

# Risk ready: New approaches to environmental and social change

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## Highlights

CEOs continue to be concerned about environmental and social issues, particularly in developing countries.

Companies are seeking early warning signs in their operations, their value chains, and the surrounding landscape in order to anticipate vulnerabilities and assess where they are prone to risk.

The result is a heightened awareness of emerging risk that strengthens resilience and embraces the need for adaptive measures.

It's not a separate step but one that extends the reach of existing enterprise risk management and business continuity planning.

More attention. More information. Greater expectations on business. And a radically greater ability for people to unite around issues of concern. The world is in a state of flux, and environmental and social issues are posing greater commercial risks than ever.

Risk management must evolve to help their organizations track these issues and respond. In fact, some 83% of S&P 500 companies report they're integrating one of the biggest issues—climate change—into their enterprise risk management processes.<sup>1</sup>

Yet the risk management community is only starting to shape notions of what it means to lead effectively in this area. Risk managers must have a structure in place to help them think broadly and proactively about such risks.

## Why is it time for attention to risk?

**Faster change:** Environmental and social issues—like resource scarcity, labor concerns, climate change, social unrest, and extreme price volatility in commodities markets—are no longer singular and rare but persistent and growing challenges in the global environment. It's up to each company to determine which of those issues present risks—or opportunities—for their businesses.

**Unsynchronized responses:** Too many companies manage environmental and social issues in functional silos and on short-range time horizons. That approach perpetuates the belief that identifying, mitigating, and governing major risks are the responsibilities of others.

**New expectations:** Companies are revising their expectations about where to look for risk and how far into the future the search for risk should go. It's not a separate step but one that extends the reach of existing enterprise risk management and business continuity planning.

<sup>1</sup> The Carbon Disclosure Project, S&P 500 Report, September 2012.

# At a glance

## Conditions are right for a more forward-looking risk approach.

### What management sees...

#### Faster change

There's broad recognition that the risk landscape has changed. Heightened turbulence is now the norm. Companies are seeking early warning signs so they can anticipate vulnerabilities in the systems they rely on most.

#### Stakeholder-driven transparency

Stakeholders are using new technologies—social media, data analytics, and open data platforms—to request more from businesses.

#### Greater reliance on the value chain

About 85% of companies have more-complex supply chains due to globalization.<sup>2</sup> Companies face new challenges in monitoring suppliers for responsible business practices.

#### Key resources in question

Some 78% of Asia-Pacific Economic Cooperation (APEC) CEOs say water scarcity is a concern for business<sup>3</sup>; 40% of North American utility executives expect blackouts to increase from now until 2030.<sup>4</sup>

#### Costly disruptions

Only 33% of \$380 billion lost in 2011 to natural disasters was covered by insurance.<sup>5</sup> Climate models indicate more shocks to come.

### ...and how the risk approach is evolving.

#### Making resilience a priority

CEOs see the need to go beyond merely prioritizing the risks to the business. They want more focus on building business resilience.

#### Taking a holistic approach

A holistic approach looks for fragility—not only in the company's own business networks but also in transportation, utilities, health, education, and natural ecosystems.

#### Extending time horizons

Many companies look only two or three years into the future, but using longer-range socioeconomic and environmental outlooks can help determine company priorities.

#### Looking up and down the value chain

Searching for vulnerabilities with major suppliers and customers can pinpoint issues. Companies can identify exactly where policies, behaviors, materials, or technologies need to change.

#### Expanding the risk register

The result is an expanded view of risk. Seeing those risks for what they are can help companies take steps to build resilience and adapt to changing conditions.

<sup>2</sup> PwC, *Global Supply Chain Trends 2010–2012*, December 2011.

<sup>3</sup> PwC, *APEC Briefing on Food Security*, August 2012.

<sup>4</sup> PwC, *12th Annual Global Power & Utilities Survey*, May 2012.

<sup>5</sup> "Insurance Payouts Point to Climate Change," *Science News*, January 2012.

