

KEYNOTE ADDRESS, CLIMATE RELATED EXTREME EVENTS, LIABILITY REGIMES & THE ROLE OF THE GLOBAL INSURANCE INDUSTRY

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Climate change is a topic of great and increasing significance. The inherent risk it presents to people all over our planet will require the best and the brightest to address many different aspects of the problem, and many perspectives from the world of insurance, and its management of extreme risks, so that societies can, and will, utilize them to address some of the issues presented by climate change.

The unique characteristics of risk management, and of the insurance industry itself, create an integral and dynamic role for insurance as a tool to mitigate several aspects of climate change. Today, the messages of greatest importance revolve around the recognition and examination of what the insurance industry can achieve in the face of climate change risk, and also what it cannot.

For centuries insurance has ameliorated the damage of extreme weather events, and in the last two centuries, has protected many cities around the globe against the risks of extreme weather. The unique capacity of the world's insurance industry to protect society from the damage that can come from extreme weather events is based on a deep knowledge of risk engineering that can be employed to foster sound land use planning, more secure construction techniques and widespread adoption of protective building codes. Insurers can, and do, develop new products that foster better loss prevention while utilizing the best of global operating methods to bring initial and essential relief to the victims of climate related damage. Regrettably, however, these industry resources are all too often ignored by policymakers who favor a narrow, short term, and sometimes politically motivated, role for the insurance industry to minimize loss from extreme events for their constituencies.

Property insurance, which is free to be sold in conditions and at prices that fairly reflect the risks of the location and facilities seeking coverage, is distinctively competent in providing first party compensation for climate related losses. In this regard, insurance, by the pooling of large numbers of risks, reduces the individual's risk of loss and therefore the expense of loss. These competencies should be deployed in tandem with community, state, and national resilience movements. Regarding climate risks, this requires the terms and prices to grow with the frequency and

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severity of anticipated losses. Allowing these risk management tools to be freely applied will cause commercial and personal property owners to reconsider where they wish to locate and how they should operate. But all too often, laws and regulations limit or prohibit such tools from being utilized, depriving many property owners of any insurance coverage and further burdening taxpayers and other insureds, impairing climate change sustainability rather than fostering it.

The industry can fill this role of facilitating resiliency more effectively than it does today, but it has been inhibited by public policies that view many functions, such as the setting of building codes, land use patterns, and others, as exclusively government functions. As a result, there has been little opportunity for the “market” to inform the debate on such topics. As an exclusively governmental function, it is inevitable that the decisions regarding such important long-term subjects are informed by politics, rather than by a proper risk management or reflection of risk pricing. In this area, it is the insurers and stakeholders that are able to achieve more than is currently being done through effective public-private sector collaborations.

But insurance, as it stands today, remains limited in its capacity to improve the risks and minimize the effects of climate change. For instance, the frictional cost of compensating loss through liability litigation at 40-50% of the throughput of funds seems like an unsound and expensive social policy that would threaten the sustainability of insurance as a resource for sustainable development. Still more evidence of these shortcomings emerge through a reflection on the developments of the past twenty years, and two seminal events that galvanized the U.S. public attention to the confluence of climate change and the law.

The first event was Earth Summit, held in June, 1992, in Rio de Janeiro. It was a global call to arms, warning that the acceleration of global warming constituted a meaningful threat to the sustainability of the comforts of life in developed countries and the opportunities for those comforts in the not yet developed parts of the world. The nations and institutions gathered in Rio committed to change behaviors through both governmental and private actions, with ambitious goals for reducing carbon emissions contributing to global warming. The Rio commitments have not been implemented as their authors hoped, but the message of urgency that Rio launched remains with us today.

The second event came just three months later in September 1992. Hurricane Andrew attacked Florida with a vengeance: a Category 5 hurricane with wind gusts up to 206 mph. The storm’s toll included 126 lives lost, 126,000 homes destroyed and over \$18 billion (in 1992 dollars) in property damage. As significant as those storm totals were, it was fortunate that the storm was just a glancing blow south of Miami. Yet it still created devastation, lowering property values and alerting many in America to the potential for loss of life and property if a Category 5

hurricane struck Miami directly, or any major U.S. coastal city in the changing storm tracks of the future.

The events of 1992 changed the direction of the world, but not enough. Individual regard for the environment has improved, and organizations have mobilized various forms of remedy, but geo-politics has not made climate change a priority. There are however, two consequences of note.

