related disclosures that companies can choose to adopt, which are applicable to organizations across sectors and jurisdictions.[28]
- In October 2016, the Sustainability Accounting Standards Board (SASB) developed a Climate Risk Framework that enables, among other things, the identification of climate-related risks and the development of metrics that help companies disclose material sustainability information to investors.
- In May 2013, the Global Reporting Initiative and CDP (formerly known as the Carbon Disclosure Project) signed a Memorandum of Understanding for the two organizations to work together to align areas of their reporting frameworks.[29] This will provide more

[28]The FSB Task Force has 32 members which were selected by the Financial Stability Board—an international body that monitors and makes recommendations about the global financial system—and come from various organizations, including large banks, insurance companies, asset managers, pension funds, large nonfinancial companies, accounting and consulting firms, and credit rating agencies. The FSB Task Force was asked to develop voluntary, consistent climate-related financial disclosures that would be useful to investors, lenders, and insurance underwriters in understanding material risks.

[29]The Global Reporting Initiative is an international nonprofit organization that provides companies and other organizations with a framework for reporting environmental, economic, and social performance and impacts. CDP is an international nonprofit organization that provides a system for companies to share climate-related information.

consistency in companies' voluntary climate-related disclosures and improve comparability of data for investors.

SEC Issued the 2010 Guidance and Comment Letters to Specific Companies to Clarify Climate-Related Disclosure Requirements

SEC issued the 2010 Guidance, and comment letters to specific companies, to clarify their existing disclosure requirements as they apply to climate-related matters. SEC staff said the issuance of the 2010 Guidance was the primary form of communication it used to clarify to companies their climate-related disclosure requirements. However, SEC staff also noted that companies should consider the 2010 Guidance along with all other guidance and securities laws and regulations applicable to their filings. In addition to publishing the 2010 Guidance, SEC staff discussed it immediately following its release in webinars and other public events. For example, an SEC staff member presented information on the 2010 Guidance at a panel discussion for an October 2010 webinar hosted by the National Asian Pacific American Bar Association. Representatives from the industry associations with whom we spoke, which represent the five industries we selected, all agreed that the 2010 Guidance helped clarify climate-related disclosure requirements and stated that they consider the disclosure requirements for climate-related risks to be clear and have no need for additional guidance.

In addition, since the release of the 2010 Guidance, SEC staff has issued individual comment letters to specific companies on their climate-related disclosures. For example, on September 26, 2016, SEC staff issued a comment letter to an oil company requesting that the company expand on its disclosures in the risk factor section of the filing to provide a more in-depth description of its climate-related compliance obligations. SEC publishes comment letters in EDGAR, and other interested companies can view these letters to understand SEC's assessment of a particular company's disclosures. Ceres, a nonprofit organization that advocates for climate-related disclosure, analyzed SEC's comment letters from February 2, 2010—the release date of the 2010 Guidance—to December 31, 2013, to determine how many were related to climate-related disclosures. Ceres reported that SEC staff sent 25 letters relating to climate-related disclosures to 23 companies (2 companies received two letters as a result of back-and-forth correspondence) out of the more than 45,000 comment letters sent during this period. Using the same specific keyword search terms—such as "climate change" and "climate mitigation"—that were identified in the Ceres report, we found 14 comment letters to 14 companies that SEC staff issued relating to climate-related disclosures out of the over 41,000 comment letters issued from January 1, 2014, through August 11, 2017. These comment letters were found during our search but may not represent all climate-related comment letters SEC staff has issued during that time frame.

SEC Examined Climate-Related Disclosures for Reports to Congress and Issued a Concept Release Seeking Public Input on Disclosure Requirements

After the issuance of the 2010 Guidance, the Senate Committee on Appropriations directed SEC to conduct two reviews of climate-related disclosures in 2012 and 2014.[30] In response, SEC staff examined climate-related disclosures of a total of 60 companies in six industries each year in 2012 and 2014. In both reports, SEC staff focused on the business description, risk factors, and management's discussion and analysis sections of companies' filings and found that most of the filings included some level of climate-related disclosure in one or more of these areas. SEC staff also found that the disclosures they reviewed varied in the level of details provided. Additionally, in the 2012 report, SEC staff reported that they did not find any notable year-to-year changes in the disclosures reviewed from the year before the 2010 Guidance to the year after. According to SEC senior staff, in addition to its regular evaluation of climate-related disclosures in individual filing reviews, SEC staff continues to periodically assess climate-related disclosures within these industries.

SEC senior staff said they did not expect changes in companies' climate-related disclosures as a result of the 2010 Guidance since SEC did not adopt any new disclosure requirements. As previously mentioned, SEC published the 2010 Guidance to provide guidance to companies on how existing disclosure requirements apply for climate-related matters. At the time the 2010 Guidance was issued, "cap and trade" legislation was pending in Congress; the Environmental Protection Agency was taking steps to regulate greenhouse gas emissions; and there were efforts to launch an international "cap and trade" system.[31] The 2010 Guidance in part provided clarification on how such changes—if they took place—could be incorporated into companies' filings. However, some of these changes did not occur.

[30]Corporation Finance prepared the 2012 review in response to the Consolidated Appropriations Act 2012 report language which specified that SEC include "a full description of its own initiatives to carry out the guidance, their efficacy, and the efforts it will implement in fiscal year 2012."

[31]These examples of regulatory, legislative, and other developments, identified in the 2010 Guidance, could have a material impact on companies that file disclosure documents with SEC. However, some of the specific proposed legislation was not enacted.

Through the April 2016 Concept Release related to business and financial disclosures in Regulation S-K, SEC sought input from investors, companies, and other interested parties on the effectiveness of its disclosure requirements, including a request for comment on climate-related disclosures in SEC's filings. In the April 2016 Concept Release, SEC discussed comments previously received that both noted a growing interest in environmental, social, or governance disclosure among investors and recommended increased sustainability disclosure requirements.[32] According to SEC staff, some comments criticized the primarily voluntary nature of current corporate sustainability reporting outside of companies' SEC filings. As of December 2017, SEC senior staff said they are considering recommendations for the Commission's consideration based on comments received on the Concept Release.[33]

SEC Faces Constraints in Reviewing Climate-Related Disclosures as It Primarily Relies on Information That Companies Determine Is Material

As SEC reviews climate-related and other disclosures in companies' filings, SEC relies primarily on information that companies determine is material. SEC may not have details of the information companies used to support their determination of material climate-related risks. Also, this climate-related information varies in format and specificity among companies. SEC has tools, mechanisms, and resources to help ensure that its staff conducts reviews consistently across filings. Stakeholders, including investor and industry groups, have mixed views on the need for more climate-related disclosures with additional specificity and a consistent format for these disclosures to allow for comparison across filings. Additional disclosure requirements or increased scrutiny of companies' climate-related information—which, if necessary, SEC and Congress can consider—could have mission and resource implications for SEC's Division of Corporation Finance.

