

# Water Shortage Poses Global Risk to Businesses

Considering that water covers 70 percent of the Earth's surface, it's ironic that one of the most significant risks to businesses worldwide involves water shortage. The challenge is that most of our planet's water—97 percent by most measures—is found in the oceans. Freshwater is a much more precious commodity, and its availability is subject to the forces of nature.



"We have been experiencing droughts in several parts of the world, which have created water shortages that present continued risk to businesses," says Tom Fioretti, Chief Risk Engineering Officer for Zurich North America.

Man-made forces create water shortages as well. Pumping groundwater at a rate faster than the replenishment through precipitation leads to over-abstraction and sinking of the water table, drying of wetlands and wells, and higher pumping costs. Aging water reservoirs and a lack of flood control measures, distribution systems, and waste treatment facilities impact the availability of water in some areas. Old water treatment plants and distribution systems, including corroded and leaking underground pipes, are of particular concern in many cities globally. For example, in the US water leaking from pipes accounts for the loss of more than 14 percent of the nation's treated water each year.

## Direct and Indirect Risks

Water shortages cause significant risks to businesses, both direct and indirect. The direct risks are most easily seen through the impacts of droughts.

"Droughts destroy vegetation. That obviously impacts businesses tied to agriculture, but it also affects every business because, without vegetation, surface water moves more quickly, and the faster it reaches the rivers, the more

flooding can occur," Fioretti explains.

Subsidence also poses a risk in areas that have seen over-abstraction of groundwater. "There are some areas in the United States that have experienced as much as a foot of subsidence in the last 12 months due to the extraction of groundwater. This subsidence can cause direct collapse or structural damage to a building that makes the structure more susceptible to collapse due to earthquakes," Fioretti says.

Businesses face indirect risks as well, starting with economic impacts. With prolonged droughts and dwindling water resources, many regions are faced with higher water costs, changing priorities, and restricted allocations in the form of water usage caps and water rationing. Many businesses rely on water as a strategic resource, and shortages may lead to a significant adverse economic impact ranging from increased costs to procure water from alternative sources or the relocation of operations to business interruption or slowdown.

The economic impact affects all businesses, but it is particularly severe for companies with intensive water usage, such as food and beverage manufacturers, refineries, paper and pulp companies, electronics manufacturers, mining operations and power plants, all of which rely on a continuous, uninterrupted and reliable water supply for processing and cooling. Businesses competing directly with the local community

for dwindling water supplies face a significant public relations risk as well.

Companies also contend with supply chain risk. "It's not just the volume of water available to a business itself that risk managers should be concerned about," Fioretti says. "Companies need to carefully assess their business partners and ensure that they have reliable access to a supply of water that allows them to operate as well."

In addition, businesses may face increasing risk from regulations related to the protection of scarce water resources, ecosystems, wetlands and the environment. The regulations may extend to water use licensing and allocations and may also include mandatory requirements for water conservation and stewardship. Litigation involving water rights is also possible. On a global scale, growing scarcity of reliable, potable water supplies may well increase the potential for social unrest, political instability and even international conflict.

"Since water is a life-sustaining resource, extreme water shortages can definitely create allocation disputes and other conflicts. That is an often overlooked supply chain and global political risk," Fioretti says.

Some risks can be insured against, but others cannot. With the exception of crop insurance, water shortage is not a named peril for property and business interruption coverage. As a result, this exposure is largely uninsured. Risk managers and business leaders, who have long relied on a continuous supply of water, may need to revise risk management and long-term, strategic planning to respond to, and take steps to mitigate, the reality of future water shortages.

Zurich offers clients extensive risk engineering services that can address any number of water-related exposures, from droughts and fires to floods and collapse. "In many respects, the water shortage issue is very similar to that of a flood, and the response needs to be similar to what Zurich has outlined in our Flood Resilience Initiative," Fioretti explains. Zurich engineers can also assist companies with their overall enterprise risk management (ERM) strategy, which involves more than just the purchase of insurance coverage.

Businesses can undertake some risk management activities themselves,

beginning by assessing their dependence on water supplies for production and process needs.

"Businesses need to control what they can control, and that includes their own use of water," Fioretti says. "Making the operations less reliant on high volumes of water can be done by putting the right equipment and processes in place."

Some tips for reducing water usage include:

- Explore and prioritize opportunities for reuse, recycling and reclaiming of water.
- Recirculate cooling water for heat-generating processes and use air-cooling processes when possible.
- Deploy clean-in-place (CIP) systems for processes and equipment that require a thorough cleaning between production batches, as in the case of food and pharmaceutical facilities.
- Regularly inspect steam traps, condensate return lines and automatic blowdown controls of boiler or steam systems.

### Think Globally, Act Locally

Just as water is the substance that connects the world, water shortage is a risk that affects businesses and people worldwide. Although it is important that companies manage their own risks, they should also make a commitment to water conservation as part of their corporate identities. This includes implementing water management plans that continually identify and prioritize opportunities for conservation, communicate and publicize results and successes, and involve employees.

"Businesses have to address the issue themselves, but they also have to be part of a community whose overall awareness is much higher than it is today," Fioretti says. "That involves making a commitment to water stewardship and building alliances with other stakeholders so there can be collaboration on sharing water and water usage."

