

# Environmental Impact of Greenhouse Gases on Insurance and Risk

Studies suggest that claims involving global warming could be the next wave of mass litigation that become a significant financial burden to targeted organizations, mirroring those of asbestos, tobacco, and other large scale litigations. Based on the below developments, companies that emit greenhouse gases, primarily carbon dioxide (CO<sub>2</sub>), should start thinking about reserving funds for liabilities that emanate as a result of these emissions:

- In 2007, the U.S. Supreme Court ruled that Greenhouse Gases (GHG) were pollutants covered by the Clean Air Act and directed the Environmental Protection Agency (EPA) to determine whether they represent health threats that will require federal regulations.
- On September 22, 2009, the EPA issued a mandatory reporting requirement that will take effect January 1, 2010. It requires the nation's approximate 10,000 largest producers of GHG to report the volume of their emissions to the EPA. Specifically, the ruling requires that any facility emitting 25,000 metric tons or more of CO<sub>2</sub> per year, must report its emission data to the EPA on an annual basis. The 10,000 producers represent approximately 85% of the GHG emissions in the USA.
- On December 7, 2009, the EPA took a major step towards regulating CO<sub>2</sub> gases. It provided a ruling that concluded that climate changing pollution due to CO<sub>2</sub> emissions threatened the public health and environment. With this ruling, the EPA is setting the groundwork to enable it to enforce compliance upon those direct emitters that have the technology to mitigate their GHG emissions.

The EPA regulations encompass CO<sub>2</sub> emitters ranging from suppliers of the source to direct emitters that produce 25,000 metric tons or more. Companies that use electricity, irrespective of the amount, are not directly impacted since that source of energy has already been accounted for upstream by the utilities.

All of the above will increase pressure on companies to disclose global warming issues in their corporate filings. As the disclosure expectations become more of a reality, the possibility of successful investor litigations relative to GHG emissions increase.

In 2006, the State of California sued six major auto manufacturers seeking damages for their contribution to global warming, alleging that the automakers CO<sub>2</sub> emissions caused significant harm to its economy, public health and environment. In 2008, *Business Week* reported 16 pending GHG cases in the United States. These cases have been filed in the federal and state courts.

Similar litigations, petitions, and actions have been initiated in other parts of the world. Although none of the litigations to date have been successful, substantial legal expenses have been incurred. Similar beginnings occurred with the tobacco industry which has generated multi-billion dollar settlements and litigation continues.

The purpose of this article is to outline who has GHG emissions exposure, identify areas of insurance that may be triggered, and articulate steps that companies can take to mitigate this potentially catastrophic loss.



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## Who is Exposed

There is no industry or segment of business that will not be directly or indirectly impacted by global warming. However, certain industries will be major targets. For example, approximately 40% of all CO<sub>2</sub> emissions in the USA are attributed to the electric utility companies. The transportation industry is responsible for approximately 33% of the CO<sub>2</sub> emissions. Essentially, direct emitters of a substantial amount of GHG or intensive users of energy all derived from fossil fuel sources need to be cognizant of their exposure and take measures to mitigate this risk.

Financial services and service sectors, at least on a direct basis, appear to be the least exposed. They can, however, be impacted by indirect exposures. For example, if a finance company provides a loan to a customer who then suffers a catastrophic loss due to global warming and cannot repay the loan, this then ends up as a financial loss to the lender. Another example is the dependency of the service sector on suppliers that are crippled by global warming events and are unable to supply their customers.

Exposed companies will be targeted not only by government and individuals, but also by other organizations that are affected directly or indirectly.

## Areas of Insurance that May Be Triggered

Climate changes due to global warming have the potential to impact virtually all segments of liability insurance. Key areas of coverage that are expected to be triggered are as follows:

- Commercial General Liability - claim allegations will include negligence, personal injury, and third-party business interruption. The business interruption may result from disruptions in supply chains, utility services, and communications<sup>1</sup>.
- Product Liability – claims can incorporate materials or products that contribute to climate change. Arguments will include foreseeability, and failure to warn.
- Environmental Liability – claim arguments will be based on impact of climate change, or secondary consequences associated with toxic release, and increased mold losses from warmer and wetter climate.
- Professional Liability - claims directors' and officers' liability for failure to safeguard shareholder value from the impact of climate change; inadequate fiduciary responsibility.
- Political Risk - claims triggered by new government policies targeted towards mitigating GHG risk which result in substantial costs for the emitter or even total shut down.