First, the insurance industry “got it.” It saw the need for better protection of its shareholders assets, and understood the need for commitment to the requirements of climate related sustainability. By the mid-1990’s most of the world’s leading insurers had adopted sustainability programs that influenced discretionary investments, captured the collective energies of employees and elevated sustainability consciousness among shareholders and business partners. Individually the industry leaders began producing annual sustainability reports as complements to annual shareholder financial reports. More important, those early movers invested in the action programs described in the reports. The insurance industry became the first industry to truly embrace sustainability.

The insurers embrace of the implications of climate change was rational as self-interest became clearer. While no single storm can be attributed to climate change, a defining moment of US weather related extreme events occurred thirteen years later in 2005 when four Category 5 hurricanes struck the U.S. and Mexico. Hurricanes Katrina, Rita and Wilma, demonstrated the enormous energy and destructive potential of windstorms as never before. The combined death toll exceeded 2,000, and the property damage topped \$125 billion. Katrina alone cost \$81 billion, triple that of Andrew. The costs of a changing climate pattern affecting frequency and severity, clearly exceeded the loss models on which property insurance had been priced.

The initial reaction from the public sector was slow and woefully insufficient. Insurers went about their responsibilities as fast as the public sector could allow, and sometimes even faster than the public sector was able to allow access. Adjusters were on site as the flooding subsided; processing claims rapidly to assist homeowners and businesses in restoring life amidst the ruins. When the final loss data was compiled, it showed that reinsurers from all parts of the world had paid 61% of the damage. Combined with the losses paid by direct insurers, the insurance industry paid approximately 75% of the property losses.

For The Geneva Association, Katrina, Rita and Wilma were the signals that the world needed to pay much more attention to the risks of climate change. The “Climate Risk and Insurance” program, a special initiative of the Association, works with the United Nations and other organizations to assure that the knowledge and special competencies of the insurance industry contributes to the understanding and modeling of

climate events and the measurement and quantification of those risks. The Climate Risk and Insurance Working Group also assisted in the development of a statement by CEO members declaring the responsibilities of the industry in coping with the challenges of climate risks. Titled “The Kyoto Statement of the Geneva Association” (for its adoption in Kyoto on May 29, 2009), the Statement reads as follows:¹

The latest climate science strongly indicates that climate change is happening, Mankind’s influence is very material and the changes are occurring faster than earlier projected. The prospect of extreme climate change and its potentially devastating economic and social consequences are of great concern to the insurance industry. Against this backdrop, we, the leaders of the world’s largest insurance and reinsurance companies, as assembled in The Geneva Association wants to make known our view through the following key messages.

Those key messages involve commitments to customers, policymakers and the industry on a global basis. It is in this regard that the second consequence to emerge from the events of 1992 bears significance. Not only did the insurance industry “get it”, but others interested in compensating victims of climate related catastrophes, and their attorneys, got their own message: with vast needs for compensation, and no humanitarian solution in sight as a result of governments that could not or would not pick up the tab, invoking the liability regimes of the world, or creating new ones to justify the transfer of assets from the pools where they could be found to where relief was needed, was the solution.

The humanitarian appeal of changing a tort liability system to a compensation system is undeniable. However, one can question the utility of transforming a system founded on principles of fault to one founded on principles of need without first creating a sustainable model of linkage between economic reality and responsible behaviors. One need not be a legal scholar to recognize the clumsy process of attempting to squeeze a square peg into a round hole. Nor does it take an expert on constitutional law to recognize efforts to convert the U.S. civil justice system into a system to socialize losses from massive weather related events. One can question the motives, but more importantly, one can question the method

¹ The Kyoto Statement of the Geneva Association, The Geneva Association, May 29, 2009 *available at* https://www.genevaassociation.org/media/206439/GA2009-Kyoto_Statement.pdf.

with concern that the short-term objectives will undermine long-term sustainability.

Beginning with consideration of economic scale, there is no doubt that the defendants in the *Kivalina* case,² and their insurers, would be able to bear the costs of relocating that unfortunate community. The costs will be *de minimis* compared to what the U.S. Army Corps of Engineers spent enabling large sections of New Orleans to rebuild below sea level after it drowned in Katrina. But was that public cost a wise use of national resources? There was little, if any debate about that decision and certainly almost no economic analysis.³ Nor was there much concern that the new levees were rebuilt to withstand only a once-in-100-year weather event, when there have been several such events in the U.S. in just these past twenty years. If the public sector is the place to fund the rebuilding of New Orleans below sea level, perhaps it is the proper source of funds to relocate the Inuits to safe ground.

