SUPPLY CHAIN RISKS

SEC’s Plans to Determine If Additional Action Is Needed on Climate-Related Disclosure Have Evolved

Accessible Version
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**Why GAO Did This Study**

Disruptions to global supply chains, such as those caused by natural disasters, can hurt economic growth and productivity around the world. These events may pose risks to private-sector companies by, for example, disrupting supply chains. Under federal securities laws, certain companies are required to disclose specific information in annual filings with SEC. SEC issued guidance in 2010 to assist companies in satisfying these disclosure requirements as they apply to climate change matters.

This report examines (1) the types of climate-related supply chain risks companies are disclosing in their SEC filings and other channels through which companies may disclose climate-related supply chain risks; (2) how SEC considers climate-related supply chain risks when monitoring and enforcing compliance with disclosure requirements; and (3) what actions, if any, SEC has taken to identify climate-related supply chain risk information that investors may need. GAO reviewed SEC’s disclosure requirements and guidance; queried SEC’s filings system to identify examples of climate-related risks disclosed by companies; interviewed SEC staff and representatives of stakeholder groups, such as nongovernmental organizations that work with investors, companies, and public interest groups; reviewed some nongovernmental organization, foreign government, and company websites; and obtained companies’ perspectives on climate-related risks through a GAO forum.

SEC staff generally agreed with GAO’s findings.

**What GAO Found**

Companies may disclose climate-related supply chain risks under four broad categories of climate-related topics that the Securities and Exchange Commission (SEC) identified in its 2010 guidance as some of the ways companies may be impacted. These categories are impacts of legislation and regulation related to climate change; impact of international accords; indirect consequences of regulation or business trends, such as decreased demand for goods that produce significant greenhouse gas emissions; and physical impacts, such as changes in water availability. For example, we identified a beverage company that disclosed in its filing that extreme weather conditions could disrupt its supply chain, reduce water availability, or affect demand for its products, resulting in adverse impacts on its business. In addition to SEC disclosure, companies may disclose climate-related risks through other channels, such as nongovernmental organizations, company websites, and foreign entities.

According to SEC staff documents, SEC staff consider climate-related supply chain risks during routine monitoring processes. SEC is required by law to routinely review companies’ filings. In many cases, SEC’s reviewers evaluate a company’s disclosure from the perspective of a reasonable investor. When reviewers identify instances where a company can enhance its compliance with disclosure requirements, they may provide the company with written comments. A company generally responds in writing and, if appropriate, amends its filings. According to Ceres, an organization that advocates for climate change disclosure, from 2010 through 2013, SEC sent comment letters related to climate change to 23 companies, with 17 letters sent in 2010 and fewer in subsequent years. SEC staff could not comment on these numbers because they do not track this data. If reviewers identify potential violations, they may refer the potential violations to SEC’s Division of Enforcement for investigation, which, according to SEC staff, has not filed any actions concerning climate-related disclosure issues.

SEC has taken one of three planned actions described in its 2010 guidance to determine if investors may need additional information on climate-related risks. Specifically, SEC has monitored the impact of its guidance on companies’ filings through its routine review processes but has not held a public roundtable on climate change disclosure, and SEC’s Investor Advisory Committee has not considered the issue. SEC staff believe that SEC has not taken the other two actions because some circumstances that existed when the 2010 guidance was issued have changed. Specifically, the 2010 guidance was issued when Congress was considering legislation that, if enacted, would have limited greenhouse gas emissions by establishing a cap-and-trade program. According to SEC, this could have triggered disclosure requirements for companies covered by the program. However, the legislation was never enacted. This and changing priorities have resulted in SEC and its Investor Advisory Committee not taking additional actions. According to SEC staff, however, other efforts may address the issue of climate-related disclosure, including SEC’s project to review the effectiveness of disclosure requirements. This project provides investors and other stakeholders with opportunities to provide comments to SEC on any disclosure topic. As of October 2015, the project is in its initial phase, and SEC staff have not recommended changes to the Commission.
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<th>Abbreviation</th>
<th>Description</th>
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<td>C2ES</td>
<td>Center for Climate and Energy Solutions</td>
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<td>Dodd-Frank</td>
<td>Dodd-Frank Wall Street Reform and Consumer Protection Act</td>
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<td>EDGAR</td>
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January 6, 2016

The Honorable Matthew Cartwright
House of Representatives

Dear Mr. Cartwright:

Nations around the globe, including the United States, depend upon the efficient and secure transit of goods through the global supply chain system for providing the food, medicine, energy, and other products and services that support our way of life. Many entities are responsible for or reliant upon the global supply chain, including regulators, law enforcement, public-sector buyers, private-sector businesses, and other foreign and domestic entities. Disruptions to global supply chains, such as those caused by natural disasters, can hurt economic growth and productivity in the United States and the rest of the world. For example, in October 2012, Superstorm Sandy caused widespread damage to logistics and transportation networks throughout the Northeast, leading to major fuel shortages and causing an estimated $70 billion in direct damages and lost economic output. According to the third National Climate Assessment, an assessment by the U.S. Global Change Research Program of the science on climate change and its impacts across the United States, climate change is expected to increase the frequency and intensity of certain types of extreme weather events. In our February 2015 high risk report, we

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1 The National Institute of Standards and Technology has defined the term “supply chain” to mean a set of organizations, people, activities, information, and resources for creating and moving a product or service from suppliers to an organization’s customers.

