

WEATHERING THE NEXT STORM: A CLOSER LOOK AT BUSINESS RESILIENCE



Katy Maher and Janet Peace

Center for Climate and Energy Solutions

September 2015

Increased extreme weather and climate-related impacts are imposing significant costs on society and on companies. While businesses are increasingly taking steps to assess risks and prepare for future climate changes, many companies face internal and external challenges that hinder efforts to move toward greater climate resilience. Building and expanding on an earlier review completed in 2013, C2ES examined how large companies are preparing for climate risk, who they are partnering with, and what is keeping them from doing more. The resulting report is *Weathering the Next Storm: A Closer Look at Business Resilience*. The following is the report's executive summary. The full report is available at: <http://www.c2es.org/initiatives/business-resilience>.

INTRODUCTION

As we saw once again in 2014—the warmest year globally on record—increases in extreme weather and other climate-related impacts are imposing significant costs on society. Even as governments, companies and communities strengthen efforts to reduce emissions contributing to climate change, they are awakening to the urgent need to address growing climate impacts. Across the United States, governments at all levels are taking steps to strengthen climate resilience. Simultaneously, a growing number of companies are recognizing extreme weather and climate change as present or future business risks. For many companies, these rising risks extend well beyond the “fence line” to critical supply chains and infrastructure, and can be effectively managed only in partnership with the public sector.

In 2013, C2ES released *Weathering the Storm: Building Business Resilience to Climate Change* (hereafter *WTS 2013*), which examined how companies listed in the Standard and Poor's (S&P) Global 100 Index were approaching climate risks. *WTS 2013* provided a baseline perspective

on how major companies were assessing their climate vulnerabilities and whether and how they were working to strengthen their climate resilience. This report provides an update and takes a closer look at how companies are preparing for climate change and what is keeping them from doing more.

The report is based on several lines of research:

- A comprehensive review of the perspectives and activities of S&P Global 100 companies, based on their reporting to CDP¹ and their corporate sustainability reports and annual financial filings;
- Interviews with company representatives to gather more detailed information on whether and how companies are assessing climate risks and what barriers are keeping them from doing more; and
- Dialogues conducted with companies, federal and local government agencies, academics, and other stakeholders through several workshops and events focused on business resilience.

These sources provide an in-depth look at the state of climate risk assessment and resilience planning within the business community. While some companies have taken steps to assess risks and prepare their business for future climate changes, many companies face various internal and external challenges that hinder efforts

toward greater climate resilience. This report identifies various approaches companies are using to address climate risks, examines challenges companies face in managing and reporting risks, and suggest strategies to overcome these challenges and strengthen climate risk management within the private sector.

■ KEY FINDINGS

Companies widely acknowledge climate risks, but few manage climate change as a stand-alone risk

Whether in survey responses or individual interviews, a vast majority of very large companies across all industrial sectors identify extreme weather and climate change (such as warmer temperatures, more frequent or severe flooding, or greater water scarcity) as current or future risks to their business.² At the same time, interviews found, climate risk is often too difficult to assess in its own right because of the long timeframes involved, the lack of location-specific data, and scientific uncertainty. It is often difficult to generate the type of black-and-white data needed to drive action. One interviewee said that the notion of climate risk is too “general” and not “particularly useful” as a risk concept on its own.

Accordingly, many companies view climate change as a “threat multiplier” or as a “magnifier” of existing risks. Climate-related changes are embedded in other risks companies already manage. Treating climate change as a risk amplifier may allow companies to tackle many of the challenges it poses. However, some impacts could be overlooked, particularly the potential cumulative and indirect impacts posed by climate change.

Climate vulnerability assessments have increased

A growing number of companies report they are undertaking or have already conducted vulnerability assessments that incorporate information about future climate conditions. Of the companies interviewed, 77 percent have conducted or are in the process of conducting a vulnerability assessment of some kind. While more vulnerability assessments are being done, their scale and scope vary widely. Some companies are examining risks across their entire enterprise, while others are focused on specific facilities, parts of the business, or regions. Others examine weather and climate risks on a project-by-project or case-by-case basis, and lack an overarching strategy for considering climate across their

organization. Assessing the potential climate risks to specific facilities rather than all of the business can be due to a number of factors, including limited resources or data, lack of internal issue recognition, or other operational considerations.