These, however, are all affordable issues, but the potential costs of climate related extreme events may not be. A study conducted by Trucost consultants for the financial institution branch of the UN Environmental Protection Agency recently produced some striking numbers that UNEP FI has endorsed. Trucost has determined that the annual global cost of climate related extreme events attributable to greenhouse gas emissions is \$6.6 trillion, annually.⁴ Further calculations lead Trucost and UNEP FI to attribute \$2.15 trillion of this annual amount to the GHG emissions of our global industrialization—the “anthropogenic” component.⁵

UNEP FI helpfully notes that the \$2.15 trillion could be compensated out of the operating revenues of the 3,000 largest public companies in the world, and presumably their insurers.⁶ What is the connection that links the universe of business and the community of need? That has not been explained, but the implication drawn by these policymakers seems clear: large businesses are likely large emitters of greenhouse gasses and should be held responsible for the consequences.

² *Native Vill. of Kivalina v. ExxonMobil Corp.*, 663 F. Supp. 2d 863 (N.D. Cal. 2009), *aff'd*, 696 F.3d 849 (9th Cir. 2012).

³ It has to be said that politicians get the microphone first after an event, and it is as predictable as the sun rising after a dark night that they immediately vow to “Rebuild their City”, New Orleans in 2005, the vast neighborhoods south of Miami in 1992, and if one is a student of insurance you can find the same said about San Francisco in 1906.

⁴ Trucost, report, *Universal Ownership: Why Environmental Externalities Matter to Institutional Investors*, April 6, 2011.

⁵ *Id.* at 25.

⁶ *Id.*

There seems a similarity of approach between the Inuits and the global victims; the similarity being the lowering of tort and mass claim liability standards to a point that they do not impede the flow of funds from owner to a new beneficiary.

The scale and precision of the numbers may be difficult to accept, but there lies no reason to question the good faith belief behind that effort. If costs of that magnitude were to be incurred, the theories of socializing those costs through a liability system would not be a sustainable commercial or governmental model for any country in the world.

Good things have emerged from the climatological and political events triggered by Rio 1992 and the new era of catastrophic hurricanes that began with Andrew. The humanitarian movement understands that insurance assets are a resource to be utilized, and the insurance industry understands that climate change and its consequences are of great concern for which it must play a leading role in finding solutions.

These insights clearly need to be conjoined in a constructive way, but perhaps draining the river of business and insurance assets as fast as climate related extreme events requires is not such a constructive way, as the river is not fed by a bottomless well of resource.

As for the financial resources available, it is important to note that the coffers of the insurance industry were depleted not just by extreme insurance events of recent years, but also by the financial crash of 2008. Much more damaging to these coffers, however, is the daily erosion that comes to the insurance industry from the cures implemented to fix our ailing western and eastern economies. The collective action of the world's central banks to repress interest rates over several years is more than hurting the margins of the insurance industry, it is reducing the industry's ability to resiliently deal with future climate events. This financial repression caused the entire industry's equity to be valued by investors below book value, a condition which, if it continued, would severely limit the likelihood and amount of post-event financing that could ever be supplied by investors.⁷ So, as long as the sustainability challenge operates within a clearly financially limited insurance industry there will have to be a better way.

The search for a better way requires clarity about the problem. The expectation that climate risks will rise in frequency and severity is not the problem. The problem lies in the approach to mitigate the effects of climate change and how to most efficiently deal with the impending losses

⁷ After September 11, 2001, an extreme event that no insurer was ever paid for, 6 billion Swiss francs of capital was raised to replenish Swiss Re's balance sheet post event. This tool of post-event financing is severely limited in today's world given these, arguably rational, valuations.

and hardships. The use of liability mechanisms or artificial surrogates operating under the procedures of liability litigation, with frictional costs of 40-50% for payers and beneficiaries, is the least efficient option. It is worth noting that the frictional costs of workers compensation systems in the U.S. are at 3%, so at the very least it can be said that choosing the liability route to compensation is not in the interests of either the providers or victims.

