



# Adapting to Climate Change: A Guide for the Consumer Products Industry

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This guide is part of a BSR industry series. For more, see [www.bsr.org/adaptation](http://www.bsr.org/adaptation).

## Contents and Methodology

This brief covers:

**Reporting on Risks and Opportunities.** Based on reporting of climate risk in 2009 by 62 CP companies to the Carbon Disclosure Project (CDP).

**Current Practices.** An outline of actions related to climate change adaptation, based on reporting from the CDP, interviews, and other publications.

**Emerging Practices.** Synthesis of company disclosures, literature reviews, and input from climate change professionals through interviews.

This primer on climate change adaptation in the consumer products (CP) industry summarizes how CP companies are reporting on climate change risks and opportunities. It outlines current and emerging best practices and guidance for CP companies on how to develop a proactive approach to climate change adaptation, and provides recommendations for executives and managers of CP companies, and is of relevance to those who intersect with CSR/sustainability, supply chain management, and public policy.

In this brief, CP refers to a broad range of consumer goods companies, including brands and retailers of apparel and footwear; cosmetics and personal care products; cleaning, office, and home care supplies; and consumer durables.

## Introduction

As climate change brings warmer temperatures, increased frequency and severity of extreme weather events, and decreased availability of natural resources<sup>1</sup>, CP companies can expect their consumers, supply chains, and retail locations to feel the impacts. Impacts will vary significantly by region—for example, some areas may struggle to cope with too much water, others with too little—and magnitude.

What consumers buy, and *where, when, and how* they buy it, will reflect these effects. Not all consumers will be affected—nor should they be treated equally. Their needs and concerns will be distinct, based on the respective consumer segments and markets that are most important for a company. While some companies are targeting green consumers in developed markets (that may be less immediately vulnerable to climate change), others may be focused on the rapidly growing middle class in emerging markets—which means that the risks, opportunities, and recommendations outlined in this brief will be highly relevant to some companies and perhaps less relevant to others.

Many CP companies are paying attention to climate change due to growing consumer awareness and related purchasing priorities<sup>2</sup>, stakeholder and reporting expectations, and increasing supply chain cost and disruption. In response, they are implementing more efficient technology and resource management practices in their operations and supply chains, and some—recognizing that a significant proportion of the impact occurs during the product use phase—are developing products that enable consumers to reduce their carbon impact.

<sup>1</sup> For more information, see Intergovernmental Panel on Climate Change. "Climate Change 2007—Impacts, Adaptation and Vulnerability." (2007) <http://www.ipcc.ch/ipccreports/ar4-wg2.htm>.

<sup>2</sup> For more information on consumer trends related to environmental concerns, see National Geographic's 2010 Greendex Survey or the 2010 ImagePower® Green Brands Survey.

However, most companies have significant opportunity to improve their knowledge about how the more direct, physical impacts of climate change affect them—and in turn develop proactive and responsible ways to adapt to it. Key issues for the CP industry in this area include the following:

- » **Shortages of raw materials and natural resources affect production capacity and cost.** Warmer temperatures, erratic rainfall patterns, new pests, floods, and wildfires threaten the productivity and availability of agricultural inputs.
- » **Manufacturing facilities and distribution systems are located in countries vulnerable to climate change.** Increased water stress, fueled by more competition, and risk of natural disasters in these key sourcing regions (e.g. Asia and Latin America) are likely to impact the stability and continuity of company supply chains.
- » **Climate change will impact consumers' purchasing power and needs.** More extreme and unpredictable weather patterns may affect not only consumer preferences, but the types of products they seek in response to resource and economic constraints, and what they are able to purchase in preparation for and in the aftermath of disasters and other disruptive events. Furthermore, consumers will be affected in different ways and to varying degrees—with those in developing and emerging countries impacted first.

The CP sector has a unique role to play in enabling business and consumers to both reduce contributions to climate change and cope with effects already being felt:

**Mitigation** refers to actions taken to reduce greenhouse gas emissions, which are primarily driven by energy use.

**Adaptation** refers to activities that reduce harm or risk of harm, or realize benefits associated with climate variability and climate change.

Against this backdrop, this brief examines ways that climate change is affecting the CP industry and how companies are responding. We also propose priority areas for further exploration. Our analysis shows that while there is growing understanding of climate-related risk, there are far fewer examples of adaptive practices. This means that there is ample room for innovation, exploration, and collaboration around the opportunities identified for the sector as a whole. Based on company-reported risks, opportunities, and actions, this brief will help CP companies identify material climate risks and opportunities, and develop practical approaches to preparing for climate change.