[32]Business and Financial Disclosure Required by Regulation S-K, 81 Fed. Reg. 23916, 23970 (Apr. 22, 2016).

[33]The comment period for the April 2016 Concept Release closed on July 21, 2016. SEC issued a proposed rule in November 2017 on modernizing and simplifying certain disclosure requirements in Regulation S-K, among other things. See FAST Act Modernization and Simplification of Regulation S–K, 82 Fed. Reg. 50988 (Nov. 2, 2017). However, the proposed rule does not include topics that focus on climate-related disclosures. According to SEC, the proposed rule has incorporated some comments from SEC's April 2016 Concept Release. The proposed rule was required by the Fixing America's Surface Transportation Act (FAST Act). FAST Act, Pub. L. No. 114-94 § 72003, 129 Stat. 1312, 1785 (2015) (codified at 15 U.S.C. § 77s note).

SEC May Not Have the Details of the Information Companies Rely on in Determining Materiality

SEC reviewers may not have access to the detailed information that companies use to arrive at their determination of whether risks, including climate-related risks, must be disclosed in their SEC filings. SEC's scope of review of companies' disclosures under federal securities laws differs from the scope of review that may be possible through the investigative authority of the state attorneys general under state laws. SEC senior staff further noted that Corporation Finance staff assess companies' filings for compliance with the disclosure requirements under federal securities laws but do not have the authority to subpoena companies' information. As previously noted, if SEC reviewers find a material inadequacy in a company's disclosures, the reviewers can refer potential violations to the Division of Enforcement for investigation. SEC senior staff stated that the Division of Enforcement can subpoena company information only after obtaining a formal order of investigation.

In an investigation of Peabody Energy under a New York State law, the Attorney General of New York State subpoenaed the company's internal documents and found that although the company's disclosures denied it had the ability to reasonably predict the impact of future climate change laws and regulations on its business, Peabody had made internal market projections showing severe negative impacts from certain potential laws and regulations and failed to disclose those projections to the public. As a result of this investigation, Peabody agreed to disclose, among other things, concerns that the environmental impacts of coal combustion are resulting in increased regulation, which could affect demand for Peabody's products or services. SEC staff explained that when they become aware of an investigation of a company, they look for and assess disclosures related to any pending legal proceedings and the potential impacts. SEC senior staff told us SEC staff reviewed Peabody Energy's filings and other publicly available information, including its climate-related disclosures, and did not issue climate-related comments in its review of Peabody Energy's filings; SEC has not taken any public actions against Peabody Energy following the New York Attorney General's investigation.[34] Also, SEC staff noted that the additional disclosures Peabody Energy is asked to provide by the New York Attorney General may not be applicable for other companies, but these disclosures may be

[34]As previously noted, SEC reviewers may send comment letters to companies to request additional information related to disclosures in their filings.

required if the information is material and necessary to make the disclosures not misleading under the current federal disclosure rules.

If SEC reviewers are aware of publicly-available information outside of the filings that is contradictory to companies' disclosures, they can request additional information or clarification from companies on their climate-related and other disclosures through comment letters. However, a company possesses information necessary to determine whether environmental regulations will have a material effect on the company's financial condition or results of operations and may claim that the effect of environmental regulations raised by SEC is not material and hence does not need further disclosure. For example, in a 2016 comment letter, SEC staff requested that an oil company expand and clarify its discussion of climate-related compliance with a California environmental law. The company responded that the current costs and impact of compliance with the state law have not been material to the company and it would seek to more clearly disclose such information in its annual filing for the coming year. SEC staff did not issue any further comment on this issue. SEC senior staff told us that they determine whether further comments are needed based on whether the company's response is consistent with other information the companies reported in other publicly available documents, such as financial analyst reports or the company's sustainability report.

Climate-Related Disclosures Vary in Format and Specificity

Climate-related disclosures vary in format because companies may report similar climate-related disclosures in different sections of the annual filings. We reviewed and identified illustrative examples of climate-related disclosures in the annual filings of 116 S&P 500 Index companies, filed with SEC in 2016, in the five industries in our review (see app. II for additional information).[35] We found, for example, one beverage company reported its goal to reduce greenhouse gas emissions in the business description section of its filing while another beverage company reported a similar goal on carbon footprint reduction in the risk factors section of its filing. As previously noted, SEC reviewers may compare a company's disclosures to other companies' disclosures in the same industry to

[35]The annual filings we reviewed covered fiscal years that started and ended in 2015 or started in 2015 and ended in 2016. Appendix II provides additional information on our analysis and illustrative examples of climate-related disclosures using generic language, not tailored to the company, and unquantified information, or disclosures that contain some quantitative information or metrics.

identify potential missing disclosures if other companies in the same industry have made similar disclosures. When companies report climate-related disclosures in varying format, SEC reviewers and investors may find it difficult to navigate through the filings to identify, compare, and analyze the climate-related disclosures across filings, especially given the size of each individual filing. In addition, companies' filings may include only a few mentions of climate-related disclosures. For instance, the annual filings we reviewed for an insurance company, an oil company, and a food company, respectively, were 389 pages, 117 pages, and 136 pages long. Within these filings, the corresponding number of mentions of climate-related disclosures was 9, 13, and 6, respectively, based on our analysis using Ceres' SEC Sustainability Disclosure Search Tool.[36] Given that SEC reviewers primarily rely on information companies disclose in filings, it may be difficult to determine whether a low level of disclosure indicates that the company does not face any climate-related risks or does not consider the risks to be material.