Water shortage is truly a global challenge. Analyzing current and anticipated water challenges and conserving water is one part of a company's risk management strategy that will become increasingly important in protecting one of the Earth's most precious resources.

## Tom Fioretti's Risk Management Skills Honed Through Experience



Tom Fioretti's experience during Hurricane Andrew showed him firsthand the damage that water and wind can cause.

In the years since, he has seen the insurance industry learn from hurricanes and other natural disasters to help businesses prepare and respond.

"The knowledge and technical expertise to protect lives and structures from natural disasters has increased immensely," he says. "We now have better insights on preparing for disasters and being resilient when they do happen. Through diligence, commitment, and willingness to learn of advancements in risk mitigation, it is indeed possible for organizations to better protect themselves from risk."

Fioretti is Chief Risk Engineering Officer for Zurich North America, responsible for the ongoing development and delivery of Risk Engineering's risk management and loss prevention services to customers of Zurich's Global Corporate and North America Commercial businesses. He joined Zurich in 2008.

"I am in a fortunate position to learn every day from our talented, insightful Risk Engineering team. They help our customers better understand and protect themselves from risk every day using new insights or techniques based on proven research," he says.

Fioretti started at Zurich as Senior Vice President of Operational Transformation for North America Commercial, leading a team of 950 Operations and Premium Audit professionals. In 2010, he became Senior Vice President of Commercial Markets, creating the go-to-market strategy of the multimillion-dollar market segment. Fioretti attended the College of Staten Island.

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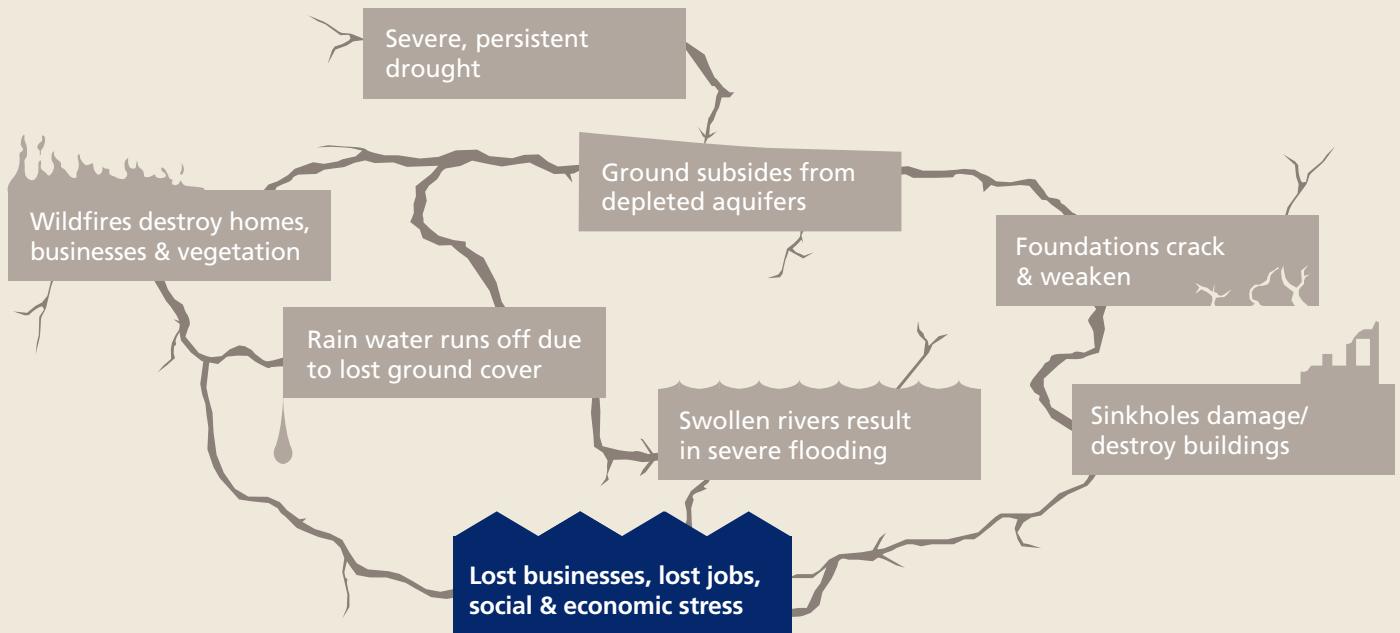
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# WATER SCARCITY

A global, emerging risk for the 21st century

## RISKS OF A DRIER TOMORROW?



## ARE YOU PREPARED?

### What are your potential risks?

- Rising costs, reduced supply
- Business interruptions
- Mandatory restrictions
- Possible need to relocate
- Lost jobs & lost customers
- Reputational damage

### What can you do about them?

**ASSESS**  
total water usage across facilities and processes

**APPOINT**  
water stewardship champions on management teams

**EXPLORE**  
alternative water sources

**IDENTIFY**  
water-intensive processes critical to maintaining productivity

**IMPLEMENT**  
a water management and conservation plan

**COLLABORATE**  
with other regional water stakeholders to arrive at collective solutions

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