The components of the problem are numerous and often debated: flawed land use planning, weak and poorly enforced building codes, absence of resilience planning from the community level on up, and the absence of post-event recovery planning, especially for events that spread over the borders of many sovereign jurisdictions. The commitment adopted in the Geneva Association's Kyoto Statement provides directional guidance about dealing with these problems:

In dealing with our customers insurers:

- ...[A]re committed to enhancing our research capabilities in order to provide a better evaluation and management of climate risks.
- ...[P]romote mitigation efforts by developing products which incentivize offsetting or reducing greenhouse gas emission levels.
- ...[D]esign insurance products to support low carbon energy development projects and to help attract investments to such projects.
- As major institutional investors, the insurance industry (will) encourage mitigation and adaptation efforts such as investing in low carbon energy projects.

In dealing with those who make or influence public policy insurers:

- ...([W]ill) help counter climate risk through active cooperation in implementing building codes or similar means which encourage the use of sustainable practices.
- ...[W]ork closely with policymakers on communicating to our customers their climate risk levels, possible strategies of mitigation and adaptation, and in quantifying the financial benefits of those strategies.
- ...([P]rovide) innovative solutions for climate risk issues. These include funding relevant research and providing tools to its customers to assess and counter climate risks.

- ...[R]ecognize the significant benefits of pooling climate risks. We urge policy-makers to collect robust data and make it freely available to allow risk assessment and to facilitate efficient solutions where premiums are risk based.⁸

These may sound like institutionalized, high sounding phrases without meaningful content, but they are not. There is no better place to begin addressing the real issues of climate change. Each of those simple statements has a depth of thought and substance embedded in it to determine what is optimally possible and about how to construct sustainable solutions to the climate change challenge.

But if that is correct, why has there been only a modest, and generally unrecognized, progress in the three years proceeding the issuance of that Statement? Has the insurance industry failed to deliver on its commitments? No, but the progress and effort behind it have not been as robust as it should and can be. The causes for the snail's pace of progress are complex and intertwined. However, one factor stands out as the primary obstacle: the absence of needed cooperation from public sector policymakers, and regrettable public sector obstacles to the implementation of sound initiatives. Private sector actors, all acting in their acknowledged self-interests, have also contributed to the absence of take up of these and other like minded proposals.

Behind the insurance industry's pledges lie vast and unique competencies, data resources and analytics, risk management expertise, and the disciplinary tools of product terms and pricing to help policymakers, and the insured, take serious and immediate actions to mitigate risks to life and property. But there is little that can be done with these tools unless there are actors willing to incorporate them in response to the real climate change problem. Further, there will be few such actors if those who set public policy, law, and regulation interfere with market dynamics.

Responses to Hurricane Andrew illustrate the public sector's interference with the potential for effective private-public collaboration at a time it could be most valuable. The endless stretches of devastated housing flattened by Andrew were dramatic proof that the applicable building codes fostering those housing developments were not sound. One might have expected two things to have happened, not just in South Florida, but in many parts of the U.S., in the wake of Andrew's destruction: 1) major reformation of building codes, incorporating the data and expertise of the insurance industry, and 2) the escalation of property insurance premiums using insurance pricing tools to assure those who chose to settle in areas

⁸ Kyoto Statement at 1.

vulnerable to hurricanes would pay according to their choice to live in harm's way.

But the State of Florida had other ideas. First, it prevented insurers from charging actuarially sound prices for the risk. As a result, insurers announced they would withdraw from the state. To combat the effects, Florida passed a law preventing any insurer from withdrawing more than 5% of its business in a single year. Insurers appealed this decision and spent the next year figuring out which 5% of their business would not be renewed. The most wind-exposed policies found their way into the Joint Underwriting Association ("JUA"), a state owned and operated insurer of last resort that provided insurance coverage at prices far below actuarially sound prices. These events reduced the pressure for a true rectification of building codes, land use restrictions, and movement of facilities off of heavily exposed coasts.

Four years into this march of folly, a consultant to the State of Florida submitted a study on the risk the JUA faced now that it was the third largest homeowners insurer in the state with more than a million policies on its books. The study pointed out that if the wind blew, not only would the JUA be bankrupt, it could also impede the State of Florida, which would be required to finance the claims of the JUA in such a large event.

The second act of the State was to pass legislation to entice new entrant insurers to take policies out of JUA at a high cost to JUA, a folly not required if the State would have allowed the actuarially proper price to be allocated. To this day, the Florida insurance market continues to be in an unsustainable position, given the frequency and severity of hurricane activity likely to occur, the limits placed on market-based catastrophe models and direct limits on pricing.