Also, climate-related disclosures in some companies' filings use boilerplate language, which is not specific to the company, and the information is unquantified. Our review of the annual filings of 116 S&P 500 Index companies found that some companies' climate-related disclosures provided some quantitative information, while some other companies' disclosures listed existing environmental regulations without specifying the associated impacts on the companies. For example, one oil and gas company stated in its annual filing that the imposition and enforcement of stringent greenhouse gas emissions reduction targets could severely and adversely impact the oil and gas industry and significantly reduce the value of the company's business. However, the company did not provide any quantitative information on such impacts on its business. Additionally, SASB reported in October 2016 that its analysis of almost 1,500 disclosures in annual filings of 637 companies in 72 industries found that almost 30 percent of the disclosures SASB reviewed did not include any climate-related information, some contained

[36]Ceres' SEC Sustainability Disclosure Search Tool searches for companies' SEC annual filings by industry, identifies relevant climate-related disclosures and their locations within the filings, and reproduces the excerpts of these disclosures in a single report.

boilerplate language or company-tailored narratives, and less than 20 percent of these disclosures included quantitative metrics.[37]

SEC Has Mechanisms, Tools, and Resources to Help Its Staff Consistently Review Filing Disclosures

Although SEC relies primarily on information companies provide in their filings when reviewing climate-related and other disclosures, it has mechanisms, tools, and resources to help its staff consistently review filing disclosures, according to SEC documents and SEC staff we interviewed.

Internal supervisory control testing. As we reported in 2016, Corporation Finance's Disclosure Standards Office (DSO) helps improve consistency in oversight of filing reviews by conducting testing of internal supervisory controls throughout the year.[38] DSO is responsible for managing Corporation Finance's internal supervisory control and contributes to Corporation Finance's quality and process improvement efforts. DSO senior staff told us that the office examined filing reviews conducted by SEC staff on a random sample of filings in each year from 2014 through 2016. In DSO's reviews, DSO examined the documents that are part of the filing reviews conducted by SEC staff, including the underlying filings, filing review reports prepared by SEC staff, comment letters issued, and the associated responses, among other things. Also, DSO staff assessed whether SEC staff had followed the relevant Corporation Finance policies and procedures. For example, DSO

[37]See Sustainability Accounting Standards Board, *Climate Risk Technical Bulletin*, Technical Bulletin #: TB001-10182016. SASB's analysis was performed between May and August 2015 using the latest annual SEC filings for the top companies, by revenue and by industry under the sustainable industry classification system (SICS), with a maximum of 10 companies for each industry. SASB created SICS, which groups companies into industries and sectors based on their resource intensity and shared sustainability risks and opportunities. For more information on SICS, see http://www.sasb.org/sics/. In SASB's analysis, SASB reviewed all sections of disclosures of companies they reviewed and categorized each section of the disclosures into one of four categories: no disclosure, boilerplate (disclosures using generic language, not tailored to the company), company tailored (disclosures using specific language in the context of the company), or metrics (disclosures using quantitative performance indicators in the context of the company). SASB ranked these categories with no disclosure at the bottom and a disclosure with metrics at the top. SASB reported the highest ranking category that it determined in each company's disclosures overall, but the disclosures could also include disclosures under one or more lower-ranked disclosure categories in addition to the reported category. For example, a company's disclosures reported as including metrics might also have disclosures that contained no disclosures, boilerplate language, or company-tailored language.

[38]GAO-17-16.

checked whether staff followed procedures for second-level reviews and issuing comment letters. However, DSO senior staff said they have not conducted any review specific to climate-related disclosures. Corporation Finance senior staff said DSO submits the results of its testing to its managing executive for use in the division's management assurance statements. We also reported in 2016 that DSO helped strengthen components of Corporation Finance's internal control.[39]

Two-level review process. As discussed earlier, SEC generally conducts two levels of review at key steps in the filing review process. The two-level review process helps ensure that staff consistently review disclosures across filings, according to SEC staff we interviewed. For example, the second-level reviewers review the comment letters prepared by the first-level reviewers before sending the letters to companies, according to SEC's internal policies and procedures.[40] Also, assistant directors and senior assistant chief accountants of the 11 Corporation Finance offices generally meet monthly to discuss recent trends and issues identified in filing reviews in general, which helps ensure that staff assess materiality consistently across industries, according to some SEC staff.

Regulations and guidance. SEC staff can consult regulations and formal and informal SEC guidance for their filing reviews (see table 2 for examples), according to SEC documents and staff we interviewed. SEC posts relevant guidance and other information on its intranet site. Nearly all SEC staff we interviewed said current guidance was sufficient to guide their filing reviews, including the reviews of climate-related disclosures.

[39]GAO-17-16.

[40]Second-level reviewers are sometimes supervisory staff but may not be depending on workload and an assistant director's determination of the capabilities of other staff to undertake the reviews.

Table 2: Examples of Regulations, Formal Guidance, and Informal Guidance for Securities and Exchange Commission (SEC) Staff May Consult

Laws and regulations	Formal guidance	Informal guidance
SEC staff can consult laws and regulations to help guide their disclosure reviews. • Regulation S-K for disclosure requirements[a] • Other relevant federal and state environmental laws and regulations, such as Clean Air Act and California's Global Warming Solutions Act of 200[b]	SEC staff can consult publicly available or internal written guidance to help guide their disclosure reviews. • The 2010 Commission Guidance Regarding Disclosure Related to Climate Change • Staff Accounting Bulletin: No. 99—Materiality[c] • General internal review guidance—including guidance on assessing materiality—point to information sources and focus areas, among other things • Technical guides on the Securities Act of 1933 and the Securities Exchange Act of 1934	Second-level reviewers and supervisory staff provide informal guidance on filing reviews according to SEC staff we interviewed. For example: • The assistant directors of the Division of Corporation Finance's 11 assistant director offices meet monthly to discuss trends and issues identified in filing reviews and communicate any resulting guidance to staff as necessary. • Generally, SEC staff told us that they can consult the second-level reviewers, supervisory staff, and staff in other offices within Division of Corporation Finance or SEC if they have questions.[d]

Source: GAO analysis. | GAO-18-188

[a]Regulation S-K, 17 C.F.R. § 229 (2017).

[b]Clean Air Act, Pub. L. No. 88-206, 77 Stat. 392 (codified as amended at 42 U.S.C. § 7401 et seq. (2016)) and California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE § 38500 et seq. (Deering 2017).