2 In late October 2012, Superstorm Sandy, which had been a hurricane in the Atlantic Ocean, made landfall in southern New Jersey as an intense post-tropical cyclone, with effects felt across 11 states and the District of Columbia, particularly the densely populated New York and New Jersey coasts.


4 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.
recognized that climate change poses risks to private-sector companies by, for example, disrupting supply chains that provide the food, medicine, energy, and products that support the U.S. economy.

According to the Securities and Exchange Commission (SEC), some business leaders are increasingly recognizing the current and potential effects on their companies’ performance and operations, both positive and negative, that are associated with climate change and with efforts to reduce greenhouse gas emissions. For example, SEC has noted that many companies are providing information to the public about their carbon footprints and their efforts to reduce them. As part of a GAO forum held in July 2015, business leaders representing a variety of industries described climate-related risks faced by their businesses in three areas—infrastructure, supply chains, and operations—and actions taken to identify and manage these risks.

Companies subject to the registration and reporting requirements of the Securities Act of 1933 and the Securities Exchange Act of 1934 are generally required to disclose certain information to investors through regular filings with SEC. Specifically, these companies must disclose the information required by federal securities laws and regulations and any additional material information necessary to make those required statements not misleading in light of the circumstances under which they are made. Information is material if there is a substantial likelihood that a

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5GAO, *High-Risk Series: An Update*, GAO-15-290 (Washington, D.C.: February 2015). In 1990, we began reporting on government operations that we identify as “high risk” due to their greater vulnerabilities to fraud, waste, abuse, and mismanagement or the need for transformation to address economy, efficiency, or effectiveness challenges.


8For the purposes of this report, when we use the word “companies,” we are referring to those publicly-traded companies subject to the registration and reporting requirements of the Securities Act of 1933 and the Securities Exchange Act of 1934.
reasonable investor would consider it important in making an investment decision. This may include information on climate-related risks.

In February 2010, SEC issued Commission Guidance Regarding Disclosure Related to Climate Change (hereafter referred to as the 2010 Guidance) to outline the agency’s views on existing disclosure requirements as they apply to climate change matters and assist companies in satisfying those requirements. SEC’s guidance also states that the Commission will determine whether further guidance or rulemaking relating to climate change disclosure is necessary or appropriate in the public interest or for the protection of investors, which we refer to in this report as determining what information investors need. You asked us to review climate-related supply chain risks that companies are disclosing in their annual SEC filings. This report examines (1) the types of climate-related supply chain risks companies are disclosing in their SEC filings and other channels through which companies may disclose climate-related supply chain risks; (2) how SEC considers climate-related supply chain risks when monitoring and enforcing compliance with disclosure requirements; and (3) what actions, if any, SEC has taken to identify climate-related supply chain risk information that investors may need.

Scope and Methodology

To identify the types of climate-related supply chain risks companies are disclosing in their SEC filings, we reviewed companies’ SEC filings and relevant SEC documents, and we interviewed SEC staff. According to SEC staff, SEC does not track data on climate-related disclosures in companies’ filings or climate-related comment letters issued by SEC to

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9 See 17 C.F.R. § 240.12b-2. Information is material if there is a substantial likelihood that its disclosure would have been viewed by the reasonable investor as having significantly altered the total mix of information made available. Basic Inc. v. Levinson, 485 U.S. 224, 231-32 (1988) (quoting TSC Industries, Inc. v. Northway, Inc., 426 U.S. 438, 449 (1976)).

10 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.

11 This review was conducted in response to a 2014 request from Representative Matthew Cartwright—then Ranking Member, House Subcommittee on Economic Growth, Job Creation, and Regulatory Affairs; Committee on Oversight and Government Reform—to review the management of climate-related risks to supply chains. An earlier report in response to the 2014 request is GAO, Federal Supply Chains: Opportunities to Improve the Management of Climate-Related Risks, GAO-16-32 (Washington, D.C.: Oct. 13, 2015).
companies. In order to identify examples of climate-related supply chain risks disclosed by companies, we reviewed a selection of filings from SEC’s Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system. We narrowed the scope of our review by searching companies’ filings in industries that SEC staff selected for their 2012 and 2014 reports, titled Staff Report to the Senate Committee on Appropriations Regarding Climate Change Disclosure, because the nature of their operations led SEC staff to assume those industries are more likely than other industries to be affected by climate change related matters. These industries are auto, electric services, insurance, manufacturing, mining, and oil and gas. We also included the agriculture industry because it was cited by representatives of the Center for Climate and Energy Solutions (C2ES)—an independent, nonpartisan, nonprofit organization that works to address climate and energy challenges—and Ceres—a nonprofit organization that works with investors, companies, and public interest groups on sustainable business practices—as having potential for examples of companies with climate-related supply chain disruptions. In each industry, we used the same key word search terms—“climate change” and “supply chain”—to compile a list of companies’ filings that may disclose climate-related supply chain risks. For each of the industries, we found the following numbers of companies with filings that matched our search terms: agriculture – 7, auto – 3, electric services – 19, insurance – 1, manufacturing – 907, mining – 7, and oil and gas - 29, which totaled 973 company filings. Because we were able to use these filings to identify illustrative examples of the types of climate-related risks that companies disclose, we did not conduct additional searches using other search terms, such as “extreme weather” and “supply chains.” Therefore, filings are not intended to be a comprehensive list or representative sample of companies that identify climate-related risks in their SEC filings. Of the 973 company filings that matched our search terms, based on our review of the nature of the company and the type of work they do, we identified a subset of 84 companies’ filings that seemed likely to identify climate-related risks to supply chains, which we reviewed in more detail to identify a variety of illustrative examples of the types of climate-related risks that companies disclose. We did not perform a comprehensive review of all filings because our intention was to identify illustrative examples of types

