



The Impact of Climate Change on Insurance

by Tim Wagner



Growing the Economy Through Global Warming Solutions



Global warming is one of the most urgent problems of our time.

The good news is that many of the solutions to this extraordinary problem are within reach. Many of the solutions to global warming are not only feasible, they are economically and socially beneficial. While some claim that addressing global warming will have a negative impact on the economy, the most recent report by the Intergovernmental Panel on Climate Change (“IPCC”) asserts that there is substantial economic potential for the mitigation of greenhouse gas emissions over the coming decade. In fact, there is a growing global market to address global warming, and the United States must act now or risk being left behind.

Growing the Economy through Global Warming Solutions sets forth the steps we can take to curtail global warming, the governance models needed to encourage such a transition, and the economic benefits of doing so. By taking these steps as soon as possible, we not only will minimize the grave risks of global warming, we will position the United States as the leader in the clean industries and technologies that are emerging as the key growth engine of the Twenty-First Century.

It is now a given that global warming is happening. It is caused by the emissions of greenhouse gases – primarily carbon dioxide released during the combustion of fossil fuels -- and already has begun to inflict harms on climate, ecology and people. The most recent IPCC report confirms that global warming is here and will accelerate in the future with serious harms and risks if greenhouse gas emissions are not promptly limited. Dr. James Hansen, of NASA’s Goddard Institute for Space Studies, warns that a global average warming of 3.5 degrees Fahrenheit will produce a “different planet” by taking us over dangerous climate thresholds that greatly magnify the risks of disintegrating the great ice sheets on Greenland and West Antarctica, an event that would cause massive and rapid sea level rise. Dr. Hansen emphasizes that we can keep the planet within the known boundary conditions by limiting the future global temperature increase to no more than 3.5 degrees Fahrenheit.

To do so, we must stop the business as usual approach in which carbon dioxide and other greenhouse gas emissions increase every year. One of the primary obstacles to moving from this business as usual approach to a problem solving approach is the argument that mandates to limit emissions will cripple the U.S. economy and that the market will produce all necessary solutions on its own. But this argument focuses too narrowly on the economic impact to “big energy”, which for too long has dominated the political discussions in Washington. Growing the Economy through Global Warming Solutions asserts that we cannot afford to wait for voluntary market solutions. We must either invest now to implement solutions, or we will pay much more later as we have to adapt to the growing impacts of global warming. Many mitigation strategies, those that will help reduce emissions now, will not only be cheaper to implement, they will stimulate the economy.

Government has an essential role to play in developing a strong governance model – those procedures, rules and regulations that can work to bring greenhouse gas emissions under control. In fact, with the right set of government incentives to help focus their attention, the business community, which is already beginning to recognize challenges and opportunities - and looking to both adapt and innovate - will see even more possibilities for capitalizing on economic opportunities while achieving environmental gains. The good news is that, if we get started right away, we can rapidly move to this solutions-oriented approach in which emissions are limited and reduced in time to avert the worst risks of global warming.

Growing the Economy through Global Warming Solutions is a series of papers written by experts in the fields of economics, public policy, energy policy, architecture, insurance, investment, transportation, and agriculture. It details the solutions that can be taken off the shelf today. While there is no single silver bullet for addressing global warming, there are a wide variety of solutions that, taken together, will lead to a reduction of carbon dioxide emissions, the key to stopping global warming. These promising solutions must be phased in as we phase out our outmoded reliance on foreign oil and coal. Along with its companion reports, *The Impact of Climate Change on Insurance*, by Tim Wagner, sets out important next steps that can and should be taken in the near and medium term to ensure that we do everything possible to address the challenges of global warming.

We have the know-how and it is the American Way to innovate and problem solve. We have time.

We have to get started now.

“We have at most ten years—not ten years to decide upon action, but ten years to alter fundamentally the trajectory of global greenhouse emissions.” – Jim Hansen, Director of the NASA Goddard Institute for Space Studies, and Adjunct Professor of Earth and Environmental Sciences, Columbia University's Earth Institute.