[c]SEC Staff Accounting Bulletin No. 99, 64 Fed. Reg. 45150 (Aug. 19, 1999).

[d]Supervisory staff can also serve as second-level reviewers.

Internal and external data. According to SEC's internal review guidance, SEC staff are expected to consider internal and external data as part of the filing review. As previously noted, some SEC staff told us they consider information from prior filings, internal filing review reports, other filings of companies in the same industry, and external data outside of the filings to supplement their filing reviews. For example, SEC staff can generally use internal and external databases to search prior years' filings and filing-review-related comments and correspondence with companies. Some SEC reviewers told us that they also compare disclosures with external information, such as companies' voluntary sustainability reports and financial analyst reports on companies' earnings and operations, to look for inconsistencies in the companies' reporting. Although SEC Corporation Finance staff can review external information such as the company's sustainability report, they do not have the underlying information the company used to determine whether a potential disclosure was material or prepare the sustainability report and cannot perform an independent assessment of the disclosure based on the materiality of the underlying information. For example, SEC staff noted in a 2016 comment letter to an oil company that SEC has compared and identified potential inconsistency between the company's disclosures on uncertainty about a new climate-related regulation and physical risks and information in the company's sustainability report. The company stated the climate-related regulatory risks were not material and climate-related risks in their filing were consistent with information in its sustainability report. SEC did not issue any further comments.

Staff training. SEC staff have had some training on assessing materiality and industry-specific issues but fewer training that discussed climate-related disclosures, according to SEC staff.

- ***Training on materiality.*** Most SEC staff we interviewed said training on materiality assessment was part of staff training or their ongoing on-the-job learning in their day-to-day work. Our review of some SEC training materials showed that training discussions covered federal securities laws and disclosure requirements, disclosure review, and materiality but did not focus specifically on climate-related issues. Also, some SEC staff said they consider materiality based on a given company's specific facts and circumstances as they review filings in their day-to-day work. For example, two SEC staff we interviewed explained that second-level reviewers help first-level reviewers understand how to apply specific facts and circumstances as they consider materiality when they review filings.
- ***Training on industry-specific issues.*** All SEC staff we interviewed noted that industry-specific training is provided by individual assistant director offices. For example, some staff mentioned training on disclosures for the oil and gas industry. Other staff noted that they also share information on industry-specific issues as part of their communication or meetings with supervisory staff. However, SEC staff we interviewed did not recall any industry-specific training on climate-related disclosures offered by individual assistant director offices.
- ***Training on climate-related disclosures.*** Some SEC staff we interviewed identified training on the 2010 Guidance when the guidance was issued or a brownbag discussion on climate-related disclosure issues including the Peabody Energy investigation in 2016. According to SEC senior staff, the 2016 brownbag included a discussion of the 2010 Guidance and was offered to all Corporation Finance staff. In addition, our review of some meeting agendas showed that these meetings sometimes included discussion items on issues related to climate-related disclosures, such as the Peabody

Energy investigation and a proposed environmental regulation. Furthermore, new SEC staff receive training on how to conduct filing reviews in general but not specifically on climate-related disclosures, according to some SEC staff.

Most of the SEC staff we interviewed told us they consider the training they have received to be sufficient for conducting filing reviews. Additionally, an SEC OIG survey of SEC staff published in September 2017 asked both first- and second-level reviewers if they felt they had received adequate training and guidance from SEC on how to conduct a disclosure review.[41] Of the 159 who answered as first-level reviewers, 82 percent said that they felt they received adequate training and guidance to conduct disclosure reviews; and of the 130 who answered as second-level reviewers, 83 percent said that they felt they received adequate training and guidance to conduct disclosure reviews.[42] Other staff we interviewed also noted that they receive training through their day-to-day work on an ongoing basis or when new regulations are issued or the need arises.

Staff experience. All eight supervisory staff we interviewed indicated that, as of August 2017, they had at least 10 years of experience at SEC as filing reviewers, while the 12 nonsupervisory staff we interviewed noted that they had from 2 to 18 years of such experience. Also, most of the SEC staff we interviewed indicated that they had some prior accounting or legal experience related to annual filing preparation or review, but they did not have any direct prior experience on climate-related disclosures. However, most SEC staff we interviewed said they generally do not need technical expertise to understand climate-related disclosures. Some staff said they can consult mining or petroleum engineers within Corporation Finance if the disclosures relate to other subjects, such as oil and gas reserves.

[41]Securities and Exchange Commission, Office of Inspector General, Report No. 542. The OIG surveyed all 325 SEC staff in Corporation Finance who reviewed filing disclosures as first-level reviewers, second-level reviewers, or both in calendar years 2015 or 2016. Two hundred and two SEC staff completed the survey, for a 62 percent response rate. SEC and the SEC OIG refer to first-level reviewers as "examiners" and second-level reviewers as "reviewers."

[42]Of the 159 who answered as first-level reviewers, 14 percent and 4 percent responded "sometimes" and "no," respectively, to this survey question. Of the 130 who answered as second-level reviewers, 12 percent and 5 percent responded "sometimes" and "no," respectively, to this survey question.

Stakeholders Have Mixed Views on the Amount and Specificity of the Current Climate-Related Disclosures

Stakeholders, including investor and industry groups, have different views on whether additional climate-related disclosures, including the amount and specificity, are needed. Some asset management firms and investor groups have highlighted the need for companies to disclose more climate-related information to help investors make more informed investment decisions. Three large asset management firms stated that they are committed to engaging with and encouraging companies to provide additional climate-related disclosures. For example, in 2017, one firm supported shareholder proposals for two companies to report the impacts of climate change on their operations.[43] The proposals passed with majority shareholder support. The Council of Institutional Investors and Ceres stated in their letters commenting on SEC's April 2016 Concept Release and also told us that the information on environmental risks, including climate risks, has become more significant for investors and companies.[44] The two investor associations also noted that companies' climate-related disclosures in the risk factors and management's discussion and analysis sections of the filings generally do not provide investors with sufficient details. They further stated in their letters commenting on SEC's April 2016 Concept Release that current climate-related disclosures are generally not comparable across companies' filings. Additionally, SASB reported that climate-related disclosures using quantitative metrics may not be comparable because they lack standardization.