It does not require much thought to recognize the consequences of such a series of efforts to control the price of insurance. Poor land use planning continued into a statewide boom, slowed only temporarily by the financial crisis fifteen years later. Building codes were not rigorously corrected - another area where the expertise of insurers went largely unused - and the amount of commercial and residential property in coastal Florida has increased to this day. Subsequent storms much less fierce than Andrew will prove the risk that the state insurance fund face; the risk it would need to be bailed out at taxpayer expense when an extreme event occurs. In essence, it can be said that the relatively affluent developed the state and its coastal areas to a point where they will be the victims, predictably, of extreme windstorm losses. It can be argued that this affluent group is using the powers of the state to be bailed out in the future by the relatively less affluent not on the coast in their heavily exposed houses and other facilities.

The Florida experience has been replicated throughout the U.S. in a variety of ways, although there have been some examples of courageous public sector use of wiser principles and of the power of insurance industry advice and products that were properly designed and priced. But sadly, those wise courses chosen are not in the majority. Is it not fair to suggest that rebuilding large sections of New Orleans below sea level, at a hurricane prone location, was a massive misallocation of resources that benefitted the few with political influence at the expense of taxpayers nationwide?

These issues continue to unfold around the globe, and implementing the solutions embedded in the Kyoto Statement is considerably more difficult when dealing with multiple sovereign countries than here in the U.S. where public policy responsibilities operate in a largely federal context. However, the challenges of mitigation, adaptation, remediation, and resilience to climate change are not substantially different, and the impediments to sound public-private sector collaboration in the use of insurance expertise and tools, is as strong today as ever.

Beyond the politically motivated, there are other public sector obstacles facing the insurance industry in seeking to implement the goals of the Kyoto Statement. First, the public-private collaborations that are essential to meaningful solutions must begin with close cooperation among the leading insurers and reinsurers. That cooperation will be most useful if these groups can work with one another to design products and services for public authorities and private clients. But there are competition law constraints in all developed economies, and competition enforcement authorities in many, that create a serious risk if such cooperation were to be meaningfully pursued absent some accommodation in law.

That is not to suggest that the traditional role of competition authorities should be abandoned for insurers. In developed lines of business they are as warranted for insurance as for other industries. But where insurers are attempting to contribute their vital skills to solving crises as large as climate change, changes to laws should be implemented for the greater good of financial stability and social sustainability. Regrettably, to date there has been no sign of policymaker support for this accommodation.

Second, the insurance industry is undergoing massive regulatory and solvency revisions, arising out of the financial crisis. Politicians and regulators tend to view the insurance industry as an industry with a similar business model to that of investment banks, retail banks and other deposit taking institutions. Consequently, they worry about runs on insurance assets as systemic risk and look at our solvency needs as though our liabilities are as volatile and as easily callable as bank deposits.

In fact, there are structural and business model differences that make insurance a natural stabilizer for domestic and global economies. “Deposits” are premiums, for which the corollary obligation to pay is

contingent and largely outside the timing control of the insured. With the power of history as a guide, the severity and frequency of most claims exposures are quite predictable, especially over multiple years. The insurance position in the U.S., and elsewhere, is further secured by the claims reserve requirements of existing insurance regulation. For all its adverse publicity, AIG's regulated insurance subsidiaries were able to pay all legitimate claims when due and its holding company pay back the American taxpayers all loans, plus a \$15 billion profit with another \$8 billion of profit to be realized by future sales of stock by the U.S. Treasury. It is clear, however, that the industry faces uncertain outcomes regarding solvency standards and regulatory constraints that run directly counter to the flexibility required to innovate and respond to climate related risks.

Finally, politicians and regulators misperceive the purpose and role of insurance in the free market economy. Even those who realize the industry's financial resources do not magically descend to earth from another planet hold a similar assumption that whenever an insurer incurs losses beyond their expectation—a not uncommon experience in the property sector with the advent of climate change or in the liability sector with innovative efforts to lower the bar of recovery with retrospective effect that is unknowable at the time of underwriting—the industry has an endlessly elastic capacity to increase premiums in all classes of business to pay such losses and that investors have an unending appetite for insurance stocks such that capital can be replenished in this manner. If only that were so.

Commercial insurers cannot transfer the costs of Katrina to auto and homeowner customers in, Minnesota, or even to auto manufacturers and the energy sector. There is no legal or economic basis for doing so, and a healthy free market environment in which new capital can arise as competition at any time prevents such loss shifting—as it should. Insurance serves society and the economy by distributing losses on an equitable basis among the universe of insureds facing similar risks. In that process, the insurer often absorbs loss in greater or lesser amounts than anticipated. But the industry cannot consistently bear aggregate losses that are not recoverable over time, for our investor capital will quickly move to other industries with better and more reliable returns.