## Reporting on Risks and Opportunities

The following is an analysis of 2009 CP industry disclosures on climate change risks and opportunities to the Carbon Disclosure Project (CDP), one of the largest repositories of company reporting on climate change.<sup>3</sup> Our review of company responses revealed common trends in reported risks and opportunities, which are grouped and summarized in the three areas below, and accompanied by examples of companies that provided those responses.

*Note that while company names are provided as examples, they do not represent a comprehensive list of all companies that provided similar responses.*

Key:
Opportunities
Risks

### 1. EVOLVING CUSTOMER NEEDS

Increased occurrence of natural disasters, more gradual weather and landscape changes, and consequent natural resource constraints will result in shifting consumer needs.

Impacts	Reporting Companies
A more variable and extreme climate will result in fluctuating consumer tastes and preferences. Companies—especially apparel companies—that are accustomed to and rely on traditional seasonal cycles should be prepared to accommodate less distinct changes between seasons and	The Limited, Billabong, Estee Lauder, Kimberly-Clark, H&M

<sup>3</sup> See [www.cdproject.net](http://www.cdproject.net)

**CDP Highlight:**

Of the 62 companies that responded, 65 percent reported that physical impacts of climate change presented risks; 52 percent responded that physical impacts of climate change presented opportunity.

warmer temperatures.	
Higher temperatures, increased risk of natural disasters, and harsher weather conditions will cause an increased demand for products that can help consumers adapt. Examples include personal hygiene products and emergency preparedness items.	Kimberly-Clark, Oriflame Cosmetics, Office Depot
Consumers may seek products that are more energy and water efficient to adapt to decreasing water availability and energy shortages.	Reckitt Benckiser, Kao Corp.
As consumers become more aware of climate change impacts, they will increasingly favor products and companies that demonstrate efforts to reduce their environmental impact.	Debenhams, Billabong
Extreme weather events and increased energy costs may affect consumer purchasing power and priorities. Companies that project substantial future market growth in countries that will be more affected by climate change (e.g., the emerging markets of Asia and Latin America) recognize that climatic conditions could negatively impact sales.	Wal-Mart Stores Inc., Oriflame Cosmetics

<b>2. PRODUCT MANUFACTURING AND SUPPLY CHAIN MANAGEMENT</b>	
Extreme weather conditions and events, and natural resource constraints in key manufacturing and raw material sourcing regions, will affect the capacity, cost, and delivery of product manufacturing.	
<b>Impacts</b>	<b>Reporting Companies</b>
Through research and exploration of alternative materials and manufacturing processes, companies can increase resilience to emerging shortages of raw materials and achieve their environmental and innovation goals.	Nike
Fluctuating availability, quality, and cost of raw materials are becoming increasingly difficult to manage. Materials of top concern include: cotton, leather, wood fibers (paper products), natural fats and oils, fossil fuels, and other agricultural inputs.	Billabong, The Limited, Office Depot, Kao Corp., Sherwin-Williams
Declining water availability and quality present a challenge for raw material production and core manufacturing processes, especially textile manufacturing. Supplier factories located in water-stressed regions may face increased competition and regulatory requirements for water use and/or wastewater discharge.	Nike, The Limited, Adidas, H&M, Topson Downs
Manufacturing facilities are commonly located in areas vulnerable to physical impacts of climate change—such as rising sea level, flooding, and extreme weather risk—that can impede their ability to operate.	Debenhams, Nike, Burberry, Clas Ohlson AB, Sony Corp.
Extreme weather events may disrupt and delay transportation of materials and finished products.	Debenhams, Nike, Topson Downs, Wal-Mart Stores Inc.

### 3. PHYSICAL ASSETS, INFRASTRUCTURE, AND BUSINESS PROCESSES

The projected rise of sea level and more frequent and severe weather events threaten to increase logistics disruption and cost. Such events may cause short- or longer-term damage to physical assets and infrastructure, thereby disrupting operations and sales.

Impacts	Reporting Companies
Warmer temperatures will result in increased energy costs to keep stores and offices cool.	The Limited
Extreme weather events and rising sea level may affect stores in coastal areas and other vulnerable areas, resulting in temporary or longer-term store damage and closure. Damage to infrastructure may impact the ability of consumers to travel to stores.	Target, Office Depot, LVMH, Wal-Mart Stores Inc.
Communications and information technology infrastructure could be affected by flooding or severe weather, which would interrupt service.	Debenhams

Company responses reflect a growing awareness of current and anticipated climate-related risks to company physical assets, supply chain management (especially at the raw material level), business continuity, and consumer expectations. Exploration and pursuit of opportunities that climate change presents, however, is limited and less understood.