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of risks and not to determine the total number of companies that identified climate-related risks in their filings. In doing so, we identified two or three examples of different types of climate-related risks that companies disclosed in each industry, with the exception of the insurance industry where we found one company that matched our search terms. We also learned from business leaders from several industries about climate-related risks that some companies face and examples of actions that companies are taking to manage these risks through a GAO forum on this topic. To identify other channels through which companies may disclose climate-related supply chain risks, we reviewed SEC’s 2010 Guidance, which identifies some channels, and interviewed representatives of nongovernmental organizations, including C2ES, Ceres, and CDP (an international nonprofit organization, formerly known as the Carbon Disclosure Project, that provides a system for companies to share climate-related information). We also accessed the websites of some of the same 84 companies with SEC filings that we reviewed in order to identify illustrative examples of climate-related information that companies make available to the public. We also selected two countries with climate-related reporting guidance and/or requirements to include in our review—the United Kingdom and Canada. We selected the United Kingdom and Canada because they were identified by representatives of CDP as countries that have climate-related disclosure requirements or guidance, and companies’ filings are available in English.

To identify SEC’s processes for monitoring and enforcing disclosure requirements and how SEC staff consider climate-related supply chains in these processes, we reviewed SEC documents and interviewed SEC staff. Specifically, we reviewed SEC documents that describe its review and enforcement processes, including the SEC staff’s 2012 and 2014 reports to the Senate Committee on Appropriations regarding climate change disclosure, the SEC staff’s 2013 Report on Review of Disclosure Requirements in Regulation S-K,14 the SEC’s Inspector General’s report on the Division of Corporation Finance’s enforcement referrals,15 and SEC’s

13 GAO-16-126SP.
enforcement manual. We also interviewed staff in SEC’s Divisions of Corporation Finance and Enforcement.

To determine what actions, if any, SEC has taken to identify information that investors may need on climate-related supply chain risks, we reviewed SEC documents and interviewed SEC staff. Specifically, we reviewed SEC’s 2010 Guidance, which identified actions SEC and its Investor Advisory Committee expected to take related to climate change disclosure. We also reviewed the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act, which established the Investor Advisory Committee and the Office of the Investor Advocate; the charter and bylaws of the Investor Advisory Committee; reports by the Office of the Investor Advocate; and the SEC staff’s 2012 and 2014 reports to the Senate Appropriations Committee regarding climate change disclosure. We also interviewed representatives from the Council of Institutional Investors (a nonprofit, nonpartisan association of corporate, public and union employee benefit funds and endowments with a mission of being a voice for effective corporate governance practices for U.S. companies) to gain an understanding of what information investors may need and interviewed staff in SEC’s Division of Corporation Finance and the Office of the Chair of the Commission.

We conducted this performance audit from March 2015 to January 2016 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.

SEC’s mission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation. In doing so, according to its 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. Under federal securities laws, publicly traded companies are required to disclose specified financial and other information to the public in annual

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and other periodic reports filed with SEC. These reports are available on SEC’s website through its EDGAR system. The regulations promulgated by SEC for non-financial disclosure, known as Regulation S-K, contain disclosure requirements that are applicable to annual reports—called Form 10-K—and other periodic reports filed with SEC.

SEC’s 2010 Guidance was published by the Commission to provide guidance to companies on how existing disclosure requirements apply to climate change matters. The 2010 Guidance describes some climate-related impacts that companies may face, including risks to their supply chains, and under what circumstances these impacts could trigger disclosure requirements. The 2010 Guidance identifies four items in Regulation S-K that do not specifically mention climate-related risks, but may require climate-related disclosure in companies’ Form 10-K, which in turn has the following sections devoted to each of the items:

- **Description of business.** This section of a company’s Form 10-K requires a description of the company’s business, including its main products and services, what subsidiaries it owns, and what markets it operates in. This item expressly requires disclosure of certain costs of complying with environmental laws.18

- **Legal proceedings.** This section requires a company to include information about certain material pending legal proceedings, including those arising under any federal, state, or local provisions that have been enacted or adopted regulating the discharge of materials into 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

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17 The Commission is made up of five Commissioners—composed of the Chair and four Commissioners—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. SEC staff, working in five divisions and 23 offices, assist the Commission in executing its responsibilities.

18 17 C.F.R. § 229.101(c)(1)(xii).
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 the business results of the past 2 to 3 financial years. 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 business of the company. 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.

SEC’s Division of Corporation Finance is responsible for reviewing corporate disclosure. The Division of Corporation Finance routinely reviews the disclosure documents that companies are required to file, including the Form 10-K. The division’s staff also provides companies with assistance interpreting the Commission’s rules and assists the Commission with rulemaking. SEC’s Division of Enforcement assists the Commission in executing its law enforcement function by recommending the commencement of investigations of potential securities law violations, by recommending that the Commission bring civil actions in federal court or as administrative proceedings before an administrative law judge, and by prosecuting these cases on behalf of the Commission. The division obtains evidence of possible violations of the securities laws from many sources, including other SEC divisions and offices, such as the Division of Corporation Finance.