Executive Summary

The insurance industry, which comprises 10% of the U.S. economy, is the canary in the coal mine for climate change. And while the canary is not dead, it has stopped singing. Insurers are already contending with the growing risks and costs associated with the changing climate coupled with coastal migration in the form of increased claims relating to hurricanes. In 2004 and 2005, seven major hurricanes hit somewhere along the Gulf Coast, and in 2005 alone catastrophic losses to U. S. private insurers were \$61.2 billion. Other geographic areas have experienced an increase in other weather related events including floods, droughts and brush fires.

State insurance regulators are responsible for ensuring both that insurance companies remain solvent so that they can perform on their promises, and that the public is protected and treated fairly. These regulators are concerned about the growing pressure that climate change is putting on the industry. In 2006, the National Association of Insurance Commissioners (NAIC) enacted a resolution encouraging Congress to establish a National Commission on Natural Disasters. The purpose of the Commission would be to explore the creation of a federal reinsurance program that would provide a backstop to private as well as state or regionally sponsored reinsurance. State regulators are divided on a federal reinsurance strategy. On the other hand, they generally agree that deregulation would address the availability issue, though at the cost of making affordability a greater concern. The NAIC resolution contained a number of other strategies as well.

Thus far, responding to growing risks posed by climate change has been the primary approach within the industry. Increasing awareness of the importance of climate change is translating into a commitment toward a strong national and global energy policy. As they have in the past with other social causes such as workers' compensation or building codes, some industry leaders are taking action in the policy arena, establishing policies to promote increased energy efficiency, which will be one of the most important strategies for stopping and ultimately reversing emissions.



Introduction

The economic, social and political implications of climate change are difficult for the human mind to comprehend. Recent insurance industry losses due to the severity of weather events brought about by warmer oceans represent the first quantifiable impact of climate change that the general public can easily understand. The insurance industry is our “canary in the coal mine.” While the canary isn’t dead, it stopped singing. Increasing premium rates, shifting additional risk to policyholders through higher deductibles, and a lack of insurance availability from the private sector for those living near the Atlantic and Gulf Coasts highlight, in clear and understandable terms, the economic reality of climate change. Unfortunately, insurance losses are but a harbinger of humanity’s future if there isn’t a substantial reduction in greenhouse gas emissions.

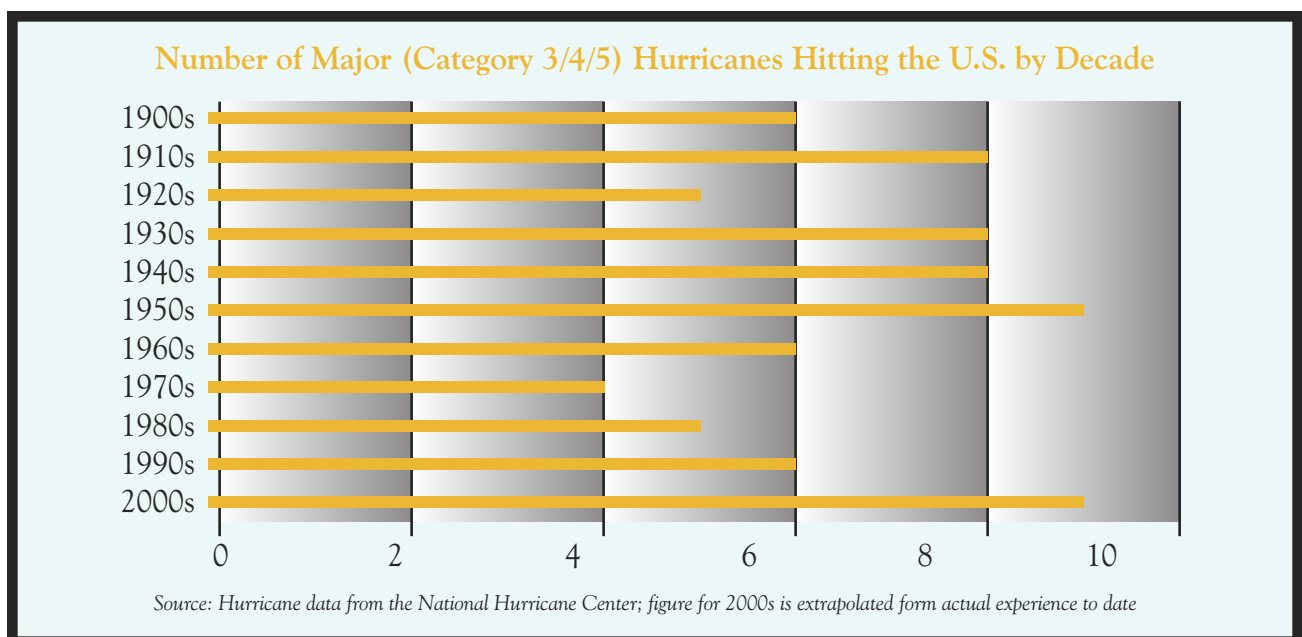
The insurance industry has an increasing awareness of the importance of climate change. While only a handful of insurers have established policies to promote increased energy efficiency, their awareness is slowly translating into a commitment toward a strong national and global energy policy. The insurance industry comprises approximately 10% of the United States economy. The industry has historically played a major role in social causes such as workers’ compensation, highway safety, health care and building codes. Its support would be a welcome voice in the challenging process of addressing climate change.