It is important to note that this list is not a perfect representation of all real risks and opportunities. Climate reporting is new; while standards are coalescing about reporting topics, detailed guidance is scant, and reporting is uneven among companies.<sup>4</sup> Also, because it is difficult to attribute a given weather event to climate change, it can be challenging to distinguish risks and opportunities that are specifically related to climate change. Finally, the distinction between risk and opportunity is not always clear—the difference might be how a company is poised to handle a given disruption or risk, especially relative to its competitors.

#### About Adaptive Practices

Based on the previously identified risks and opportunities, companies pursue a range of adaptive responses, which are included in this section.

Adaptive practices are grouped by two types:

- Value protection:**  
 Ensuring resilience of owned physical assets and planning responses to maintain business as usual.
- Value creation:**  
 Devising solutions that contribute to the ability to pursue new forms of revenue-generating opportunity and helping suppliers, stakeholders, and customers adapt to a changing climate.

#### Current Practices

In response to these risks and opportunities, companies are pursuing a range of adaptive practices to identify, respond to, and stay ahead of current and expected disruptions. Some practices are intended to **protect value** of existing assets and systems. Others are aimed more at **creating value** through innovation and meeting new needs that stem from climate change effects.

The following examples of CP-sector practices and innovations are drawn from 2009 CDP responses.

#### VALUE PROTECTION

These practices provide examples of how companies are promoting resilience of physical assets and improving systems responses to effectively execute on existing plans and expectations and maintain business as usual.

<sup>4</sup> For more on standards, see the [CDP Investor Questionnaire](#) and the U.S. Securities and Exchange Commissions' [Guidance Regarding Disclosure Related to Climate Change](#).

*“Levi Strauss & Co. products are manufactured in more than 40 countries around the world, many of which are in the developing world and already feel the effects of climate change, including increased water shortage in places like India and Nicaragua or flooding and salt water intrusion in Bangladesh and Vietnam. Extreme weather events and trends pose a difficulty for managing risks to production and reliable supply chains.”*

Anna Walker, Levi Strauss & Co.

- 1 **Site and asset risk assessment and resiliency:** Companies conduct regular risk assessments for current sites and incorporate physical climate risk considerations into future site planning. To maintain business continuity, they also assess and take measures to mitigate potential impact to business processes and/or technology.
  - » **Nike** has a global property protection program that reduces and minimizes the impact of weather-related events on physical assets. The program covers facility location (e.g., outside of flood plains) and designing and building key facilities to a very high level of property protection. Nike also builds redundancy or develops contingency strategies for critical business operations, and uses property and business interruption insurance to mitigate the financial impact of weather-related losses.
  - » As part of its business continuity plan, **Sony Corp.** conducts a risk assessment of each site, prioritizes risk by the severity of potential disasters and respective recovery time, and determines countermeasures to minimize the effect of disaster.
  - » **Target's** Crisis Management team partners with Impact Weather to provide up-to-date information on weather-related events and their proximity to stores and facilities. During major events, such as hurricanes, Impact Weather provides Target with a dedicated meteorologist to ensure that preparedness efforts are accurate and adequate.
- 2 **Supply chain risk assessment and management:** Companies are monitoring risk to their supply chains and ensuring that flexibility and redundancy are incorporated into their sourcing strategies. Considerations or adjustments to these strategies specific to climate change impacts, however, were not mentioned.
  - » **Adidas Group** uses a multi-country sourcing strategy to balance environmental and other risks. Although Adidas has suppliers located in regions likely to be impacted by climate change (e.g. Southeast Asia), the company can quickly shift production to other regions in the event of severe weather impacts.
  - » **Metro AG** has an international supplier and logistics network that allows the company to react quickly to any regional disruptions, and avoid empty shelf space in their stores.
  - » **Staples** seeks to ensure the availability of multiple sources for its products to avoid supply chain disruptions due to physical events or other factors that impact specific factories, suppliers, or geographic regions. Staples ensures similar flexibility in its logistics network to allow quick response to risks that might disrupt service to customers.
- 3 **Efficient resource management:** Companies are responding to decreased water availability and increased energy costs through the use of more efficient technology and processes in stores, offices, and manufacturing facilities.
  - » For its key operational facilities, **Reckitt Benckiser** has mapped water use against current and predicted availability to assess and prepare for any changes in availability as a result of climate change.
  - » **Colgate-Palmolive** has focused on water efficiency and conservation in its manufacturing sites since 1998. The company is currently developing a new water strategy that will broaden focus beyond factory water use to address the quantity and quality of the company's water supply, continue to improve water efficiency at sites, and evaluate aspects of product water use to identify opportunities to conserve water.
  - » **Kimberly-Clark** is working to maintain uninterrupted electrical power supply in its facilities in spite of increased frequency or severity of violent

weather. The company is installing on-site standby power generation, a secondary power feed or alternative power supply, and has installed or is installing combined heat and power systems at several facilities.