**Companies May Disclose a Variety of Climate-Related Supply Chain Risks in SEC Filings and May Provide Additional Information through Other Channels**

Companies may disclose a variety of climate-related supply chain risks in their SEC filings under four broad categories of climate-related topics that SEC identified in its 2010 Guidance. Additionally, companies may disclose climate-related supply chain risks through other channels, including nongovernmental organizations, company websites, and foreign government entities.
Companies may disclose a variety of climate-related supply chain risks in their SEC filings. These risks can be categorized under four different topics that SEC identified in its 2010 Guidance as some of the ways climate change may trigger disclosure. The four categories are impact of legislation and regulation, impact of international accords, indirect consequences of regulation or business trends, and physical impacts. These categories are summarized in table 1 and described in more detail later. Regardless of whether a company’s identified risk falls under one of these categories, companies must include in their filings the information required by 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, including all material climate-related supply chain risks. Additionally, some climate-related risk information disclosed by companies may be indirectly related or unrelated to supply chains. For example, we identified an oil and gas company that reported in its Form 10-K that climate change regulations or legislation could result in increased operating costs and reduced demand for oil and gas, but it did not disclose any climate-related risks to its supply chain.

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<th>Category of climate change risk</th>
<th>Definition</th>
<th>Examples</th>
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<tr>
<td>Legislation and regulation</td>
<td>Pending or existing regulations or legislation related to climate change at all levels of government.</td>
<td>Companies could face costs from improving facilities and equipment to reduce emissions in order to comply with regulatory limits. They could also face costs to purchase, or profit from the sale of, allowances or credits under a “cap and trade” system.</td>
</tr>
<tr>
<td>International accords</td>
<td>Treaties or international accords relating to climate change.</td>
<td>The European Union Emissions Trading System could have a material impact on a company’s business, which could potentially be the same as the impact from U.S. climate change legislation and regulation.</td>
</tr>
</tbody>
</table>
Category of climate change risk | Definition | Examples
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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. They may also face reputational risk, with potential adverse consequences to business operations or financial condition, from the public’s perception of publicly-available data relating to their greenhouse gas emissions. |

Physical impacts | Significant physical effects of climate change that could affect a company’s operations and financial results. Physical effects could include effects on 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: SEC | GAO-16-211

Impact of legislation and regulation. According to SEC’s 2010 guidance, federal and state legislation and regulation may trigger various disclosure requirements. For example, in the case of pending legislation or regulation, companies must determine whether it is reasonably likely to be enacted. If a company determines that pending legislation or regulation is not reasonably likely to be enacted, then no further action is needed. However, if a company determines that it is reasonably likely to be enacted, the company must then determine whether it is reasonably likely to have a material effect on the company, its financial condition, or results of operation. If so, then the company must disclose this information. In another example, the 2010 Guidance states that companies should consider specific risks they face as a result of climate change legislation or regulation and avoid disclosing generic risk factors that could apply to any company. To illustrate, the 2010 Guidance suggests that companies in the energy and transportation sectors may face different risks from the same legislation or regulation.

We found several examples of companies disclosing information in their Form 10-K on the impact of climate-related legislation or regulation to their business. One such example is an agribusiness and land management company that states in the Risk Factors section of its 2014 Form 10-K that greater regulation of greenhouse gas emissions could...
substantially increase the distribution and supply chain costs associated with its business, negatively affecting its business. This company does not, however, identify any pending regulations that give rise to this risk.

We also found companies may identify specific regulation or legislation in their Form 10-K, such as California’s existing “cap-and-trade” system and similar programs that have been considered by Congress. One example is an energy company with oil and natural gas exploration operations that provides details about specific pending and existing regulations and legislation in the Description of Business section of its Form 10-K, such as state air quality laws and the federal Clean Air Act, which it states could pose risks to its business. The company states that any laws or regulations to reduce or restrict greenhouse gas emissions would likely increase its operating costs and could reduce demand for its products.

Another example is an electric services company that provides detailed descriptions of the uncertainty surrounding future greenhouse gas emissions standards and permitting requirements within the Description of Business section of its Form 10-K. Additionally, in the Risk Factors section of its Form 10-K, the company states that recent regulatory actions could require it to install significant additional control equipment, resulting in material compliance costs for the company’s electricity generation units.

Impact of international accords. The 2010 Guidance instructs companies to consider impacts on their business from treaties or international accords related to climate change and disclose them when material. Examples of such accords identified in the 2010 Guidance include the European Union Emissions Trading System (EU ETS), which is a greenhouse gas emissions cap-and-trade system.

Similar to the disclosures related to climate change regulation or legislation, we identified examples of companies that provide detailed descriptions of the EU ETS in their Form 10-K, and provide information about its potential impact on their business. One example is a global paper and packaging company with operations and markets in many countries. This company states in its Form 10-K that it has sites subject to

\[\text{cap-and-trade system, an overall emissions cap is set and entities covered by the system must hold tradable permits—or allowances—to cover their emissions.}\]
regulation under the EU ETS, and that the impacts of the EU ETS have not been material to the company in the past, but could become material in the future depending on the evolution of allocation and market prices for emissions. The company also describes U.S. national, state, and local efforts to regulate greenhouse gas emissions and states that future legislation or regulation could have indirect impacts on the company, including higher prices for transportation, energy, and other inputs.