Those policymakers and humanitarian organizations who expect insurance to operate as a public resource, able to tax customers for whatever is necessary to meet evolving theories of climate related liability may harvest a few eggs in the short term, but will kill all the geese before the long term arrives.

In the greater context of climate risk liability, and at some risk of informality, a well-worn aphorism comes to mind: When one is up to your axx in alligators, it is difficult to remember that we are here to drain the swamp. Referring, of course, to draining the swamp as the counterpart to

finding the path toward a sustainable future, which adapts to climate change, the reference to alligators is not intended to be a metaphor for anyone, particularly some of our legal brethren in the audience today. Indeed it can be a term of respect for those with a different view of how to drain the swamp.

The work of the Geneva Association's liability regimes program has described and analyzed the trends of the past sixty years for innovations in liability law and practice to be used as a medium of social change and a form of regulation in the private sector. The asbestos and tobacco industries will testify to that, as will many consumers who give thanks to the model (or myth) of Erin Brockovich. But the forecasted effects of climate change envision property losses and human suffering far beyond the scale of all the world's swamps, and the players in the climate change drama need to find common ground and collaborative innovations if the dry land of sustainable development is to be secured from a vulnerable swamp.

Climate change and its manifestations in extreme weather events cannot be terminated by fiat, but the manifestations might be minimized by collective global wisdom. Reasonable doubt exists about the early prospects of accomplishing this until the goals and undertakings of close to 200 some sovereign states can be aligned. With so little progress toward that alignment since 1992, the duty now is to minimize the adverse consequences of climate change, using complementary skills and aligned interests of those like thinking parties in the private sector, combined with pursuit of collaboration with public sector bodies willing to participate.

Thus, the optimum foreseeable goals should be:

- Universal appreciation of the challenges.
- The transformation of political will from short term opportunism that creates moral hazard to the hard decisions of responsible planning.
- The removal of government owned insurers from distorting the policy terms and price signals that the insurance market can provide.
- Public sector regulation of land use, structural design and population center developments that give due consideration to the mitigation of losses, using insurance data and expertise and all other useful inputs.

- Appropriate accommodations from competition authorities and insurance regulators to allow full use of the industry's assets and competencies to address this issue.
- Maximum innovation of new products by insurers to foster better preparedness and to limit the need to depend on high carbon industrial processes.
- Public-private collaborations on readiness plans for post event recovery, utilizing the insurance industry's capacity to provide suitable market priced policies, to respond quickly with large numbers of trained personnel, and to be better able than most to deliver integrated attention across national borders where the climate event spans regions.

Bringing together all these several themes regarding the insurance industry, climate change, and the interplay between them, several conclusions emerge. First, climate change mitigation—the reduction of CO₂ gas emissions—is a government responsibility and can be achieved by changes in technology such as: shifting from coal to low carbon shale gas or near zero carbon (hydro, geothermal, wind and solar). Second, adapting to extreme weather events is most efficiently done through the cooperation of governments, the insurance industry and the potential victims. Three, insurance is based on risk assessments, risk pricing and risk transfer and will thus promote cleaner technologies with lower risk potential by offering lower premiums for them. Finally, the inability of governments to mitigate climate change will lead to a shift of liability to the private sector. Similar to asbestos and tobacco, the insurance industry will be faced with the possibility of having to pick up this bill and here it has no realistic capacity to do so.

The insurance industry has a sound and sincere understanding of the challenges embedded in climate related extreme events, and is well suited as a contributor to drain the swamp. Implementation, however, holds a pace that is less promising, and cannot be accomplished without collaboration in conjunction with legal and regulatory cooperation. It is imperative, however, that the insurance industry continue to strive for further progress on all fronts with a required sense of urgency.

Finally, reliance on unadapted liability law and practice remains an unsuitable method to drain the swamp, insofar as using liability claims is a means of socializing the unavoidable hardships. The socialization of losses is likely to be a goal most thinking, feeling people would choose. But it is a goal that must begin with multi-governmental agreements that create an efficient and equitable basis of asset transfers. Such agreements are also necessary to enable insurers and other contributors to act in

compliance with domestic laws and regulations. Socialization of climate losses through the reshaping of liability law and practice is intrinsically inefficient, consistently confrontational where cooperation is required, and has the risk of preventing sustainable development.

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