In contrast, representatives from the five industry associations with whom we spoke all noted that they consider the current requirements for climate-related disclosures adequate. They also do not believe additional climate-related disclosures are needed in SEC filings as the filings should include only climate-related information if it is material. Additionally, some companies are providing climate-related information through channels outside of SEC filings. Three of these industry associations also stated in their letters commenting on SEC's April 2016 Concept Release that they

[43]Qualified shareholders of publicly traded companies can submit a shareholder proposal for inclusion in the company's proxy statement for shareholder vote. The proposals contain shareholders' recommendation or requirements that the company and/or its board of directors take action and may have an effect on a company's operations and value.

[44]Members of the Council of Institutional Investors include pension funds and asset management firms. Members of Ceres include institutional investors and companies. Ceres submitted this comment letter on behalf of 45 asset managers or owners. Ceres also separately submitted its own comment letter.

would like to keep the existing requirements for climate-related disclosures.

While some investor organizations we spoke with generally believe more climate-related disclosures are needed, investors have not reached agreement on the priority of advocating for climate-related disclosures or the framework for companies to use to report these disclosures. For example, some members of a subcommittee of SEC's Investor Advisory Committee have identified climate-related disclosures as a priority issue, but the subcommittee as a whole did not reach agreement that climate-related disclosures should be among its highest priorities. In addition, as previously described, existing reporting frameworks include those developed by CDP, Global Reporting Initiative, SASB, and the June 2017 FSB Task Force final recommendations. Given that these are voluntary frameworks, companies can report climate-related information using any of the frameworks or not use a framework at all. Further, stakeholders advocating for climate-related disclosures have not agreed on whether to adopt one of the existing reporting frameworks or develop a new framework for companies to use in reporting climate-related disclosures. For example, companies have not determined which of the existing reporting frameworks to use or are uncertain on which framework is preferred by investors for reporting climate-related disclosures, according to one investor association, representatives of SEC's Investor Advisory Committee, and an SEC senior staff of the Office of Investor Advocate.

The SEC senior staff further stated that SEC may be hesitant to recommend a particular framework for companies to use given the uncertainties. Another organization focusing on climate-related disclosures in its letter commenting on SEC's April 2016 Concept Release suggested that SEC review and consider elements of existing reporting frameworks. Furthermore, SEC's Investor Advisory Committee, in its letter commenting on the Concept Release, recommended SEC develop an analytical framework on climate-related disclosures, among other things. Most recently in June 2017, the FSB Task Force reported that its recommendations aim to provide a framework to help companies more consistently disclose climate-related information and align their reporting frameworks over time. In particular, the Task Force recommends that companies include material climate-related disclosures in their public filings and encourages standard-setting bodies to support adoption of the recommendations. According to SEC senior staff, while the Task Force recommendations may be helpful if the Commission were to consider new rules on climate-related disclosures in the future, SEC staff is not aware of any specific SEC actions or plans based on the recommendations. Also, additional disclosure requirements or increased scrutiny of companies' climate-related information—which, if necessary, SEC and Congress can consider—could have mission and resource implications for SEC's Division of Corporation Finance.

Agency Comments and Our Evaluation

We provided a draft of this report to SEC for review and comment. In oral comments provided on January 10, 2018, senior staff in SEC's Division of Corporation Finance generally agreed with our findings and provided technical comments, which we incorporated into the report, as appropriate.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to interested congressional committees, the Chair of SEC, and other interested parties. In addition, this report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact Michael Clements at (202) 512-8678 or clementsm@gao.gov, or J. Alfredo Gómez at (202) 512-3841 or gomezj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Michael Clements
Director, Financial Markets and Community Investment

J. Alfredo Gómez
Director, Natural Resources and Environment

List of Requesters

The Honorable Dick Durbin
United States Senate

The Honorable Dianne Feinstein
United States Senate

The Honorable Ed Markey
United States Senate

The Honorable Jack Reed
United States Senate

The Honorable Sheldon Whitehouse
United States Senate

The Honorable Matthew Cartwright
House of Representatives

The Honorable Lloyd Doggett
House of Representatives

The Honorable Ted Lieu
House of Representatives

The Honorable Alan Lowenthal
House of Representatives

The Honorable Mark Pocan
House of Representatives

The Honorable Paul Tonko
House of Representatives

Appendix I: Objectives, Scope, and Methodology

This report examines: (1) steps the Securities and Exchange Commission (SEC) has taken to help companies understand disclosure requirements for climate-related risks, (2) steps SEC has taken to examine changes in climate-related disclosures since the release of its 2010 *Commission Guidance Regarding Disclosure Related to Climate Change* (hereafter referred to as the 2010 Guidance), and (3) constraints SEC faces when reviewing climate-related disclosures and stakeholders' views of those disclosures.[1]

To address all objectives, we reviewed SEC documents, including the 2010 Guidance and internal filing review guidance, related to SEC's review of climate-related and other disclosures in companies' annual filings. We also reviewed SEC's 2012 and 2014 congressional reports, titled *Staff Report to the Senate Committee on Appropriations Regarding Climate Change Disclosure*, and additional information on SEC staff's ongoing reviews of climate-related disclosures.[2] In addition, we reviewed prior GAO and SEC Office of Inspector General reports related to the 2010 Guidance, climate-related risks, and SEC's filing review process and reports from stakeholders, including the report on recommendations from the Financial Stability Board Task Force on Climate-related Financial Disclosures (FSB Task Force).[3]

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[1]For this report, we focus on SEC's review of climate-related disclosures in companies' annual filings on Form 10-K. Some companies may file annual reports on other forms, such as Form 20-F and Form 40-F. We use filing review to broadly refer to review of annual 10-K filings unless otherwise noted.

[2]Senate Committee on Appropriations reports accompanying Financial Services and General Government Appropriations bills for fiscal years 2012 and 2013 directed SEC to submit reports to the committee on public company disclosures about climate change-related matters. S. Rep. No. 112-79, at 111 (2011); S. Rep. No. 112-177, at 109 (2012).