Water supply and quality are a high priority

Companies in various sectors, especially food and beverage, pharmaceuticals, IT equipment and mining, rely on water as a critical production input. For these companies, drought can be an important stressor, as can other events or trends affecting water supply and demand, such as flooding, changing precipitation patterns, reduced snowpack, heat waves or salt water intrusions associated with sea level rise. The dependence on water can be so important that it acts as the primary lens through which a company discusses future climate risk.

Public reporting on climate risk is increasing, but assessing materiality for financial disclosures remains challenging

Public reporting and voluntary disclosure efforts on climate risks have become increasingly important in providing transparency to investors, stakeholders, and customers. Not all companies report this climate risk and the degree of detail varies significantly among those that do. Most of the S&P Global 100 companies (84 companies) continue to discuss their climate risk concerns in their responses to the CDP questionnaire, which specifically includes questions on this topic. Substantially fewer companies address extreme weather and climate change in their financial filings (40 companies) or in their sustainability reports (47 companies), but this reporting has increased slightly since *WTS 2013*. Eleven percent more of the S&P 100 companies (a net increase of four companies) now report on climate risks in their financial filings and 34 percent more (a net increase of 12 companies) discuss these risks in their sustainability

reports. Increases like these indicate that the topic of resilience is gaining more prominence.

In the context of financial disclosure, however, assessing how material climate change impacts are for a particular company remains challenging. Companies report that factors keeping them from including these risks in their financial disclosures include uncertainty about location-specific impacts, differences in time-frames between many climate risks (which may be material over many decades) and investment decisions (which may be focused on the next few quarters), and the need to place physical risks from climate impacts within the context of other risks (e.g., regulatory, reputational).

Business continuity and risk management plans remain the most common ways that companies address weather and climate risks, but many plans only include historical risk and not consideration of how climate change will alter those risks

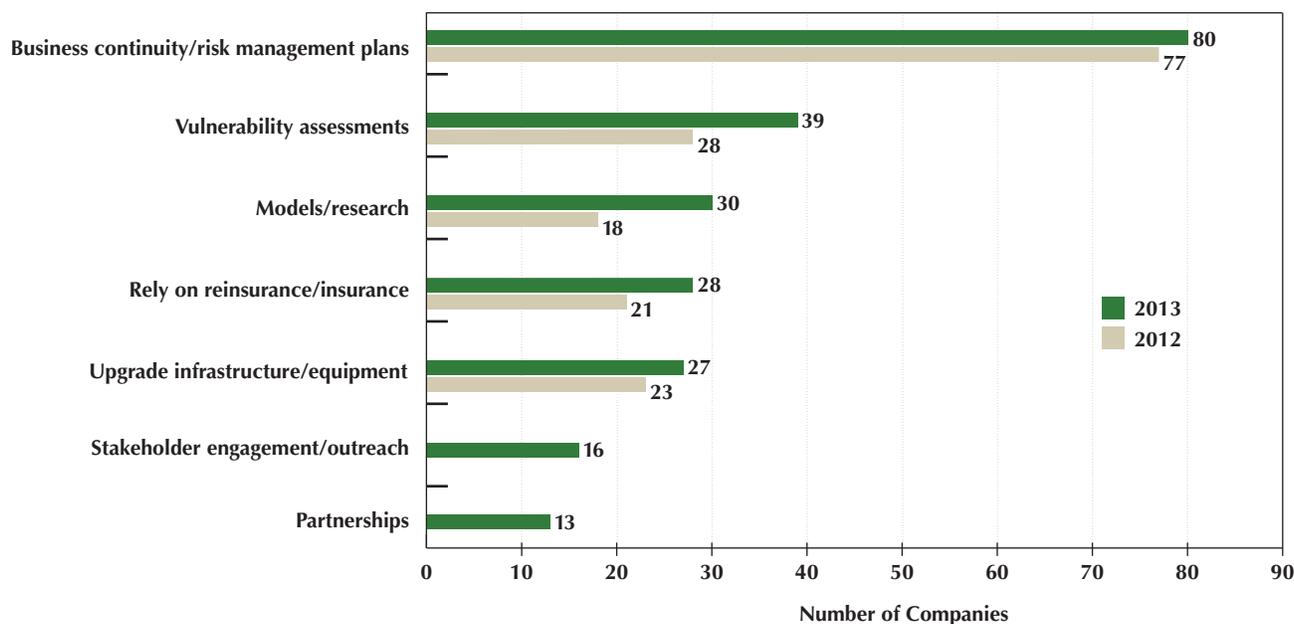
For most companies, physical climate impacts are managed through conventional business continuity planning or risk management. Almost all companies have established business continuity and emergency management plans to address natural disasters,