Hurricanes

As yet, the scientific community has not reached complete consensus on the relationship between global warming and the unprecedented number of recent hurricanes but there is agreement that ocean temperature is a factor in increased hurricane intensity. Rising ocean temperatures increase the likelihood that hurricanes will form at higher latitudes. Insurers are responding to that increase in the same manner that they have along the Gulf and our Southern Atlantic coasts—by withdrawing or limiting insurance availability and by raising prices on the coverage they do underwrite.

Historically, there have been periods of high hurricane activity. Since the decade of the 1960s however, there is a trend toward more powerful storms. The following chart reflects the growing number of major hurricanes:



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Unfortunately, there are no short-term fixes for climate change. Regardless of what we do today, the effects of what we have done and what we will do will not immediately reverse the global warming process. Scientists caution it takes 100 years for carbon to leave our atmosphere. The weather-related problems we now face will continue to become more serious. For the insurance industry, and for all of us, we must for the next several decades develop strategies for adaptation to our changing climate. If we do not adapt to climate change and take action now to moderate emissions we will be exposing ourselves to a difficult and dangerous future.

Last year, the average global temperature was reported to be the warmest in recorded history and 2007 temperatures are projected to be higher. In 2006, the United States enjoyed a brief respite from the clear trend of more frequent and more severe hurricane activity. But seven of the ten most expensive catastrophes for United States property and casualty insurers happened in the period from 2001 through 2005 and six of those ten were associated with hurricanes that occurred within a fourteen-month period.

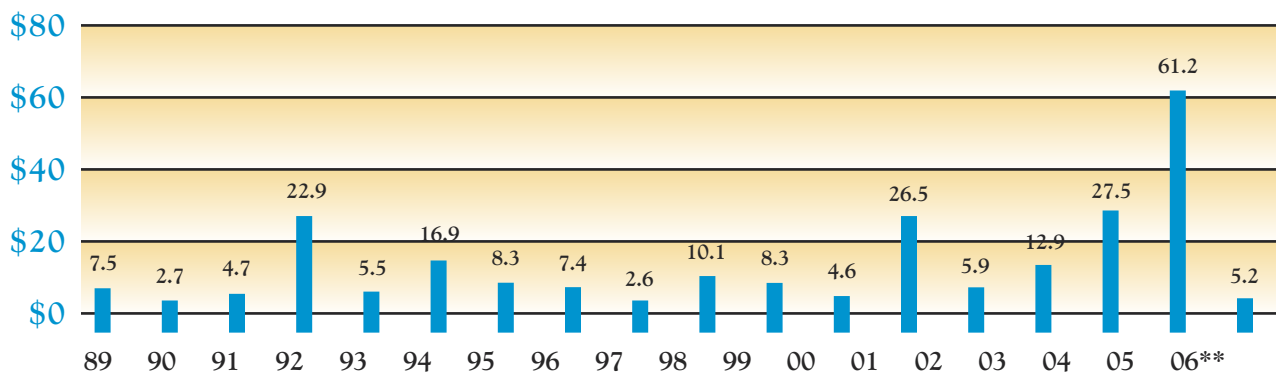
Catastrophic losses to U. S. private insurers in 2005 were \$61.2 billion excluding an estimated \$4 to \$6 billion of offshore energy insured losses. This followed a record year in which catastrophic losses were \$27.5 billion. In 2005, catastrophic losses accounted for 13.8% of the industry's net earned premium—4.2 times the 1984-2004 average of 3.3%.