[3]See for example, GAO, *Securities and Exchange Commission: Management Has Enhanced Supervisory Controls And Could Further Improve Efficiency*, GAO-17-16 (Washington, D.C.: Oct. 6, 2016); *Supply Chain Risks: SEC's Plans to Determine If Additional Action Is Needed on Climate-Related Disclosure Have Evolved*, GAO-16-211 (Washington, D.C.: Jan. 6, 2016); *Federal Supply Chains: Opportunities To Improve The Management Of Climate-Related Risks*, GAO-16-32 (Washington, D.C.: Oct. 13, 2015); Securities and Exchange Commission, Office of Inspector General, *Evaluation of the Division of Corporation Finance's Disclosure Review and Comment Letter Process*, Report No. 542; Task Force on Climate-Related Financial Disclosures, *Final Report: Recommendations of the Task Force on Climate-Related Financial Disclosures* (June 2017); and Sustainability Accounting Standards Board, *Climate Risk Technical Bulletin*, Technical Bulletin #: TB001-10182016 (San Francisco, CA.: October 2016).

We selected five industries to focus on for this report: oil and gas, mining, insurance, electric and gas utilities, and food and beverage. We selected the first four industries because they were identified by SEC staff, in its 2012 and 2014 congressional reports, as more likely than other industries to be affected by climate change-related matters due to the nature of their operations. We also selected the food and beverage industry because we identified companies in this industry that have submitted climate-related disclosures and can provide perspectives on these disclosures, and SEC had not selected companies in this industry for review in its 2012 and 2014 congressional reports or ongoing periodic reviews of climate-related disclosures. For all five industries, we searched companies' annual filings to determine whether the industries include companies that have submitted climate-related disclosures in SEC filings or are represented by associations that have submitted comments on SEC's April 2016 Concept Release related to business and financial disclosures in Regulation S-K. Because we did not search companies' filings of all industries, industries we focused on in this report may not be a comprehensive list of industries that are affected by climate-related risks and views on the selected industries are not generalizable to other industries we did not include in our review.

To address the first objective, we reviewed SEC's 2010 Guidance and Division of Corporation Finance (Corporation Finance) policies and procedures on review of disclosures. We determined the number of comment letters SEC issued to individual companies on climate-related disclosures from February 2010 to August 2017. Specifically, we reviewed a 2014 report by Ceres, a nonprofit organization that works with investors, companies, and public interest groups on sustainable business practices, that analyzed and determined the number of SEC comment letters to companies from February 2, 2010 (the date the 2010 Guidance was released) to December 31, 2013.[4] Additionally, using the same keyword search terms—such as "climate change" and "climate mitigation"—that were used in the Ceres report, we determined the number of SEC comment letters issued to individual companies on issues related to climate-related disclosures from January 1, 2014, through August 11, 2017. Specifically, we searched for SEC's comment letters in its EDGAR (Electronic Data Gathering, Analysis, and Retrieval) system—which is SEC's record-keeping system for comment letters to companies,

[4]Ceres, *Cool Response: The SEC & Corporate Climate Change Reporting—SEC Climate Guidance & S&P 500 Reporting—2010 to 2013* (Boston, Mass.: February 2014).

among other things—using the keyword search functionality.[5] The search terms we used were not intended to represent a comprehensive list of keywords that may relate to climate-related issues. Therefore, the nongeneralizable sample of comment letters we identified is not intended to be a comprehensive list or representative sample of comment letters on climate-related information in SEC filings. We reviewed the comment letters identified through our search to understand the climate-related disclosure issues SEC staff has identified.

To understand SEC's efforts to clarify climate-related disclosure requirements for companies and industry groups' views on SEC's efforts, we interviewed SEC staff from Corporation Finance and representatives from a nongeneralizable sample of industry groups representing companies in the five industries we selected. Specifically, we interviewed representatives from the following industry groups: American Insurance Association, American Petroleum Institute, Edison Electric Institute, Grocery Manufacturers Association, and National Mining Association. We selected these groups because they represent companies in the five industries in our review and they or their members submitted letters commenting on SEC's April 2016 Concept Release or their members submitted climate-related disclosures to SEC in 2016. Additionally, we reviewed the letters these groups submitted commenting on the Concept Release to understand their views on climate-related disclosures. Views from the industry representatives with whom we spoke cannot be generalized to those we did not include in our review.

To address the second objective, we reviewed SEC's 2012 and 2014 congressional reports and additional information on ongoing periodic reviews of climate-related disclosures. We also reviewed SEC's April 2016 Concept Release, particularly the section that focuses on climate-related disclosures in SEC's filings. Further, we interviewed Corporation Finance staff to understand steps SEC has taken to assess the effect of the 2010 Guidance and planned actions related to comments on climate-related disclosures for the Concept Release.

To address the third objective, we reviewed SEC documents on the review of climate-related and other disclosures in companies' filings, including the 2010 Guidance, filing review guidance, and examples of

[5]Comment letters in EDGAR are publically available, and EDGAR's key word search functionality allows users to search for filings and related comment letters 4 years back. As a result, the earliest comment letters we could search for were those from 2014.

staff training materials. We also reviewed information related to the New York State Attorney General's investigation of and agreement with Peabody Energy on the company's climate-related disclosures in SEC filings.[6] To understand the specificity of companies' climate-related disclosures in annual filings, we reviewed the Sustainability Accounting Standards Board's (SASB) October 2016 report that analyzed and categorized selected companies' climate-related disclosures according to their level of specificity.[7] To identify illustrative examples of climate-related disclosures, we used Ceres' SEC Sustainability Disclosure Search Tool to search annual filings of S&P 500 Index companies, filed with SEC in 2016, in the five industries we selected.[8] We used Ceres' SEC Sustainability Disclosure Search Tool because it searches companies' SEC annual filings by industry, identifies relevant climate-related disclosures and their locations within the filings, and reproduces the excerpts of these disclosures in a single report. In a search of Ceres' database on September 20, 2017, we identified 116 S&P 500 Index companies that included climate-related disclosures in their annual filings filed in 2016. See appendix II for examples of disclosures with varying levels of specificity.

To obtain information on SEC staff's review of climate-related disclosures—including information on the review process, tools and guidance used in the review, and staff training and experience—we interviewed 20 Corporation Finance staff. Specifically, we interviewed 8 senior supervisory staff from the four Corporation Finance offices that cover reviews of filings of companies in the five industries we selected. We also randomly selected 12 nonsupervisory staff from these same four offices, with a mix of accountants and attorneys and years of experience at SEC. In addition, we interviewed senior staff from Corporation Finance's Disclosure Standards Office to obtain information on the

[6]The New York State Attorney General launched an investigation under New York State law on Peabody Energy's climate-related disclosures in its SEC filings. The Attorney General reached an agreement with Peabody Energy on November 8, 2015.