# Separate compartments hide the full picture

## Forecast: Strains on systems needed for economic stability



World energy demand is forecast to increase 36% through 2035.<sup>6</sup>

Food demand is projected to increase by 50% by 2030.<sup>7</sup>



Some 4 billion people worldwide—47% of the estimated population—are projected to experience severe water stress by 2030.<sup>8</sup>

Climate models show global temperatures on a path to rise far beyond what's accepted by the United Nations, the G8, and the European Union as keeping Earth's systems within stable parameters.<sup>9</sup>



The global population outlook projects 6.9 billion people in 2010 to 9.3 billion in 2050; 42% or 1 billion of that growth to come from Asia.<sup>10</sup>

Today, more companies are looking for new approaches to risk to help them think broadly about the systems they rely on most. They're identifying how the cumulative effects of environmental or social change may affect business continuity or how the impacts of any single event in the value chain could spread to their business.

Companies are searching for those new approaches because the speed and scale of risk events seem to be escalating: In 2008, for example, the world experienced a major price spike in wheat, driven largely by chaotic weather. Rising food prices ensued, igniting a global crisis that stressed more than 30 economies and toppled the Haitian government after it failed to ramp up food production.<sup>11</sup>

In 2012, droughts rocked more than 50% of the US, helping spark more than 30,000 wildfires on 2.1 million acres of land and curtailing crop yields and other agricultural production. And an 11-mile stretch of the Mississippi River was closed

to traffic when it reached its lowest point in more than 40 years. Businesses either had to move lighter loads or were left stranded until the US Army Corps of Engineers could dredge the river's basin.<sup>12</sup>

## Postcards from the future

Some climatologists are calling severe weather events and their economic impacts “postcards from the future.” While they acknowledge that natural climate variability will always exist, a changing climate leads to changes in the frequency, intensity, duration, and timing of severe heat, drought, and storms.<sup>13</sup> And severe weather—whether triggered by a changing climate or not—can be costly: The impact of 2011 flooding in Thailand led to a 9% drop in Q4 GDP, cutting growth in 2011 overall to just 0.1%.<sup>14</sup>

Taking an approach that views environmental and social issues too narrowly or that fails to see how those issues span traditional categories of risk can obscure the full picture.

<sup>6</sup> International Energy Agency, *World Energy Outlook 2011*.

<sup>7</sup> Food and Agriculture Organization of the United Nations.

<sup>8</sup> OECD, *Environmental Outlook to 2030*, March 2008.

<sup>9</sup> International Energy Agency, *World Energy Outlook 2011*.

<sup>10</sup> United Nations Population Fund Database; Food and Agriculture Organization of the United Nations.

<sup>11</sup> “Haiti’s government falls after food riots,” *Reuters*, April 2008.

<sup>12</sup> “Traffic Clogs Up on a Shrunken Mississippi,” *New York Times*, August 2012.

<sup>13</sup> United Nations Intergovernmental Panel on Climate Change, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, June 2012.

<sup>14</sup> Oxford Economics, *Country Economic Forecast: Thailand*, February 2012.

# Resilience gets a new look

Broad recognition that we're entering a period of heightened risk has led to stronger focus on building business resilience. It means recognizing how much risk is outside and beyond a company's organizational control and how important it is to build external relationships and co-create responses that build shared value.

## Where to start?

PwC's definition of resilience introduces two practical notions to make the concept more tangible.<sup>15</sup>

**Buffers:** Buffers are the margins that provide the *short-term* breathing space needed to absorb shocks until business conditions return to their normal state. Rising demand, for example, has increased the risk of short-term resource scarcity and is challenging companies to put new buffers in place. Here's one company's story: Because California tends to experience high temperatures from May to October, the demand for electricity can reach extreme levels. To help shave demand on peak days, PG&E introduced a voluntary program for small commercial and residential customers who agree to shift their power

use in return for rate discounts. Already there are 25,000 PG&E customers active in the program, resulting in a 16% reduction in load on hot days. PG&E is easing the short-term demand on California's power grid, and it is reducing the need for less-efficient options, like buying power outside the grid or building new power plants.<sup>16</sup>

**Adaptive capacity:** An indicator of longer-term resilience, adaptive capacity represents an organization's strategic flexibility and agility as conditions shift permanently. Increasingly, adaptive capacity is springing from a blend of diverse relationships with customers, supply chains, and governments.