Losses paid by insurers for catastrophes were:



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U.S. Insured Catastrophe Losses (\$ billions)*



*Excludes \$4B-\$6B offshore energy losses from Hurricane Katrina & Rita. **As of June 30, 2006.

Note: 2001 figure includes \$20.3B for 9/11 losses reported through 12/31/01. Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = \$12.2B.

Source: Property Claims Service/ISO; Insurance Information Institute.

The insurance industry prices products based on past loss experience, relying on statistics and probabilities. Climate change brings uncertainty and ambiguity into the pricing process because past events are no longer a reliable predictor of future events. Insurers have become dependent upon catastrophe modelers who assess an insurer's possible maximum catastrophe loss to provide pricing guidance. The modelers have developed extensive databases, complex mathematical formulas and a cadre of expertise on the subject of catastrophe. Still, because of global warming and insufficient data as to prior events, the predictive accuracy of catastrophe models has not proved as great as once hoped.

Four major hurricanes breached Florida’s coastline in 2004. Katrina, Rita, and Wilma followed those storms in 2005. Had Houston suffered a direct hit from Rita, as was at one time predicted, the impact on insurers would have been immense. When it comes to property insurance in areas exposed to catastrophe, the ebb and flow of historical underwriting cycles that affect insurance availability and pricing has all but disappeared. These hurricanes have changed the insurance industry’s appetite for underwriting Gulf and Atlantic coastal windstorm exposures.

A changing climate coupled with increasing population and property values has called into question the ability and the willingness of the private insurance industry to meet the insurance needs of those located in coastal areas prone to catastrophic loss. Insurance availability is dictated by two factors – the ability of the insurance industry to finance risk and the expectation that the insurance underwritten will be profitable.

Migration to Coastal Locations

During the 20th Century, Americans migrated to coastal areas, particularly those with warm climates. Currently, 50 percent of our population lives within 70 miles of a coast. We have cleared land and drained swamps to develop land in areas prone to hurricanes with both hubris and impunity. This activity continues today even as property insurance has become difficult to obtain from the private insurance industry. Property values in those locations have soared at a rate far greater than in others. It is reported that Florida now has over two trillion dollars of real estate along its coasts. It has become increasingly difficult for the insurance industry to finance the risk associated with this concentration of value.

The following chart prepared by actuaries from Towers Perrin restates the cost of a number of past weather events to reflect the growth in property located in the affected area, the increase in property values and the impact of inflation:

Insured Losses from Past Hurricanes Adjusted for Inflation, Growth in Coastal Properties, Real Growth in Property Values and Increased Property Insurance Coverage			
Year	Hurricane	Major Landfall	Estimated Insured Losses at 2005 Levels (\$ billions)
1926	Number 6	Florida	65.3
1992	Andrew	Florida	31.3
1900	Number 1	Texas	21.1
1915	Number 2	Texas	20.8
1965	Betsy	Louisiana	14.5
1928	Number 4	Florida	13.1
1919	Number 2	Florida	12.6
1938	Number 4	New York	12.4
1954	Hazel	North Carolina	11.0
1909	Number 9	Florida	10.1

Source: Tillinghast

Insurance Pricing and Capacity

State insurance regulators have two major public policy responsibilities. The first is to assure that insurers remain solvent so they can perform on their promises. The second is to protect the public, and ensure it is treated fairly. Fairness dictates that insurance rates should not be excessive or unfairly discriminatory. The uncertainty brought about by climate change confronts insurance regulators on both counts. When insurance markets are non-competitive, rates tend to be higher than

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in a competitive market. State-imposed rate suppression, uncertainty as to the expectation of future losses and finite capital are major factors that contribute to fewer competitors in the marketplace. Insurance availability is driven by the expectation that the business underwritten will be profitable. With clouded expectations, rates rise and availability declines. As is true of any business, insurers use their capital where their expectation of profit is the greatest.