[7]See Sustainability Accounting Standards Board, *Climate Risk Technical Bulletin*, Technical Bulletin #: TB001-10182016. SASB is a nonprofit organization with a mission to develop and disseminate sustainability accounting standards that help public corporations disclose material, decision-useful information to investors.

[8]The annual filings we reviewed covered fiscal years that started and ended in 2015 or started in 2015 and ended in 2016. S&P 500 Index is an index that includes 500 leading companies and captures approximately 80 percent coverage of available market capitalization and is widely used as a gauge of large-cap U.S. equities.

office's examinations of the filing review process conducted in 2014 through 2016. Furthermore, we interviewed Corporation Finance senior staff to obtain an understanding of SEC's enforcement authority in its filing review program and how that differs from the investigation power of state attorney generals.

To understand stakeholders' views on climate-related disclosures, we reviewed SEC's April 2016 Concept Release and individual letters commenting on the Concept Release from organizations that represent investors, companies in the five industries we selected, or organizations that focus on climate-related issues.[9] We also reviewed the websites and documents of three investment management firms—BlackRock Advisors LLC, State Street Global Advisors Limited, and Vanguard Group, Inc.—on their efforts to seek additional climate-related disclosures from companies. We reviewed reports by stakeholders, including SASB and the FSB Task Force, to provide perspectives on investors' views on the current state of climate-related disclosures. We identified these stakeholders because they represent major investor interests or have submitted letters commenting on SEC's April 2016 Concept Release.

Furthermore, we interviewed representatives from the five industry groups we selected and other nonprofit organizations representing investors or focusing on climate-related issues. Specifically, we interviewed representatives from the following organizations representing investors or focusing on climate-related issues: Center for Climate and Energy Solutions (C2ES)—an independent, nonpartisan, nonprofit organization that works to address climate and energy challenges; Ceres; and the Council of Institutional Investors—a nonprofit, nonpartisan association that represents corporate, public, and union employee benefit funds and endowments. We selected these organizations because they represent investors or focus on climate-related issues and have submitted letters commenting on SEC's April 2016 Concept Release. Views from the representatives of investor groups with whom we spoke cannot be generalized to those we did not include in our review. Additionally, we interviewed SEC senior staff from the Investor Advisory Committee and the Office of Investor Advocate and an industry representative who is a member of the Investor Advisory Committee to obtain information on

[9]Business and Financial Disclosure Required by Regulation S-K, 81 Fed. Reg. 23916 (Apr. 22, 2016). For the purpose of this report, we refer to organizations that represent companies in the five industries we selected for this review or investors focused on climate-related issues as stakeholders.

investors' views on climate-related disclosures. We also interviewed Corporation Finance senior staff to understand SEC's planned efforts, if any, on climate-related disclosures.

Throughout this report, we use certain qualifiers when describing results from interview participants, such as "few," "some," and "most." We define few as two or three; some as four or more but less than most; and most as more than half or nearly all relative to the total number possible. The views of interviewees we selected cannot be generalized to all SEC staff or stakeholders on issues related to climate-related disclosures.

We conducted this performance audit from November 2016 to February 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Examples of Climate-Related Disclosures in Securities and Exchange Commission (SEC) Form 10-K Filings

This appendix provides illustrative examples of climate-related disclosures by two companies in the oil and gas industry. The first example contains boilerplate and unquantified information. The second example contains some quantitative information and metrics.[1] Filings we identified are not intended to be a comprehensive list or representative sample of companies that disclose climate-related information in SEC filings. See appendix I for additional information on the analysis.

Example 1: Excerpt of Boilerplate Disclosures from Company A

Other Items

The amount of insurance covering physical damage to our property and liability related to negative environmental effects resulting from a sudden and accidental pollution event, excluding Atlantic Named Windstorm coverage for which we are self insured, varies by asset, based on the asset's estimated replacement value or the estimated maximum loss.

Risk Factors

Climate change initiatives may result in significant operational changes and expenditures, reduced demand for our products and adversely affect our business. We recognize that climate change is a global environmental concern. Continuing political and social attention to the issue of climate change has resulted in both existing and pending international agreements and national, regional or local legislation and regulatory measures to limit greenhouse gas emissions. These agreements and measures may require significant equipment modifications, operational changes, taxes, or purchase of emission credits to reduce emission of greenhouse gases from our operations, which may result in substantial capital expenditures and compliance, operating, maintenance and remediation costs. In addition, our production is used to produce petroleum fuels, which through normal customer use may result in the emission of greenhouse gases. Regulatory initiatives to reduce the use of these fuels may reduce demand for crude oil and other hydrocarbons and have an adverse effect on our sales volumes, revenues and margins. The imposition and enforcement of stringent greenhouse gas emissions reduction targets could severely and adversely impact the oil and gas industry and significantly reduce the value of our business.

Management's Discussion and Analysis of Financial Condition and Results of Operations

We recognize that climate change is a global environmental concern. We assess, monitor and take measures to reduce our carbon footprint at existing and planned operations. We are committed to complying with all Greenhouse Gas (GHG) emissions mandates and the responsible management of GHG emissions at our facilities.

Source: Securities and Exchange Commission. | GAO-18-188

[1]The disclosures examples in this appendix are direct quotes of the disclosures from the companies' filings.

Example 2: Excerpts of More Detailed Climate-Related Disclosures, Including Metrics, from Company B – Page 1

Risk Factors

We expect to continue to incur substantial capital expenditures and operating costs as a result of our compliance with existing and future environmental laws and regulations. Likewise, future environmental laws and regulations, such as limitations on greenhouse gas emissions, may impact or limit our current business plans and reduce demand for our products.

Our businesses are subject to numerous laws and regulations relating to the protection of the environment. These laws and regulations continue to increase in both number and complexity and affect our operations with respect to, among other things:

- The discharge of pollutants into the environment.
- Emissions into the atmosphere, such as nitrogen oxides, sulfur dioxide, mercury and greenhouse gas emissions.
- Carbon taxes.
- The handling, use, storage, transportation, disposal and cleanup of hazardous materials and hazardous and nonhazardous wastes.
- The dismantlement, abandonment and restoration of our properties and facilities at the end of their useful lives.
- Exploration and production activities in certain areas, such as offshore environments, arctic fields, oil sands reservoirs and tight oil plays.