including extreme weather events. Most S&P Global 100 companies (80 companies) report that the methods used to manage physical climate risks are incorporated into their existing business continuity or risk management planning processes (**Figure 1**). This is a slight increase from the 77 companies identified in *WTS 2013*. Interviews highlighted that many may not be adjusting the risk landscape to account for climate-related changes. For example, several companies interviewed noted that while they were considering future changes in weather and climate, they were generally using historical events and data to project future risks (and were not specifically using climate projections of how these and other risks would change over time), in part because climate projections may not be granular enough to project future risks with the same detail that historical records provide. As a result, their business continuity plans may miss certain risks and risk interactions and they may well be underinvesting in resilience.

Methods to assess and manage climate risks vary, and there is no one-size-fits-all approach

Companies primarily manage their climate risks through their enterprise or business continuity frameworks and

FIGURE 1: Top Climate Risk Management Activities



Note: Stakeholder engagement/outreach and partnerships were not quantified in WTS 2013.

Source: C2ES research based on S&P Global 100 CDP surveys.

often use a stepwise approach to incorporate climate into the risks they already manage. However, some companies start at different points and pursue risk management in a different order. For example, some companies are starting with a narrowly scoped vulnerability assessment that examines only one region or only one impact to raise internal awareness and assess the need for a broader vulnerability assessment, similar to the example process shown in **Figure 2**.

Barriers to building resilience are decreasing but still remain

Assessing risks is an important precursor to managing them. Some companies report they are still having difficulty understanding vulnerabilities well enough to drive internal focus. Specific barriers include:

- **Data and tools.** Significantly more climate-related data and tools exist today than when *WTS 2013* was released. Companies, however, still report that data limitations affect their ability to plan for future climate risk. Interviews suggest that much of the available climate data lacks the level of granularity needed (e.g., not location-specific enough) to assess business risks. Most climate models provide projections at global, national, or regional levels. Companies often want to know what the expected impacts will be at a specific facility or at a specific location. In other words, they want “actionable science.” The spatial resolution of climate data and tools is improving, but has yet to evolve to a level that companies can easily use to assess climate risk in their business planning.

- **Uncertainty about the expected impacts.** Companies also continue to struggle with the uncertainty associated with the nature, timing, location, or severity of climate change impacts. Although businesses are familiar with uncertainty, translating the uncertainty associated with climate projections into a corporate risk management context can be difficult. Related to this is the uncertainty about which climate scenarios should be used for risk management. Companies suggest that official regional scenarios with low, medium and high ranges of impact would help them better manage the uncertainty.
- **Mismatch between short versus long timeframes.** One of the most frequently mentioned internal barriers was the perceived mismatch between short-term business decisions and long-term climate risks. Many companies look out five years or less when planning for risk management. While it may be relatively straightforward to identify ways that climate change will affect risks by the mid- or late-21st century, it can be difficult to show how risks over the next few years may be substantially different than those during the last few years. This can make incorporating long-term risks into management decisions difficult.
- **Out-of-date or inadequate standards and guidance.** Companies reported that engineering standards guiding how companies develop infrastructure are out of date and do not incorporate future climate risks (e.g., sea level rise, changes in 100-year floodplains). Out-of-date engineering standards and inadequate guidance can make it

FIGURE 2: Management Framework



*Initial vulnerability assessments can focus on specific impacts or regions.

difficult for businesses to justify going beyond the minimum engineering standards to incorporate climate resilience.

“Beyond the fence” barriers are still challenging

Almost all companies interviewed mentioned a concern about climate-related risks outside of their control, including supply chains, infrastructure (e.g., roads, public transport, water provision, electrical grids, and communications systems), or the lack of policies and standards that can encourage or facilitate resilience investments. While companies examined in this study are large with extensive internal resources, many of their suppliers are not as large and may not have the resources to assess or manage their own climate-related risk or vulnerability. Several interviewees noted that there was also limited communication with suppliers on the issue of climate vulnerability. As one company noted, “you are only as resilient as your weakest link, so it is important to identify where that link is.”