The probable arguments against coverage that will come into play in respect to liability policies are as follows:

- Expected or Intended - the insurers could argue that the policy does not insure against intentional acts. Strong argument as it may be, depending on jurisdiction, economic climate, and current case law, look to the creativity of the Plaintiff's Bar to dilute this argument.
- Multi-policy Trigger - inception, manifestation or both. Clearly global warming claims will involve multiple policy periods. Pollution liability and product liability claims are key candidates.
- Pollution Liability - insurers may disclaim coverage for gases emitted into the atmosphere from either pollution exclusions or from the argument of no coverage for intentional acts. Even if these arguments hold true, earlier policies did not include, or provide limited pollution exclusions. At minimum, older policies with no pollution exclusions will be triggered.
- Directors and Officers Liability (D&O) - intentional wrongful acts will be argued. Even if the D&O policy excludes this allegation, it will probably have to be defended and most likely settled.

To date, no court of law has found that producing greenhouse gases is in violation of any pollution control law. However, Plaintiff's Bar has begun to develop theories that would require corporations to disclose their contributions to greenhouse gases and the expected impact on climate changes. With the federal ruling that takes effect on January 1, 2010, it should expedite and enhance the Plaintiff's Bar efforts. Concurrently, it should be expected that insurers will proactively risk matrix the GHG exposure with the purpose of developing verbiage so that their policies' coverage intent have a better possibility for success.

## Measures to Mitigate Risk

The risk manager must be the shepherd of a proactive risk management process that will make the organization safer and less likely to be exposed to claims that can cause financial ruin to the company. Exhibit I, obtained from the *Stanford Environmental Laws Journal*<sup>2</sup>, provides an overview of potential triggers, affected insurance, legal theories and risk management solution recommendations. In addition to the measures outlined in the exhibit, the following mitigating measures are suggested:

- Know your organization's business well. Identify the extent of CO<sub>2</sub> emissions. Then structure an exposure matrix that uniquely takes your risks into consideration in respect to the potential impact on life, assets and long term financial health of your organization.
- Start logging in the quantity of CO<sub>2</sub> emitted into the atmosphere, even if you are not one of the EPA's targeted companies. In case of litigation, it may limit the amount of your loss. And it is probably a matter of time before all emitters may be held accountable.
- Share information with other organizations and learn from each other.
- Consider the supply chain exposures. For example, if your company outsources to regions where history and trends suggest a significant and possible debilitating climate risk, analysis must take into consideration the environmental changes which can cause significant contingent losses to your organization.
- Incorporate a competent meteorologist in your risk management process. Being able to obtain a good prediction of the climatic changes in respect to areas of interests for the next 10 to 20 years may mean the survival of your organization.

## Bottom Line

Companies that emit GHG should take immediate measures to mitigate, control and measure their contribution to global warming. Litigation has occurred and is expected to occur with more frequency and with potentially severe repercussions. Even though litigation has not been successful to date, with the new federal driven changes that require companies to measure their contributions to CO<sub>2</sub> emitted into the atmosphere, it is not unreasonable to expect for litigation to succeed in the not too distant future. Finally, it would be a prudent risk manager who follows the old adage to "hope for the best but plan for the worst".



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### References

<sup>1</sup>Evan Mills & Eugene Lecomte, from *Risk to Opportunity: How Insurers Can Proactively and Profitably Manage Climate Change 14* (2006)

<sup>2</sup>Christina Ross, Evan Mills, & Sean B. Hecht, from *Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change*.

Trigger	Liability Insurance	Legal Theory	Risk Management Solution
Increased erosion landslides, sinking of ground surface, disruption and damage to buildings and public utilities or other infrastructure caused by global warming impacts	Commercial General Liability	Nuisance Negligence Environmental Liability Statues (such as CERCLA)	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Land-use planning; coastal protection; flood management; disaster preparedness
Impacts to public lands or resources that detract from public goods such as recreation or ecosystem services	Commercial General Liability	Nuisance Negligence Environmental Liability Statues	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Climate change adaptation measures (e.g. flood defenses).
Increasing incidences of respiratory illness, heat mortality, and other public health impacts associated with climate change	Commercial General Liability	Nuisance Negligence Environmental Liability Statues (such as Clean Air Act)	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Public health early-warning and prevention programs; disaster preparedness.
Impacts to private lands or resources that detract from commercial uses such as recreation, e.g. loss of use of property used for skiing, tourism based on coral reefs, or terrestrial wildlife	Commercial General Liability	Nuisance Negligence Environmental Liability Statues	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Snowmaking; natural resource conservation efforts that account for climate change
Impacts to agriculture, including decrease in agricultural water supplies, lower water quality, increase in agricultural operational costs (fuel, pesticides, fertilizers), and increase in food prices in the U.S.	Commercial General Liability	Nuisance Negligence Environmental Liability Statues	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Zero-tillage or other agricultural practices that improve water retention in soils; crop engineering; water conservation.
Cross-border economic damages arising from new regulations or taxes, appropriation of facilities or industrial plant	Political Risk	International Law	<b>Mitigation:</b> Not applicable <b>Adaptation:</b> Reducing exposure to energy price shocks or emissions-regulations by minimizing emitting activities through improved supply or end-use efficiency. Also extends to land management practices that result in net emissions of greenhouse gases (e.g. in agriculture or forestry).
Mobilization of chemical wastes, sewage, petroleum products by natural disasters. Post-event mold after flood events	Environmental Liability (possibly also contractors liability for building-related mold problems) Commercial General Liability	Claims based on environmental liability statutes (e.g. CERLA) nuisance Negligence Strict Liability	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Improved citing and safeguarding of hazardous materials; improved land-use planning and more rapid response to flood/water damages; disaster preparedness.
Poor financial performance or other consequences of businesses' failure to reduce carbon emissions or to reduce risks attributable to climate change	Professional Liability (Directors and Officers)	Claims of breach of fiduciary duty by corporate officers or directors Claims based on securities laws that place disclosure duties on corporate officers or directors	<b>Mitigation:</b> Taking steps to appraise customers of climate change risks, facilitating risk management measures to minimize the associated losses, disclosing risks to investors, reduction of carbon emissions, rebalancing ("de-carbonizing") asset portfolios to reduce vulnerability of investments to severe weather losses. If, for example, a group of coal-burning electric utilities were sued as a group before-the-fact risk management could include fuel switching (e.g. to natural gas) as well as demand-side energy management to reduce a given utility's share of emissions with respect to the group. <b>Adaptation:</b> Not applicable