We have incurred and will continue to incur substantial capital, operating and maintenance, and remediation expenditures as a result of these laws and regulations. To the extent these expenditures, as with all costs, are not ultimately reflected in the prices of our products and services, our business, financial condition, results of operations and cash flows in future periods could be materially adversely affected.

Although our business operations are designed and operated to accommodate expected climatic conditions, to the extent there are significant changes in the Earth's climate, such as more severe or frequent weather conditions in the markets we serve or the areas where our assets reside, we could incur increased expenses, our operations could be materially impacted, and demand for our products could fall. Demand for our products may also be adversely affected by conservation plans and efforts undertaken in response to global climate change, including plans developed in connection with the recent Paris climate conference in December 2015. Many governments also provide, or may in the future provide, tax advantages and other subsidies to support the use and development of alternative energy technologies.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Climate Change

There has been a broad range of proposed or promulgated state, national and international laws focusing on greenhouse gas (GHG) reduction. These proposed or promulgated laws apply or could apply in countries where we have interests or may have interests in the future. Laws in this field continue to evolve, and while it is not possible to accurately estimate either a timetable for implementation or our future compliance costs relating to implementation, such laws, if enacted, could have a material impact on our results of operations and financial condition. Examples of legislation or precursors for possible regulation that do or could affect our operations include:

Source: Securities and Exchange Commission. | GAO-18-188

Continued Page 2

- European Emissions Trading Scheme (ETS), the program through which many of the European Union (EU) member states are implementing the Kyoto Protocol. Our cost of compliance with the EU ETS in 2015 was approximately $0.4 million (net share pre-tax).
- In Canada during 2015, the Alberta government amended the regulations of the Climate Change and Emissions Act. The regulations now require any existing facility with emissions equal to or greater than 100,000 metric tonnes of carbon dioxide or equivalent per year to reduce its net emissions intensity from its baseline. The reduction is increasing from the current 12 percent in 2015, to 15 percent in 2016 and to 20 percent in 2017. We also incur a carbon tax for emissions from fossil fuel combustion in our British Columbia operations. The total cost of compliance with these regulations in 2015 was approximately $4.7 million.
- The U.S. Supreme Court decision in Massachusetts v. EPA, 549 U.S. 497, 127 S.Ct. 1438 (2007), confirming that the EPA has the authority to regulate carbon dioxide as an “air pollutant” under the Federal Clean Air Act.
- The U.S. EPA’s announcement on March 29, 2010 (published as “Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs,” 75 Fed. Reg. 17004 (April 2, 2010)), and the EPA’s and U.S. Department of Transportation’s joint promulgation of a Final Rule on April 1, 2010, that triggers regulation of GHGs under the Clean Air Act, may trigger more climate based claims for damages, and may result in longer agency review time for development projects.
- The U.S. EPA’s announcement on January 14, 2015, outlining a series of steps it plans to take to address methane and smog-forming volatile organic compound emissions from the oil and gas industry. The current U.S. administration has established a goal of reducing the 2012 levels in methane emissions from the oil and gas industry by 40 to 45 percent by 2025.
- Carbon taxes in certain jurisdictions. Our cost of compliance with Norwegian carbon tax legislation in 2015 was approximately $31 million (net share pre-tax).
- The agreement reached in Paris in December 2015 at the 21st Conference of the Parties to the United Nations Framework on Climate Change, setting out a new process for achieving global emission reductions.

In the United States, some additional form of regulation may be forthcoming in the future at the federal and state levels with respect to GHG emissions. Such regulation could take any of several forms that may result in the creation of additional costs in the form of taxes, the restriction of output, investments of capital to maintain compliance with laws and regulations, or required acquisition or trading of emission allowances. We are working to continuously improve operational and energy efficiency through resource and energy conservation throughout our operations.

Compliance with changes in laws and regulations that create a GHG emission trading scheme or GHG reduction policies could significantly increase our costs, reduce demand for fossil energy derived products, impact the cost and availability of capital and increase our exposure to litigation. Such laws and regulations could also increase demand for less carbon intensive energy sources, including natural gas. The ultimate impact on our financial performance, either positive or negative, will depend on a number of factors, including but not limited to:

- Whether and to what extent legislation or regulation is enacted.
- The timing of the introduction of such legislation or regulation.

Source: Securities and Exchange Commission. | GAO-18-188

Continued Page 3

- The nature of the legislation (such as a cap and trade system or a tax on emissions) or regulation.
- The price placed on GHG emissions (either by the market or through a tax).
- The GHG reductions required.
- The price and availability of offsets.
- The amount and allocation of allowances.
- Technological and scientific developments leading to new products or services.
- Any potential significant physical effects of climate change (such as increased severe weather events, changes in sea levels and changes in temperature).
- Whether, and the extent to which, increased compliance costs are ultimately reflected in the prices of our products and services.

The company has responded by putting in place a corporate Climate Change Action Plan, together with individual business unit climate change management plans in order to undertake actions in four major areas:

- Equipping the company for a low emission world, for example by integrating GHG forecasting and reporting into company procedures; utilizing GHG pricing in planning economics; developing systems to handle GHG market transactions.
- Reducing GHG emissions—In 2014, the company reduced or avoided GHG emissions by approximately 900,000 metric tonnes by carrying out a range of programs across a number of business units.
- Evaluating business opportunities such as the creation of offsets and allowances; carbon capture and storage; the use of low carbon energy and the development of low carbon technologies.
- Engaging externally—The company is a sponsor of MIT's Joint Program on the Science and Policy of Global Change; constructively engages in the development of climate change legislation and regulation; and discloses our progress and performance through the Carbon Disclosure Project and the Dow Jones Sustainability Index.

The company uses an estimated market cost of GHG emissions in the range of $8 to $35 per tonne depending on the timing and country or region to evaluate future opportunities.

Source: Securities and Exchange Commission. | GAO-18-188

Appendix III: GAO Contacts and Staff Acknowledgments

GAO Contacts

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