Intermediary institutions can play an important role in bringing business voices to urban resilience planning

Given the prominent role that cities play in designing and maintaining critical infrastructure, companies and cities are beginning to collaborate to address and manage this shared risk. More than 75 percent of the cities that responded to CDP’s 2014 Cities Program questionnaire affirmed that climate impacts were likely to affect how businesses operate in their jurisdictions. For

the survey respondents in the United States, nearly 80 percent indicated that climate would affect their respective businesses.³ And while partnerships between cities are common, explicit inclusion of companies within the resilience planning process is still rare.

When companies are involved in urban resilience planning, a third-party intermediary is typically facilitating their participation. Examples of these intermediary institutions include the Green Ribbon Commission in Boston and the climate collaboratives that exist in a number of California cities and Washington state. These collaboratives can be effective in bringing businesses voices to resilience planning by:

1. Providing a forum through which businesses can interact with one another, as well as with other non-governmental stakeholders (e.g., academic institutions, regional land holders, faith groups).
2. Spreading the transaction costs that a public institution would otherwise bear in coordinating or replicating discussions about climate risks across a number of diverse stakeholder groups, including businesses.
3. Functioning independently of the municipal political structure, enhancing continuity through election cycles and alleviating concerns about potentially undesirable collusion between public and private institutions (e.g., that corporate engagement in resilience discussions with the city leads to the development of business opportunities that favor the companies that are involved).

RECOMMENDATIONS FOR BUSINESS AND GOVERNMENT

Companies are taking a variety of approaches to incorporate resilience into their planning. There is no “right” path to follow, and applying business risk management approaches to climate change impacts is not always linear. Incorporating climate change into conventional risk management strategies can help, but companies should be aware that indirect and cumulative risks could be overlooked.

While appropriate strategies will vary from company to company, recommendations for addressing climate risk include:

- Starting with a limited-scope vulnerability assessment—focusing, for example, on the most critical

parts of the business—to raise internal awareness of climate risks.

- Clearly identifying who needs to be involved internally in assessing risks and implementing resilience planning.
- Facilitating regular communication across departments responsible for addressing climate issues—including sustainability, risk management, operations, and finance.
- Considering whether to change planning horizons to better incorporate climate risks.
- Exploring partnerships with governments, NGOs, and experts—particularly at the local level—to

analyze data, evaluate climate risks, undertake cost-benefit studies, and implement resilience planning.

As a growing number of companies report on their climate risks through both mandatory and voluntary channels, steps can be taken to improve and streamline processes and ensure stronger, more consistent reporting. For example, the Securities and Exchange Commission could improve its guidance by directing companies to disclose more detail about impacts they have experienced or anticipate, prescribing specific time periods and thresholds for weather and climate risks, and developing tools to enhance the quality of disclosure.

Government agencies can support private-sector resilience by contributing to existing resources such as the Climate Data Initiative, joining and establishing partnerships, and pursuing new efforts such as developing tools and guidance. A high priority is improved data and analysis that will help companies justify investments in climate resilience measures—in particular, cost-benefit analyses. Federal, state, and local government agencies can also support business resilience by improving public infrastructure and providing opportunities for the private sector to contribute to resilience investments, community upgrades, and emergency planning efforts.

ENDNOTES

1 CDP requests voluntary disclosures from the world's largest companies on their climate risks and opportunities on behalf of institutional investor signatories to increase transparency around climate-related investment risk and commercial opportunity, and drive investments toward a low carbon economy.

2 S&P Global 100 company CDP responses for years 2011, 2012, 2013 and 2014 and interview questions had very consistent answers to questions about risk and resilience.

3 CDP, "Protecting Our Capital: How climate adaptation in cities creates a resilient place for business," July 2014, <https://www.cdp.net/CDPResults/CDP-global-cities-report-2014.pdf>.

**C2ES would like to acknowledge Bank of America for its collaboration
and generous financial support for this initiative.**





The Center for Climate and Energy Solutions (C2ES) is an independent nonprofit organization working to promote practical, effective policies and actions to address the twin challenges of energy and climate change.