Some United States insurance regulators fear that private capital markets may not have a commitment to continue to finance catastrophic risk exacerbated by climate change. With increasingly unpredictable and devastating weather events, there is concern that investors in the future may be reluctant to expose themselves to such loss or at the very least will be



With increasingly unpredictable and devastating weather events, there is concern that investors in the future will be forced to raise rates enough to increase the probability of a significant rate of return.

forced to raise rates enough to increase the probability of a significant rate of return. This circumstance has and will continue to yield a public outcry that insurers are price gouging.

The ability of direct writing insurers to finance risk depends on their capital base and their ability to access capital of others willing to accept risk associated with the policies they underwrite. The principal source of additional capital (or capacity, as it is referred to in the insurance industry) for direct writing insurers, is

reinsurance. After a disaster, such as 9/11 or Hurricane Katrina, capital has flowed into the reinsurance industry in expectation that insurance prices will rise and short-term profits will follow. This capital came from the investment community in the form of direct contributions, catastrophe bonds and “sidecar” agreements. A sidecar agreement is a financial transaction through which the investment community can assume risk from a reinsurer. The industry had traditionally been viewed as cyclical. When capital is abundant, prices fall and underwriting standards lessen. When capital is scarce, prices rise and underwriting standards increase.

It is difficult to set prices at a level that will deliver high enough expected rates of return to attract capital to assume a risk when the probability of loss is increasing at an unpredictable rate. Insurance, by definition, is the spreading of risk between individuals with a similar likelihood of loss. There is a fine distinction between “spreading risk” and “assuming risk.” As insurers enter into reinsurance arrangements, those arrangements become less about spreading risk and more about assuming risk for a price. That price is dictated by the market place. The result is more a financial transaction than an insurance agreement. Direct writing insurers whose prices are regulated must therefore rely on reinsurers whose prices are not.

While the pricing of reinsurance is market driven, reinsurers assess the expected frequency and severity of triggering events in arriving at a decision whether to risk their capital and how to price their product. That uncertainty has created steep price increases in catastrophic reinsurance. Some reinsurers have underwritten as much risk as they can comfortably assume. The uncertainty is exacerbated by the fact that it is becoming increasingly probable that a number of catastrophic events will happen in a single year.

The Role of Government

Even before there was the realization that climate change was contributing to increasing loss costs, a number of states with coastal exposures established government sponsored risk-sharing mechanisms including windstorm pools, reinsurance facilities and direct writing insurers in response to a lack of insurance availability. These risk-sharing mechanisms also responded to the perception by some coastal residents, legislators, and insurance regulators that the wind exposure rates charged by the insurance industry were excessive.

When losses exceed the premium charged by state mandated property risk-sharing entities, insurers are generally assessed the shortfall. These assessments are directly or indirectly passed on by insurers to their policyholders that can include those

who have purchased insurance other than property. In one state, auto owners are called upon to subsidize homeowners in the event of a catastrophe. While it is sound policy to require state mandated auto insurance, it makes less sense to force this segment of the population to pay an assessment to subsidize homeowners.

In several instances, state taxpayers have been tapped to support financially troubled state sponsored insurers. As the private insurance industry continues to withdraw from the marketplace, taxpayers will be required to bear additional financial responsibility for the solvency of state sponsored insurers and reinsurers. And what began as a public response to an insurance availability crisis has produced the unintended consequence of encouraging continued property development in catastrophe prone areas. Had individuals been forced to recognize and bear the true cost of the risk, some of them may have made different building or buying decisions.

In 2006, the National Association of Insurance Commissioners (NAIC) enacted a resolution urging Congress to consider establishing a National Commission on Natural Disasters. The principal purpose of the Commission would be to review whether or not some form of a federal reinsurance should be made available to address underwriting capacity. Such a backstop would apply to both private and state sponsored insurers and state or regionally financed reinsurance.