**Indirect consequences of regulation or business trends.** According to the 2010 Guidance, legal, technological, political, and/or scientific developments regarding climate change may create new opportunities or risks for registrants, such as increased or decreased demand for a company’s products or services. For instance, the 2010 Guidance notes that a possible indirect consequence may be decreased demand for goods that produce significant greenhouse gas emissions. The 2010 Guidance indicates that these business trends or risks may be required to be disclosed in the Risk Factors or Management’s Discussion and Analysis sections of the Form 10-K. We identified an example of an energy company with operations in oil and gas exploration and coal mining that disclosed in the Risk Factors section of its Form 10-K that future regulations restricting greenhouse gas emissions could reduce demand for the company’s fossil fuels, thereby reducing its revenues and having a material adverse effect on its business. Another indirect consequence cited by this company is that three large U.S. investment banks announced new climate change guidelines for lenders, requiring the evaluation of carbon risks when financing electric power generation plants. According to the company’s Form 10-K, these guidelines could make it more difficult for utilities to obtain financing for coal-fired plants, which could make coal-fired plants less attractive for utilities in the future and result in decreased demand for the coal this company sells.

In addition to trends affecting demand for a company’s products and services, the 2010 Guidance instructs companies to consider disclosing the impact of climate change on their reputation as another potential indirect risk. One electric services company we identified illustrates this risk in the Description of Business section of its Form 10-K by explaining that, if a substantial number of its customers refuse to do business with the company because of its greenhouse gas emissions, such actions could have a negative material effect on the company. Another example we identified is a global packaged foods company that discloses in its Form 10-K that its reputation could be harmed by adverse publicity if it fails to maintain high ethical, social, and environmental standards for all of its operations and activities, or its environmental impact, including use of...
agricultural materials, packaging, energy use, and waste management. It states further that damage to its reputation or loss of consumer confidence in its products for any reason could have a material adverse effect on its business, financial condition, and results of operations.

Physical impacts of climate change. SEC’s 2010 Guidance notes that significant physical effects of climate change—such as effects on the severity of weather, sea levels, and water availability—have the potential to affect a company’s operations and results. According to the 2010 Guidance, possible consequences to companies could include direct impacts, such as property damage and disrupted operations, as well as indirect financial and operational impacts from disruptions to the operations of major suppliers or customers.

We identified examples of companies disclosing in their Form 10-K the potential physical effects of climate change on their operations and results. For example, a large international beverage company states in the Risk Factors section of its Form 10-K that “increased frequency or duration of extreme weather conditions could also impair production capabilities, disrupt our supply chain, or impact demand for our products. As a result, the effects of climate change could have a long-term adverse impact on our business and results of operations.” This company discloses more specific information in the Risk Factors section of its Form 10-K, explaining that water is vital to its manufacturing processes and is a limited resource in many parts of the world that face the effects of climate change, among other factors. The company states further that it may incur higher production costs or face capacity constraints that could affect its profitability in the long run as water becomes scarcer, and the quality of available water deteriorates. In the Management’s Discussion and Analysis section of its Form 10-K, this company describes its water stewardship and management program to replenish the water it uses and enhance global water conservation efforts. In addition to its water-related risk, this company describes the risk it faces from decreased agricultural productivity in certain regions of the world as a result of changing weather patterns, which may limit the availability or increase the cost of key agricultural commodities that are important sources of ingredients for its products. Similarly, we identified a company in the beer brewing industry that stated that “while warmer weather has historically been associated with increased sales of beer, changing weather patterns could result in decreased agricultural productivity in certain regions which may limit availability or increase the cost of key agricultural commodities, such as hops, barley, and other cereal grains, which are important ingredients for our products.” Another example we identified is an outdoor apparel
company that discloses in its Form 10-K that the company depends on
cold seasons to generate consumer demand for its products. Warmer
global weather patterns or increasing weather volatility could reduce
demand for its cold weather apparel, which could have a material adverse
effect on the company’s financial condition, results of operations, or cash
flows.

In our review of filings, we found that some businesses identified specific
physical risks based on the location of their operations and supply chains,
and the potential direct physical impacts of severe weather in those
locations. One agribusiness and real estate development company based
in California, for example, noted that extended periods of drought in
California may put additional pressure on the use and availability of water
for agricultural uses and that the lack of available potable water can also
limit real estate development. Another example is an agriculture
technology company operating mainly in China, which states in its Form
10-K that one province in China where its agricultural operations are
located is subject to occasional drought, while another province is subject
to occasional flooding. The company states that these events could
adversely affect production and may result in material disruptions to its
operations. Finally, a company with operations in oil and gas exploration,
development, and production discusses the particular severe weather
risks faced by offshore and deep water operations, such as damage or
loss from typhoon or other adverse weather conditions, which could
cause substantial damage to facilities and interrupt production.

We also found that some companies disclose more general physical risks
that might be related to climate change without specifically mentioning
climate change. One example is a large automotive manufacturer that
discloses in its Form 10-K that it faces risks from disruption in its
suppliers’ operations due to unexpected shortages. The manufacturer
also noted that it is at risk for an increase in the cost of raw materials,
which come from a limited number of suppliers. However, the
manufacturer does not specify reasons for the potential shortages,
disruptions, and increased costs, which may or may not result from
climate-related events.
## Companies May Provide Climate-Related Supply Chain Risk Information through Channels Outside SEC

Channels exist outside SEC through which companies may disclose climate-related supply chain risks, including nongovernmental organizations, company websites, and in response to reporting requirements in foreign countries. Some nongovernmental organizations provide forums and guidance for companies to voluntarily disclose climate-related risk information. For example, CDP uses a questionnaire to collect data from companies and their suppliers to analyze and publicly disclose their climate-related supply chain risks. In its questionnaire, CDP asks how the company incorporates climate change into its business strategy, the types of climate-related risks it faces, and how it manages those risks, as well as for specific data on emissions. According to reports by nonprofit organizations C2ES and Ceres, companies respond voluntarily and may provide more information about their climate-related risks than they do in SEC filings because the companies may provide information that they do not consider to be material to investors. Furthermore, entities that are not required to register and file with SEC—such as privately held companies, government agencies, and nonprofit organizations—may also complete CDP surveys. CDP disseminates some of its data and individual questionnaire responses on its public website. According to CDP staff, about 5,000 entities have responded to its voluntary surveys, representing 57 percent of global market capitalization.