Traditional sustainability issues such as population growth, natural resource constraints, water use, energy demand, and climate change are *long-term* issues that drive the need for adaptive measures. They are the reasons both public and private organizations are engaging in policy discussions—particularly in large economic hubs—about the risks of climate change. The state of New York, for example, estimates that economic losses from a once-in-a-hundred-years storm in the city of

New York could range from \$58 billion to \$84 billion.<sup>17</sup> Just one potent coastal storm could disrupt the fragile subway system for weeks or months. And those risks grow as global average temperatures and sea levels rise. Plus, both electrical power lines and communications systems are buried in or near the same subway tunnels, leaving other critical infrastructure at risk.

Since 2007, the city has been examining its transportation, water, waste, electrical, and communications systems for fragilities. A range of engineering solutions are now being evaluated to help the city adapt. They include changing building codes and devising retreat strategies that would move infrastructure away from coastal zones.<sup>18</sup>

## Linking the two capabilities

As conditions change, it will become increasingly important to embrace *both* of the notions of resilience: buffers *and* adaptive capacity. Linking those two capabilities together can help both public and private organizations build better portfolios of response.

15 PwC, *Prospering in an era of uncertainty: The case for resilience*, May 2012.

16 PwC, *Smart from the Start: Managing Smart Grid Programmes*, November 2010.

17 "Sea-level rise poses expensive questions for New York City," *ClimateWire*, May 2012.

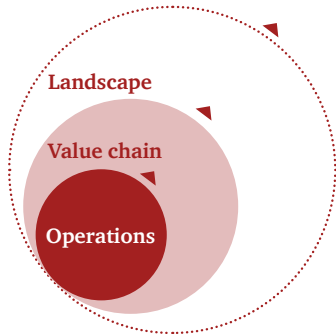
18 The City of New York, *PlanNYC: Update April 2011*.

# Changing times mean changing approaches

## What are examples of these risks?

### Common operational and value chain risks...

- Public perception and social license to operate
- Regulatory change
- Food safety
- Resource scarcity
- Water availability
- Waste management
- Energy reliability and security
- Labor shortages
- Worker health and safety
- Transportation costs and impacts
- Carbon emission reductions



### ...and exposures in the surrounding landscape

- Natural or man-made catastrophes
- Rising sea levels and rising global temperatures
- Increased severity/frequency of extreme weather events
- Aging and growing populations
- Ocean acidification
- Biodiversity loss
- Increase in droughts and degraded water quality
- Rise in infectious diseases or pandemic events
- New risks not previously identified

## Imagine the possible

Risk management should know who in the organization is responsible for mapping out what the future will bring.

In 2010, for example, 29 companies representing the World Business Council for Sustainable Development used scenario planning to isolate the critical paths that companies, governments, and society must take to ensure 9 billion people could live within the means of existing resources. Their scenarios considered that we'd need the resources of 2.3 planets by 2050 if we continue the consumption patterns that exist today.<sup>19</sup>

The exercise enabled the companies to begin a dialogue within their own organizations about the limits of short-term pressures and how making decisions in isolation can have unintended consequences. It also opened a dialogue to determining which managerial skills and capacities would need to change if companies were to embrace the opportunities presented with those challenges. With a new lens on the future, these companies have a better view of the actions to take as a result.

<sup>19</sup> World Business Council for Sustainable Development, *Vision 2050*, February 2010.

## What approaches help pinpoint company-specific risks?

### Assess exposures more broadly

Greater reliance on corporate value chains means companies are thinking about risk beyond what's within their own operational control. They're canvassing key suppliers and other stakeholders to find where exposures exist.

While most companies know what's in their products, they may not know how geographic conditions create vulnerabilities to business disruption. After mapping their value chains to local risks and then pooling and weighing impacts, companies engage key vendors and suppliers on questions of continuity, source stability, environmental impacts, and social outcomes.

When environmental and social issues are assessed as part of supply assurance, strategically important issues arise. They are the reasons retailers like IKEA put water availability and water quality in China and India high on the agenda. At least one of IKEA's Indian textile suppliers now purifies more water than it needs for manufacturing in order to provide more clean water for the people living around the mill.<sup>20</sup>

<sup>20</sup> PwC, *Driving CO2 out of the supply chain and off retailers' shelves*, June 2012.