Under the NAIC proposal, those reinsured by the federal government would be assessed a premium for the reinsurance protection they received. While the premium would be based on the best information relating to risk available from an historical perspective, when it comes to federal programs such estimates often fall short to the true cost. But unlike the private markets, the federal government has the capacity to fund huge catastrophic losses without specific funds set aside as a result of its ability to issue debt. Private insurers must have funds available, either through assets or reinsurance to pay their obligations. A federal backstop would be beneficial by limiting the capital necessary to finance the growing risk associated with climate change.

Generally speaking, insurance regulators from coastal states and those states that have earthquake zones within their boundaries support a federal backstop while remaining regulators are opposed. The principal reason for the split among regulators is the fear that a federal backstop would ultimately create a taxpayer subsidy whether or not that is the intention. Nothing is so fractious as the cost of insurance when it is understood that the price paid includes a provision for subsidizing someone else. It is abundantly clear that few citizens are receptive to the concept of paying for the risk of others. Those living in areas not subject to hurricane loss resist subsidizing the risk associated with those that are. Even within individual state boundaries, there is tension between those who live in coastal areas and those who do not when it comes to subsidizing windstorm pools.



The insurance industry is divided into three camps on the question of a federal backstop. One camp is opposed to any governmental involvement. It asserts that the insurance industry has the resources necessary to finance all of the risk and tends to assume that nothing the federal government does is done well. The second camp wants a federal backstop that would apply only at a very high level. For example, one standard suggested is the threshold of 20% of the insurance industry's capital. Only losses in excess of that amount would be reinsured. By attaching at a high level, the reinsurance market would continue to price the cost of coverage thus minimizing the probability that the taxpayer would subsidize those living in coastal areas. The third camp wants a federal backstop with a very low attachment point thus shifting most of the windstorm risk to the federal government. This would smooth insurer earnings, and satisfy Wall Street's desire for predictable earnings.

As it turns out, those who reside in non-coastal areas are not as insulated from catastrophic events as they might generally believe. After 9/11, the property and casualty insurance industry's capital was reduced to approximately \$300 billion. Of that amount, only about \$100 billion of capital was available to underwrite commercial lines. The commercial losses resulting from Katrina were about \$18 billion. While the industry's current capital is estimated at about \$435 billion, a significant reduction in capital would result in higher prices for most forms of commercial insurance wherever the risk is located.

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Availability and Affordability

Insurers seem to be in general agreement that availability problems resulting from climate change would be mitigated by deregulating prices. (Several of the affected coastal states have a long history of strong and confrontational rate regulation.) But availability has a bedfellow called affordability. It may be true that the availability of insurance would not be a problem if premiums were high enough, but then many might find it possible to afford. Yet foregoing insurance may not even be a real option.

Mortgages generally require that certain levels and kinds of insurance remain in place throughout the term of the loan. Regardless of whether insurance is unavailable or unaffordable, without it some properties will ultimately fall into foreclosure. When it is an affordability problem, lenders can forestall the foreclosure by purchasing high cost force-placed insurance, but in a number of instances, it is simply forestalling the inevitable.

If a large number of property owners become uninsured the economic impact on the federal government will be greater when a catastrophe occurs, because the federal government will be called upon to pay a larger share of the cost. Given the precedents set in the aftermath of Hurricane Katrina, it would be difficult for the government to walk away from future disasters based on the grounds that property owners could have purchased insurance and didn't. It is therefore in the public's best interest that insurance be both available and affordable.

It is also in the public interest that rates reflect the true cost of risk associated with the property insured. If insurance rates are determined by political will rather than sound economic principles, the insurance system loses both fairness and viability. In addition, if rates are held below true cost, an incentive is created to continue development in hazardous areas as well as to slow the remediation of existing property to withstand more powerful storms.