Other nongovernmental organizations providing channels for companies to disclose climate-related risks are the United Nations Global Compact and the Global Reporting Initiative. Companies voluntarily participate in the Global Compact by committing to meeting the 10 principles of the Global Compact, which are grouped into the issues of human rights, labor, environment, and anticorruption, and publicly report on the progress toward meeting these goals. To participate, companies annually submit to the Global Compact a statement by the company’s chief executive expressing support for and renewing ongoing commitment to the initiative, which includes a description of actions taken or planned by the company, and a measurement of outcomes relating to the Global Compact, which is

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20 The Global Compact is the world’s largest global corporate sustainability initiative, with over 8,000 companies and 4,000 nonbusiness participants based in over 160 countries. The United Nations Global Compact supports companies to (1) do business responsibly by aligning their strategies and operations with 10 principles on human rights, labor, environment, and anticorruption; and (2) take strategic actions to advance broader societal goals with an emphasis on collaboration and innovation.
then made publicly available on the Global Compact website. 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. Companies use the framework guidelines to analyze their operations and may publish the results on their websites.

Companies may also independently include climate-related supply chain risk information on their company websites. For example, one large, global, processed food product company we identified disclosed in a report available on its website that it faces risks from extreme weather conditions and potential climate-related legislation. Companies may also describe their efforts to manage climate-related supply chain risks on their websites. For example, another processed food company we identified published a report on its website in which it describes climate change as a significant environmental challenge to the company and to its suppliers. The report specifically refers to water-related risks to its supply chain, which is dependent upon the availability of clean water to grow ingredients. As an example of the company’s risk from water-related crisis, it described how corn crops struggled following the flooding of the Missouri and Mississippi Rivers in 2011 followed by droughts the following year. The company further states in the report that managing water risk at its own facilities and in its supply chain is critical to long-term business success.

Another channel through which companies may disclose climate-related supply chain risk information is in response to reporting requirements in foreign countries. For example, a department of the United Kingdom issued guidance in 2013 to help companies comply with its greenhouse gas emissions disclosure regulation issued that year. The regulation requires certain companies to report on their greenhouse gas emissions in their annual director’s report, which is made available to the public. For example, we found one British company disclosed greenhouse gas emission information in its annual report, but it did not disclose the same information in its Form 10-K with SEC. The information disclosed in the annual directors’ reports issued in response to the United Kingdom’s regulation may differ from the information reported to SEC, however, because it may not be required under SEC’s regulations.
SEC Considers Climate-Related Supply Chain Risks During Its Routine Monitoring Activities

SEC considers climate-related supply chain risks as it considers the totality of information that companies are required to disclose in its routine monitoring processes and it may consider allegations of inadequate or fraudulent disclosures as part of its enforcement process. SEC, through its Division of Corporation Finance, seeks to ensure that companies provide required information in order for investors to make informed investment decisions. According to SEC documents, during the Division of Corporation Finance’s review, the staff check to see if companies are meeting their disclosure requirements and seeks to enhance companies’ compliance with disclosure requirements. To accomplish this, the Division of Corporation Finance conducts the following three main types of reviews:

- **Initial reviews.** A company’s initial registration statement is reviewed to evaluate compliance with applicable disclosure and accounting requirements.

- **Periodic filing reviews.** In addition to the initial review, according to SEC staff, each reporting company’s financial statements are examined at least once every 3 years and many companies are reviewed more frequently; many companies’ nonfinancial disclosures are also reviewed.

- **Selective reviews.** Transactional filings, such as documents that companies file with SEC when they engage in public offerings and other actions, are selectively reviewed at the discretion of the Division of Corporation Finance.

The Division of Corporation Finance performs these reviews through 11 offices that focus on specific industries. According to SEC staff, reviewers spend many years reviewing the same industries and, as a result, develop industry-specific expertise with regard to expected disclosure items in a particular industry, including climate-related disclosure. A review team from the appropriate industry office is assigned to each filing that is selected for review. At times, an engineer may be involved in a review. SEC does not have a subject matter expert for climate-related issues because, according to SEC staff, disclosures of climate-related matters in SEC filings do not require technical expertise to understand, unlike the disclosures related to other subjects, such as oil and gas reserves, which require the technical expertise of petroleum engineers.

Much of the Division of Corporation Finance’s reviews involve evaluating a company’s disclosure from the perspective of a reasonable investor. As
described by SEC staff, reviewers look for information—climate-related or otherwise—that is required to be disclosed by federal securities laws and regulations. Whether a company has material climate-related information to disclose, according to SEC staff, depends on the individual company’s facts and circumstances, which are only known by the company. SEC staff also explained that companies are responsible for the adequacy and accuracy of the information in their filings. According to SEC staff, it is difficult for SEC reviewers to know whether a company faces a material climate-related supply chain risk that it is not disclosing. However, when reviewers identify instances where they believe a company can enhance its compliance with applicable requirements, they may provide the company with written comments. In comment letters, the staff may request that a company: (1) provide supplemental information so SEC staff can better understand the company’s disclosure, (2) revise the disclosure, (3) provide additional information in its filing, or (4) provide additional or different disclosure information in a future filing. A company generally responds to each comment in a letter to the staff and, if appropriate, by amending its filings. This comment and response process continues until the staff and the company resolve the comments. According to SEC staff, reviewers are not knowledgeable of all of the facts a company used to make its decision to disclose or not disclose information, but reviewers can ask a company to explain the basis for its disclosure or lack thereof. Furthermore, SEC staff said that whether a company complies with staff comments by amending the filing or in a future filing depends on the significance of the issue. Additionally, SEC staff pointed out that it is sometimes more useful for a company to address SEC’s comments in a future filing because by the time a company receives a comment letter from SEC, it may be 3 or 4 months after submitting the filing, and investors would have already used the information in the filing to make investment decisions.