# Pinpointing company-specific risks and opportunities

## Embrace resilience

Businesses recognize the need to go beyond merely measuring and prioritizing various risks. They have a new focus on building the resilience of whole systems that they rely on to create value. For example, energy use accounts for almost half of water withdrawals in the US and Europe today.<sup>21</sup> Understanding how water conservation could prevent local water shortages and, as a result, provide a measure of control over rising energy costs can help companies see how their actions relate to overall system stability as well as corporate health. This step helps planners see the potential trade-offs that must be understood and addressed before they take action.

## Enlist those who know

Social and environmental issues are usually interrelated, and they require expertise to assess. In fact, those who consider themselves environmental specialists rate the likelihood and impact of

environmental risks higher than do those without expertise.<sup>22</sup> External stakeholders with different perspectives can spot cause-and-effect relationships that sometimes get missed otherwise. In some cases, longer-term risks with potentially greater impacts should be given more weight than more-immediate or lower-impact risks.

## Extend time horizons and improve data quality

Using long-range scientific models can help companies see beyond the next two or three years and lead to an understanding of how the probabilities of events are changing. For example, new climate models indicate rising sea levels, and coastal flooding could change assumptions about site selections for new facilities—particularly for utilities. Major cities such as New York, Miami, New Orleans, Mumbai, Guangzhou, Tokyo, and Shanghai are among the top coastal cities vulnerable to climate extremes.<sup>23</sup>

While risk models are inherently uncertain, the methods they use—like multihazard approaches to assessing risk; probabilistic analysis; and predictive analytics—help examine risks in new ways. The availability of site-specific data, too, is advancing analysis: New natural hazard risk models now enable local-level views as small as 25 square kilometers worldwide.<sup>24</sup>

## Move quickly to harvest opportunities

Companies that have assessed how environmental and social issues relate to business value increasingly see the opportunities to profit from what they've learned. Such opportunities include process efficiencies, new product or service offerings, and vertical expansion. By 2012, 74% of S&P 500 companies participating in the Carbon Disclosure Project had identified business opportunities through examination of climate risk.<sup>25</sup>

21 World Economic Forum Water Initiative, *The Bubble Is Close to Bursting*, January 2009.

22 World Economic Forum, *Global Risks Report 2011, Sixth Edition*.

23 OECD, *Ranking Port Cities with High Exposure and Vulnerability to Climate Extremes*, 2008.

24 Maplecroft's CEO Alyson Warhurst's comments to PopTech's Toward Resilience conference, Iceland, June 2012.

25 Carbon Disclosure Project, *S&P 500 Report*, September 2012.

# Work together to protect value

## Four questions to expect from the company's audit committee and the board of directors

1. **Who is responsible for governing this set of emerging risks?** What form of governance will enable organizational change at the speed and scale we need?
2. **What processes are in place to identify and track what's most important?** What criteria are applied for setting the boundaries of where to look for risk and how far into the future the search should go?
3. **How well do we understand the potential impacts of those risks so that we can form mitigation responses?** How are impacts assessed? How well are our responses synchronized across strategic, financial, operational, and compliance categories of risk?
4. **Are there steps we are not taking that are within our control?** Are we ahead of or behind the curve on regulatory change? Do we make public statements that might compromise stakeholder trust if the underlying information is not accurate? An example of that could be a statement such as, *We reduced our carbon footprint 5% in 2011.*

Building resilience involves, increasingly, taking a broader approach to risk, recognizing how much risk is beyond organizational control, and focusing on the health of whole systems that the company relies on to create value.

Building resilience is also about ensuring that existing enterprise risk management and business continuity planning functions have plans in place for identifying, mitigating, and governing a wider range of risks.

Once a company has identified the environmental and social issues specific to its organization, there are industry, governmental, and nongovernmental initiatives to help identify the optimal levels of response.

Revising the planning process to include regular updates on the changing nature of the issues can keep the focus on the right ideas as conditions change. It can also improve overall communication with the audit committee and the board of directors about how the company's portfolio of response protects the business.

# How PwC can help

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