Mitigating Risk

Consideration should be given to a transitional program to enable some existing property owners to remediate existing property and continue their insurance for a limited period of time. Such a program could include government loans or tax credits to those with assets less than a given amount and limited incomes. While such a government program would be costly to administer, such cost may pale when compared to the cost of doing nothing. In assessing the true cost of a catastrophe to government, both the cost of direct payments by government and the impact of casualty losses on tax revenue must be considered.

Another approach should harness the creativity of lenders. Lenders could be called upon to create innovations that could assist property owners in paying or financing insurance premiums in areas where the adjustment to a risk-based premium creates affordability issues. They could also provide some financing to remediate property on which they hold a mortgage. Insurers could assist policyholders with similar financing and should be encouraged to offer discounts for property enhancements that are targeted to minimize damage in the event of a disaster.

Ultimately, climate change will cause a decrease in the value of real estate in areas susceptible to hurricanes as purchasers recognize the cost of risk associated with those properties. (An exception may be property located directly on the coast where the wealthy are willing and able to bear the increasing cost associated with desirable coastal views.) In some instances, the depreciated market value of property could exceed the unpaid amount of a mortgage, and that often results in the



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mortgagor simply walking away from the property and the obligation. Lenders have a keen interest in following the impact of climate change.

The National Association of Insurance Commissioners resolution also suggested several initiatives to mitigate risk associated with climate change. It urged that the proposed Commission embrace a strong land use policy, require uniform and enforceable building codes, as well as considering financing methods through which existing properties could be remediated to minimize damage resulting from windstorm.

Beyond Hurricanes

Because they are so big, hurricane losses get a lot of attention. But they are not the only insurance losses associated with climate change. Climate change has resulted in a gradual increase in loss costs for many insurance products that affect many regions of the country. These losses are borne by both the public and private insurance sectors.

The most prominent public insurance losses emanate from the Federal Flood Insurance Program. Approximately \$21 billion federal flood insurance losses resulted from Katrina. In one area on the Mississippi coast, the wave wash from Katrina exceeded the 500-year flood probability. Apart from the problems associated with the rising sea levels that result from climate change, it is clear that flooding is becoming more common. Increased ocean temperatures create more frequent intense rains along our coasts.

This past year both the Northeast and Northwest suffered from record rains. Two years ago, the same was true of Los Angeles. Unfortunately, in New Orleans only about 15% of homeowners purchased federal flood insurance; this is particularly noteworthy because of the fact that lending laws require flood insurance in recognized flood plains. The increased precipitation from global warming will result in additional purchases of flood insurance as a result of improved identification of flood plains and a greater public awareness of the probability of a flood loss. The Federal Flood Insurance Program will have to be more highly subsidized even though measures are being taken to improve the pricing of the coverage so that it better reflects the risk associated with each given location.

Congress and the Federal Emergency Management Administration must rethink how best to manage this exposure. The issue of “wind v. water” must be resolved so that the public is not harmed as private insurers assert the loss is water-related when wind may have at least been a significant factor. Consideration should be given to incorporating flood coverage into homeowners insurance. The federal government would then reinsure the flood coverage so that policyholders would not be caught in the middle of any “wind v. water” dispute. That would be between the private insurer and the federal government.

As the federal flood insurance program comes under additional scrutiny because of increasing costs, more attention will have to be placed on remediation of property in exposed areas to minimize future losses. Repeat losses to properties from flooding will require some difficult and painful decisions. There will come a time when the public will no longer tolerate subsidizing those who continue to live where they want to live without paying the real costs for that decision.

While climate change contributes to increased precipitation in coastal areas, the reverse is true in some inland locations. In the West, Southwest, and on the Plains, drought has been persistent. While drought has not traditionally been a peril insured against (with the exception of the federal crop insurance program), drought coupled with rising temperatures has created problems for the insurance industry. Over the past several years, the number of forest and grass fires has been unprecedented. In addition to the usual brush fires in California, significant conflagrations have occurred in Arizona, Texas, Oklahoma, Wyoming and Nebraska. These fires have not only affected grasslands---they have resulted in the loss of numerous homes and livestock. Since these losses have yet to be of catastrophic proportions, the cost of these losses will gradually become embedded in the premiums the public pays.