Conducting filing reviews and issuing comment letters is the primary means by which the Division of Corporation Finance monitors and suggests enhancements to companies’ disclosures, including disclosures of climate-related supply chain risks. For example, in 2010—shortly after the 2010 Guidance became effective—SEC staff sent a comment letter to an insurance company asking the company to consider including in its Form 10-K a discussion of how climate changes may impact the company’s business. The company responded saying that it had considered the 2010 Guidance and determined that information regarding the impact of climate change on its business was not necessary because it is focused on providing workers’ compensation and other insurance products that are not impacted by climate-related events; SEC staff had
no further comment. Ceres, a nonprofit organization that advocates for business and investor leadership on climate change and other environmental challenges, analyzed SEC’s comment letters from February 2, 2010, to December 31, 2013, to determine how many were related to SEC’s 2010 Guidance on climate change. Ceres reported that SEC sent 25 comment letters related to climate change to 23 companies (2 companies received 2 letters as a result of back-and-forth correspondence). Ceres’ analysis found that, of the 25 letters during this time period, SEC sent 17 comment letters in 2010—the first year of the guidance—5 letters in 2011, and 3 letters in 2012; Ceres did not identify any comment letters in 2013 related to SEC’s 2010 Guidance. SEC staff could not comment on these numbers because SEC does not track data on climate-related disclosures in companies’ filings or climate-related comment letters. According to SEC staff, although there is no SEC policy to issue more comment letters on a topic after guidance is released on that topic, there are often more comment letters issued by SEC addressing a topic after the release of new guidance because companies are learning what information they need to provide to meet the intent of the guidance. Conversely, SEC staff said that a decline in the number of comment letters on a topic is not an indicator of decreased interest or consideration on the part of SEC.

When the Division of Corporation Finance reviews filings, if the reviewer identifies potential securities law violations or, as one SEC staff member described, if a reviewer has reason to believe there is a material inadequacy in the disclosure, the reviewer may refer the potential violations to the Division of Enforcement for investigation. When the Division of Enforcement receives a referral, its staff will prioritize the referral given other workload demands and depending on whether the likely outcome is worth the cost of doing so. This is done because, according to a Division of Enforcement staff member, such referrals must be considered against other sources of potential violations, as well as the demands of ongoing investigations. If the Division of Enforcement finds a potential violation, it may seek action through federal court or administrative action. According to SEC staff, the Division of Enforcement has not filed any actions concerning climate-related disclosure issues.

To determine if investors need additional information on climate-related risks, SEC has addressed one of three actions identified in its 2010 Guidance. SEC staff believe that SEC has not taken additional actions because its plans have evolved. According to its 2010 Guidance, SEC and its Investor Advisory Committee planned to take three specific actions to determine whether further guidance or rulemaking relating to climate change disclosure was necessary or appropriate in the public interest or for the protection of investors. Specifically, the 2010 Guidance states the following:

1. SEC would monitor the impact of the 2010 Guidance on company filings as part of its ongoing disclosure review program.
2. The Commission would hold a public roundtable on disclosure regarding climate change matters in the spring of 2010.
3. The Commission’s Investor Advisory Committee would consider climate change disclosure issues as part of its overall mandate to provide advice and recommendations to the Commission.

Since issuing its 2010 Guidance, SEC has monitored the impact of its guidance on company filings through conducting two reviews that were directed by congressional committee reports and its routine review process. Specifically, the Division of Corporation Finance studied the issue of climate-related disclosure in 2012 and 2014 in response to direction in Senate Appropriations Committee reports. The first committee report directed SEC to report on the quality of companies’ disclosures under the 2010 Guidance, among other things. In response, SEC staff surveyed climate change related disclosures in the annual reports of 60 companies from before and after the 2010 Guidance was issued. SEC staff reported that most of these companies included some level of risk factor disclosure in their annual reports concerning climate change-related matters or greenhouse gas regulation. Furthermore, SEC staff did not find significant year-to-year changes in the disclosures of companies from the year before the 2010 Guidance and the year after. The subsequent Senate Appropriations Committee report directed SEC to provide an updated report focused on the quality, specificity, and thoroughness of companies’ disclosures under the 2010 Guidance, among other things. In response, SEC staff conducted a review of 60 large companies, similar to its 2012 review, but evaluated the most recent annual filings available as of February 2014. SEC staff reported that most of the companies’ annual filings included disclosure of some level of risk regarding climate-related matters or greenhouse gas regulation and that their effects may increase their operational costs or may have an impact.
on either their financial condition or results of operations. The 2012 and 2014 SEC staff reports explain that SEC’s Division of Corporation Finance considers climate-related risks that may be material to a company as it considers other material factors in its routine review process, as described previously in this report.

