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How Insurers Should Deal With Climate Change

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Law360, New York (October 03, 2013, 11:55 AM ET) -- According to recent estimates, the insurance industry paid $77 billion for claims related to natural disasters in 2012. A June 2013 report by The Geneva Association, a leading international think tank for the insurance industry, suggests that this staggering total will only increase in the coming years.

The report considers the effect of global ocean warming on the insurance industry and arrives at one unmistakable conclusion: As the temperature of the earth's oceans rises, so will insurance claims.[1]

Global climate change and the related increase in base ocean temperature have a wide-ranging impact. Specifically, as the ocean warms, evaporation and humidity increase, sea levels rise, and global weather patterns change. The result is unprecedented variability and volatility in extreme weather events, including droughts, coastal flooding, storm surges, hurricanes and convective events.

Insurers must be prepared to respond to longer storm seasons and more frequent extreme weather events over expanding geographical areas. In 2012, Hurricane Sandy caused insured losses in excess of $25 billion. Severe droughts also led to record worldwide crop insurance claims worth roughly $23 billion.

In the United States, warmer-than-average summers are predicted to become the "new normal," and regions across the country are vulnerable to increasing water scarcity, droughts and wild fires. Indeed, a recent Cooperative Institute for Research in Environmental Sciences study found that one in 10 watersheds in the United States is stressed.

The impact of ocean warming on the insurance industry is compounded by population growth and rapidly increasing urbanization. For the first time in history, more than half the world's population lives in cities. As the population density increases, so too does infrastructure and asset concentration.

The greatest population surges are occurring in high-growth markets such as the Asia-Pacific rim, where many of the urban areas are located on the coast and vulnerable to storms, floods and other weather catastrophes.

In the United States, the number of people living in flood-prone areas is also increasing. In 1980, 120 million Americans lived in coastal areas. By 2003, this number had increased to more than 153 million.

According to research by the nonprofit Climate Central, over 3.7 million Americans live within a few feet of the mean high-tide level. More than half of this at-risk population lives in Florida. Other highly vulnerable states include California, Connecticut, Louisiana, New York and New Jersey.

The increase in catastrophic events attributed to climate change acutely affects risk assessment and the insurance market. Specifically, primary insurers and reinsurers face actuarial uncertainty caused by an inability to predict the frequency, intensity, duration and geographical distribution of weather-related losses.

One hundred-year flood plains are becoming three-year flood plans, while land farmed for generations has turned inhospitable to crops. In nearly every arena touched by insurance, the weather-related historical expectations require rewriting.

A failure to change will lead to artificially low premiums that do not correspond with actual losses. Unpredictable claims patterns can cause difficulty with setting reserves and ensuring that sufficient capital exists to cover these previously undefined losses. In high-risk areas, ocean warming and climate change threaten the general insurability of catastrophic risks.

In response, some insurers have introduced new exclusions and raised premiums. In the U.S. alone, premiums for agricultural insurance nearly tripled between 2005 and 2011. Risk has prompted other insurers to cancel or decline to renew policies in regions such as the Gulf Coast and limit the number of policies issued at all in places such as Florida.

Though property insurers appear to be the most vulnerable to severe and catastrophic weather events, nearly all parts of the insurance market face increased and uncertain exposure as a result of climate change. This includes liability, business interruption, crop, life and health insurance.

Governments and tax payers are also on the hook for subsidizing loss payments — both directly, through programs like the U.S.' National Flood Insurance Program and state insurance pools, and indirectly as a result of the lack of insurance on much federal and state infrastructure and disaster relief spending.

Mutualized risk also results in higher premiums for consumers, some of whom are discovering that they now live in areas deemed uninsurable by brokers and where underwriters are unprepared to write to the new reality.

As the public and private sectors grapple with the effects of climate change, insurers will likely face increased scrutiny and regulation. Regulators in some states, including California, New York and Washington, require insurers to publicly disclose their climate-related risks using a survey developed by the National Association of Insurance Commissioners.

In 2012, these disclosures indicated that most insurance companies are ill-prepared to address the effects that climate change may have on their business.

As always, however, this time of great uncertainty, and upheaval is proving to be a time of great opportunity. The unpreparedness that has driven some insurers out of markets of traditional dominance has opened the door for insurance companies using nontraditional resources to better assess future risk to serve new consumers seeking coverage.

Several insurers, including AIG, Lloyds of London, Munich Re and Swiss Re, have focused on ways to rethink catastrophe modeling and risk analysis to better predict the effects of climate change. One strategy for recalibrating weather-related risk assessment involves turning away from the historically focused climate reports of the past and embracing forward-looking modeling-based predictions of the future.

Gains in supercomputing power in the last decade have enabled climatologists to create increasingly complex and accurate virtual environments that allow for far more accuracy in medium- to long-range forecasts. The insurance industry must tap into the work of the National Weather Service, the National Oceanographic and Atmospheric Administration and private meteorological organizations traditionally reserved for science and academia as major players in other industries have (think shipping and package delivery, for one) in an attempt to better assess climate-related opportunities and challenges.

Such weather-related organizations are increasingly marketing consultation services to private industries looking for the latest information on climate and weather patterns. Given its traditionally conservative bent, the insurance industry may not be the likeliest field to adopt such resources, but it should be. Indeed, the future and continued relevance of the industry depends on it.

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[1] Falk Niehörster, "WARMING OF THE OCEANS AND IMPLICATIONS FOR THE (RE)INSURANCE INDUSTRY," The Geneva Association, June 2013.