- 4 **Product Development and Design:** Companies are aware that warmer temperatures and changing weather patterns may affect consumer buying preferences, and are beginning to track and respond to these trends.
  - » **H&M** is increasing its capacity to adapt its seasonal collections to warmer average temperatures.
  - » **The Limited** is monitoring consumers' attitudes toward product attributes, as well as shopping behaviors as they relate to climate change. Limited Brands anticipates that shopping habits and product choices may be influenced by how climate change affects customers' lives, resulting in changes such as shopping online or locally with greater frequency.

*"Climate change adaptation provides a unique business opportunity for companies as they invest in new, innovative products and services that respond to climate change impacts in vulnerable communities. Emerging markets in climate resilience can 'create value' by responding to community climate change risks while 'protecting value' by building resilience throughout companies' own operations and supply chains. By focusing primarily on emissions reductions measures and technologies, businesses are missing half the picture."*

Heather Coleman, Oxfam America

## VALUE CREATION

These practices offer examples of how CP companies help suppliers, stakeholders, and customers adapt to a changing climate and gain a competitive advantage and/or generate new revenue in the process.

- 1 **Climate adaptation solutions and services for consumers:** In some cases, companies are identifying existing products that can help consumers prepare for weather changes, while in others, there is a need for new technology. Consumer electronics and appliances are examples of products that, with improved and more efficient technology, can help consumers cope with declining water availability and rising energy prices.
  - » **Kao Corp.** designs products that allow consumers to reuse or save water. Examples include reusing wastewater containing the company's laundry detergents for other purposes (such as watering lawns) and washing machines and dishwashers that require less water to operate.
  - » **Office Depot** recognizes the link between climate change and extreme weather events, and carries a range of products and services that can help customers prepare for hurricanes and other disasters.
  - » **Electrolux Group** provides resource-efficient products for its customers. In 2008, its most energy and water efficient appliances represented 20 percent of the sales volume derived from major appliances.
- 2 **Raw material and production research:** Companies are investing in research to utilize alternative and more sustainable materials, and to improve the resource efficiency of product manufacturing processes and use.
  - » **Nike's** product research and development teams investigate, test, and utilize new materials. These may range from natural materials, such as bamboo, to synthetics, such as recycled polyester. Identification of new raw materials not only helps mitigate risk posed by shortage of currently used raw materials, but also introduces more climate-friendly options to the industry. Product design protocols that incorporate sustainability concerns allow Nike to measure and continue to improve the environmental impact of new products.
  - » **Whirlpool's** research and engineering teams strive to continuously improve the energy and water efficiency of their products. Since the 1970s, Whirlpool has reduced the amount of energy consumed by their appliances by more than 70 percent..
  - » **Kimberly-Clark** conducts ongoing research to reduce the amount of water and wood fiber needed to make its products.

- 3 **Consumer education and behavior change:** Companies are trying to communicate with consumers about environmental issues and impacts. While communication has been focused more broadly on encouraging consumers to reduce their overall environmental impact, there is an opportunity to expand this to educate consumers about climate change adaptation concerns and practices.
- » **Procter & Gamble** has an ongoing focus on helping consumers reduce their household impact, and aims to do this through sustainable product and packaging innovation and consumer education.
  - » **Reckitt Benckiser** launched a global campaign to educate consumers about how to reduce carbon emissions while using their products—for example, through reduced use of energy, water, and cleaning products. The campaign website provides advice and tips for consumers.

## Recommendations

The previous sections have cited a range of responses that are readily observable, many of them familiar to those who are managing climate change or business risk more generally. **However, there is much more to be accomplished if the industry is to play its full role in the proactive and responsible management of climate change adaptation.**

*“In addition to taking significant steps to reduce GHG emissions, we believe it is crucial for our industry to collectively work together with governments, factories, and workers to proactively build resilient capacity in anticipation of such events to ensure an optimal economic and environmental balance.”*

Sarah Severn, Nike

Current science clearly reveals the significant chance that the impacts of climate change will be far more disruptive than companies report being prepared for.<sup>5</sup> Moreover, many needs are only recently becoming evident, and these may present new and evolving risks and opportunities for the CP sector, its customers, and business partners. Due to the magnitude of the underlying risks and opportunities, traditional management techniques, such as relying on supply chain redundancy, may not be adequate to address the rising degree of unpredictability and severity of climate change impacts.