SEC staff are not aware of any current plans to take action on the remaining two items the Commission identified in its 2010 Guidance—to hold a public roundtable on climate change disclosure and for the Investor Advisory Committee to consider the issue. SEC staff told us that they believe SEC has not taken these actions because some circumstances that existed at the time the 2010 Guidance was issued have changed. SEC staff cited three key events that have taken place since the 2010 Guidance was issued. First, the Commission issued the 2010 Guidance when Congress was considering legislation that, if enacted, would have limited greenhouse gas emissions by establishing a cap-and-trade program with an overall cap on emissions for the companies covered by the program. For example, it could have had a significant effect on some companies’ operating and financial decisions, including those involving capital expenditures to reduce emissions and, for companies subject to the cap-and-trade law, expenses related to purchasing allowances where reduction targets cannot be met. However, the legislation was not enacted, which, according to SEC staff, likely had an impact on the disclosures made by public companies because public companies did not have to comply with a new cap-and-trade law, and made the issue a lower priority for the agency.

Second, according to SEC staff, the priorities of the Commission changed after the guidance was issued in 2010. SEC staff said the 2010 Dodd-Frank Wall Street Reform and Consumer Protection (Dodd-Frank) Act and the 2012 Jumpstart Our Business Startups (JOBS) Act contain several mandates for SEC and the current Chair of the Commission has made it a priority for SEC to address these statutory mandates. For example, since the Dodd-Frank Act was enacted in 2010, according to SEC staff, SEC has finalized 63 rules of the 94 total rulemaking requirements for SEC in the act, as of November 2015. Likewise, since April 2012,

when the JOBS Act was enacted, according to SEC it has completed the major rulemakings required by the act.

Third, the Investor Advisory Committee did not consider the issue of climate-related risk disclosure because, according to a member of the committee, it was disbanded shortly after the 2010 Guidance became effective. The original committee was disbanded because a new Investor Advisory Committee was created by the Dodd-Frank Act, which resulted in a different membership from the previous advisory committee. According to the Chair of the current Investor Advisory Committee, the issue of climate change disclosure has not risen to the level of importance in the committee that other issues have, such as the requirements of the Dodd-Frank Act.

Some stakeholder groups interested in climate-related disclosure issues have requested that SEC take additional actions to increase climate-related information disclosed in companies’ filings. For example, the Comptrollers for New York State and the City of New York requested that SEC act to improve corporate disclosure of material risks in the fossil fuel industry. Their April 2015 letter claimed that companies in the fossil fuel industry have, among other things, failed to disclose all material risks associated with climate change. They requested that SEC consider enforcement and other actions to bring companies into compliance with disclosure requirements. Other stakeholder groups, including the Union of Concerned Scientists and an investment company, have also encouraged SEC to do more to help ensure companies are disclosing climate change and environmental-related information that investors need.

According to SEC staff, however, the agency has no plans to specifically determine if additional actions related to disclosure of climate-related risks are necessary or appropriate in the public interest or for the protection of investors, but these SEC staff explained that other potential and ongoing efforts by the agency could address climate change disclosure. Specifically, the Office of the Investor Advocate is tasked with

23In addition, on November 8, 2015, the New York Attorney General entered into an agreement with an energy company requiring it to include specified information on risks associated with possible climate change and related legislation and regulations in its next quarterly filing with the SEC and to ensure that future SEC filings are not inconsistent with the agreement. Previously, in 2009, the New York Attorney General entered into agreements with three different energy companies requiring them to disclose certain information concerning climate change risk.
proposing to SEC, to the extent practicable, changes to its regulations or orders that may be appropriate to mitigate identified problems and promote the interests of investors, among other things. According to the Investor Advocate, climate-related risk disclosure is an issue that his office—including its Ombudsman—could consider reviewing, though it has no formal plans to do so. Additionally, according to SEC staff, SEC’s disclosure effectiveness project, which began in December 2013, could address the subject of climate-related disclosure. According to SEC staff, they are reviewing the current disclosure requirements to evaluate how the Commission might refine them to more effectively provide investors with the information they need to make informed investment decisions. According to SEC staff, if they identify gaps in disclosure or opportunities to increase the transparency of information, SEC staff could potentially recommend new disclosure requirements to the Commission to address these areas. As of October 2015, the project is in its initial phase focusing on business and financial disclosure requirements, and staff have not recommended changes to the Commission. Although the disclosure effectiveness project is broad and does not specifically focus on climate-related disclosure, or the 2010 Guidance, the project provides investors, companies, and other stakeholders with opportunities to provide comments to SEC on any disclosure topic, including disclosure of climate-related risks to supply chains. For example, an investment company wrote to SEC under this project and proposed that SEC adopt changes to the existing disclosure requirements to enhance climate-related risk disclosure by companies in the oil and gas industry.

Agency Comments

We provided a draft of this report for review and comment to SEC. In oral comments provided on December 9, 2015, SEC staff in the Division of Corporation Finance generally agreed with our findings and provided technical comments, which we incorporated into the report, as appropriate.

24 The Fixing America’s Surface Transportation Act, which was enacted in December 2015, requires SEC to issue a report with recommendations on modernizing and simplifying the requirements in Regulation S-K, among other things, by December 2016 and to issue a proposed rule implementing the report’s recommendations within a year of its issuance. Pub. L. No. 114-94, § 72003 (2015).
As agreed with your office, 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 the appropriate congressional committees, the Chair of SEC, and other interested parties. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me 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 members who made key contributions to this report are listed in appendix I.

Sincerely yours,

J. Alfredo Gómez
Director, Natural Resources and Environment
Appendix I: GAO Contact and Staff Acknowledgments

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