Trigger	Liability Insurance	Legal Theory	Risk Management Solution
Interruptions to operations, communications, transportation, or supply chains due to failure to prepare for extreme weather events	Commercial General Liability	Tort claims (such as negligence) resulting from impacts of business interruptions on third parties	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Development, and establishment of business-continuity management (BCM) procedures as a prerequisite for adding on business interruption coverage to a company’s property insurance.
Economic losses to businesses due to failure to prepare for weather-related disruptions of energy, water or other utility services	Commercial General Liability	Tort claims (such as negligence) resulting from impacts of business interruptions on third parties	<b>Mitigation:</b> Electric service is particularly vulnerable, and so efforts to switch to other energy carriers could be prudent, and these carriers often also result in less greenhouse-gas emissions per unit of activity. <b>Adaptation:</b> Demand-side energy/management coupled with on-site power generation and/or storage to reduce susceptibility of business processes to utility disruptions.
Weather extremes involving changes in precipitation, ice, temperature, or visibility have impacts on vehicle accident incidence, which, in turn, includes a component of liability insurance losses [personal or commercial vehicles]	Personal and Commercial Vehicle Liability	Negligence claims relating to vehicular operations	<b>Joint Mitigation/Adaptation:</b> Reduction of speed limits, increased public transportation, and telecommuting. Pay-as You-Drive insurance rewards reduction of discretionary driving
Claims by injured parties that disinformation led to decisions (or lack thereof) that resulted in more climate-related damage than would otherwise have been the case	Professional Liability Commercial General Liability	Misrepresentation-related claims	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Scientific responsibility; peer-review of documents and communications related to climate change hazards; good-faith information disclosure
Increased need for disaster preparedness and other climate change adaptation by private parties	Commercial General Liability Professional Liability	Tort claims resulting from impacts of business interruptions on third parties	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities. <b>Adaptation:</b> Not applicable
Reduction in fishery stocks, shifting of fisheries across national and international borders	Commercial General Liability	Nuisance Negligence	<b>Mitigation:</b> Reduction of greenhouse-gas emissions; emissions-offset activities.
Cross-border risks associated with host-country policy on carbon markets. Diversity of triggers, including engineering risks, financing risks, regulatory risks, weather risks, non-compliance risks, legal risks, and political risks	Political Risk	International Law	<b>Mitigation:</b> Not applicable <b>Adaptation:</b> Quality assurance on the engineering side, and new insurance products, such as carbon emission credit guarantees; Contingent cap forward for emissions reduction trades
Risk associated with supply-side energy measures to reduce greenhouse-gas emissions, e.g. from use of nuclear power, hydrogen, or carbon capture and storage	Environmental Liability Commercial General Liability Products Liability Professional Liability Political Risk	Negligence Nuisance Claims of breach of fiduciary duty by corporate officers or directors Claims based on securities laws that place disclosure duties on corporate officers or directors Misrepresentation-related claims Environmental liability statutes for contamination	<b>Mitigation:</b> Develop new understanding of the risks associated with climate change responses. New technologies and business practices will be employed. Analyses should be performed of positive and negative risks associated with nuclear power, carbon capture and storage, hydrogen energy, and renewable energy systems as well as enhancements to energy efficiency at the point of end use. Investments in end-use efficiency or improved land management to sequester carbon can be expected to carry far less liability than supply-side investments. <b>Adaptation:</b> Conventional risk management; disaster preparedness.