**For these reasons, BSR recommends that CP companies establish climate change adaptation strategies that contain the following key components:**

**1. Deepening consumer engagement.** While some companies are designing products that will allow consumers to reduce their resource use and/or select products created using fewer resources, there is much more that CP companies can do to leverage their consumer research, marketing, and education tools to increase awareness of climate change adaptation and to promote behavioral change. Although many companies described enhanced awareness of climate change as an opportunity to market their sustainable product options and gain a competitive advantage, research suggests that as prices rise and consumers cut spending, they are less likely to opt for slightly more expensive green options<sup>6</sup>. Companies can play a critical, active role in communicating to consumers about the impact of their choices and everyday behavior, as relates to their products.

**2. Improving supplier resiliency and preparedness.** Companies reported that one of their main climate-related risks was to key suppliers located in vulnerable regions. One common strategy to mitigating this risk (thereby maintaining supply continuity) is to ensure redundancy and maintain a geographically diverse sourcing base that allows companies to shift production from one area to another

<sup>5</sup> For examples, see Intergovernmental Panel on Climate Change. “Climate Change 2007—Impacts, Adaptation and Vulnerability.” (2007) <http://www.ipcc.ch/ipccreports/ar4-wg2.htm>.

<sup>6</sup> Clifford, Stephanie and Andrew Martin. “As Consumers Cut Spending, ‘Green’ Products Lose Allure”. April 21, 2011, New York Times.

in the event of disaster. Additionally, some companies are working with suppliers to improve factory resource efficiency, which can help maintain production capacity and manage costs through regional water and energy shortages. Adaptation, however, goes beyond supply chain redundancy and in-factory resource management. Through their existing relationships, companies have an opportunity to work with suppliers in vulnerable countries to identify, establish, and promote dissemination of effective adaptive practices. For example, companies can include surveys on disaster preparedness in their factory monitoring programs and expand training programs to work with suppliers on disaster response mechanisms, business continuity plans, improving technology, and even accessing financing. As infrastructural needs typically need to be addressed by respective country governments, companies may have opportunities to support key suppliers in engaging with local governments.

**3. Innovation for changing societal needs.** Companies are beginning to identify types of products that may be in higher demand and understand how consumer preferences may fluctuate as a result of changing weather conditions. However, there is much more that companies can do to be proactive in understanding how consumer needs, pressures, and constraints will evolve as a result of climate change impacts. This is especially important in emerging markets where companies expect significant growth—and where climate scientists anticipate significant weather changes. Companies that focus research efforts on better understanding how consumers' lives and decisions may be affected by environmental change will be well-positioned to anticipate needs related to climate change and offer solutions.

**4. Investing in raw material sustainability and resiliency.** With complex supply chains that are not easy to trace, consumer products companies have traditionally been less exposed to risks related to raw materials. As supply shortages, price increases, and questions about long-term sustainability of key commodities pull CP companies' attention further upstream, there are opportunities to engage in collaborative initiatives and to learn from other industries and companies that have experience working at the farm level—such as food, beverage, and agriculture companies that have projects and programs designed to increase farmer sustainability. Because cotton is a key CP commodity that is grown in countries already feeling the effects of climate change, several companies are participating in the Better Cotton Initiative<sup>7</sup>, a multi-stakeholder partnership to improve the environmental, social, and economic sustainability of cotton production. Leading companies across industries are taking steps to assess the risk of critical raw materials, develop strategies to manage them, and engage in collaborative efforts where possible and appropriate.

**5. New opportunities for collaboration.** Through industry associations, forums, and sustainability initiatives, CP companies have established a track record of collaborating effectively. As CP companies recognize climate change-related impacts on their consumer markets and supply chains, they should look for opportunities to support regional adaptation efforts, and to collaborate when the focus goes beyond their own physical assets. To take a holistic approach toward increasing the resiliency of the entire value chain, CP companies can engage with governments to support climate change adaptation policies and financing, with peer and supplier companies to improve manufacturing processes and enhance disaster preparedness, and with other sectors where there may be an overlap in raw materials and/or geographic interest.

For more tools on managing climate change adaptation, visit [www.bsr.org/adaptation](http://www.bsr.org/adaptation).

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<sup>7</sup> For more information about the Better Cotton Initiative, visit [www.bettercotton.org](http://www.bettercotton.org).