During droughts, which are usually accompanied by lingering heat waves, what little precipitation that is received comes in the form of violent thunderstorms. These storms are often accompanied by hail and severe winds. Hail losses in the Plains states have become more frequent and less predictable. In some parts of the country, the gradual changes brought about



Aside from earthquake, the most probable and costly inland loss for the insurance industry would be a major failure of the power grid caused by a prolonged heat wave.

by global warming are not insurable events and yet are as significant as insurable storms. For example, the scarcity of water due to prolonged drought is not generally insured but it is as financially devastating as a hurricane. Should we devise public programs to handle insured risks, the question becomes whether we are just as obligated to address the problems of those climate change risk for which insurance has never been available.

Aside from earthquake, the most probable and costly inland loss for the insurance industry would be a major failure of the power grid caused by a prolonged heat wave. The probability of such a failure has increased with global warming. Europe experienced an increase in mortality of 30,000 lives resulting from a heat wave in 2003 even though their grid remained intact. The cost

to life insurers resulting from grid failure would be high, but the cost to the property and casualty industry would be exceptional. Businesses would close, transportation would slow or stop, fire and police protection would be diminished and food supplies would spoil.

Sophisticated risk managers are purchasing more business interruption coverage as a result of their recognition of this increasing exposure. They are also purchasing contingent business interruption coverage, which protects their firm from loss as a result of an event that may happen far away from their insured premises. The concept of “just in time” that allows businesses to reduce inventory costs necessitates consistent and reliable delivery schedules. Weather-related events could interrupt both power and transportation. Hurricane Katrina raised public awareness that transportation can come to a standstill as a result of loss of our energy infrastructure.

An increasing number of insurers are “thinking green” when developing new insurance products. Most property insurance policies have a provision that in the event of loss, should the property owner elect to rebuild, the insurer will pay for improvements to conform to current building code requirements. A coverage enhancement is available from one insurer for an additional premium that in the event of a loss, it will pay the additional cost of upgrading the property to take advantage of current energy efficient technology.

Unfortunately, most in the insurance industry are focused on adaptation to climate change more so than on reducing greenhouse gases, which is really our greatest hope. The industry has vast financial resources and is in constant search for better investment opportunities to increase return. It is clear that the alternative energy sources hold great promise. While there will be winners and losers in the energy industry as technological innovations improve existing energy sources and create new ones, the insurance industry should be poised to take advantage of opportunities. That is clearly in their best interest, the interest of their stockholders, policyholders and the general public.

Author Biography

Until he passed away in October, 2007, Tim Wagner was the Director of Insurance for the state of Nebraska. He was active within the National Association of Insurance Commissioners (NAIC) and chaired several key committees within that organization. He was the co-chair of the NAIC Task Force on Climate Change. Mr. Wagner chaired the Journal of Insurance Regulation editorial board from 2001-2007 and has authored numerous articles on insurance regulation.

Prior to being appointed Director of Insurance, Mr. Wagner had a long career in the insurance industry. He served as an underwriter and rate analyst, and held management positions in several insurance companies. He also worked in the product development and government relations offices of insurance companies.

Mr. Wagner received a Bachelor of Arts degree from Nebraska Wesleyan University with emphasis in political science, history and business in 1963, and the Chartered Property and Casualty Underwriter designation in 1969.



Growing the Economy Through Global Warming Solutions
is presented by



Civil Society Institute
1 Bridge Street • Newton, MA 02458
(617) 243-3509
www.CivilSocietyInstitute.org

The nonprofit and nonpartisan Civil Society Institute is a think tank that serves as a catalyst for change by creating problem-solving interactions among people, and between communities, government and business that can help to improve society.

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In each of these areas, we seek out examples of creative thinking and activities already underway, including those of individuals, community groups, businesses and the nonprofit and public sectors. We create interactions between people, communities, government and business in order to link successful programs to groups who can use them, to eliminate obstacles to success and to encourage informed debate of the issues. We also support these efforts with strategic planning and, on occasion, funding.

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Series Editor:
Lloyd J. Dumas
Professor of Economics and Public Policy,
University of Texas at Dallas



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