

The Legal Intelligencer

THE OLDEST LAW JOURNAL IN THE UNITED STATES 1843-2010

PHILADELPHIA, THURSDAY, NOVEMBER 18, 2010

VOL 242 • NO. 99

An **ALM** Publication

ENVIRONMENTAL LAW

Climate Change Adaptation Gaining Increased Attention

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Special to the Legal

Commencing with the April 2, 2007, decision of the U.S. Supreme Court in *Massachusetts v. Environmental Protection Agency*, reducing emissions of carbon dioxide and other greenhouse gases has been at the center of environmental debate. Legislative proposals considered in Congress and state legislatures, administrative actions including new findings and rules promulgated by the U.S. Environmental Protection Agency, and court challenges and judicial decisions have constituted components of the mosaic of climate change activities.

When described as the increase in global temperatures of only a few degrees, climate change may seem benign. In reality, climate disruption extends far beyond mere temperature rise, and its effects may be catastrophic. In June 2009, the U.S. Global Change Research Program (USGCRP), led by the National Oceanic and Atmospheric Administration (NOAA), approved and transmitted to the president and Congress a report by its federal advisory committee summarizing the science of climate change and the impacts of climate change on the United States. This report noted: "Observations show that warming of the climate is unequivocal" and "is due primarily to human-induced emissions of heat-trapping gases. These emissions come mainly from the burning of fossil fuels (coal, oil, and gas), with important contributions from the clearing of forests, agricultural practices, and other activities."

The range and variety of predicted climate-induced disruption is vast. The USGCRP report forecasted, among other things, increased frequency and intensity of rain events, rise in sea levels, reduced snow cover and ice, increased storm surges and drier conditions in the southwestern United States.



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These changes, some of which have already commenced, affect human health, water supply, agriculture, the livability of coastal areas and other aspects of human life. Examples of anticipated climate change impacts include increased erosion, storm surge damage, flooding of coastal communities, altered timing and amount of water supplies, and destruction of sea life and species habitat.

In light of the severe effects of climate disruption, it is not surprising that governments have initiated steps to reduce emissions of greenhouse gases, a response that the Intergovernmental Panel on Climate Change (IPCC) calls "mitigation." In the United States, the EPA has accepted the Supreme Court's invitation to find that greenhouse gas emissions endanger public health and public welfare. This "endangerment finding" has taken the EPA down a path of greenhouse gas regulation, first by controlling emissions from motor vehicles, and then by requiring stationary sources to obtain permits under the Clean Air Act PSD and Title V programs covering greenhouse gas emissions. As reflected in a recent EPA guidance, permit conditions are likely to include energy efficiency measures.

Notwithstanding the critical role of mitigation in slowing the growth of atmospheric greenhouse gases, the importance of a second method of addressing climate change, adaptation, is gaining increasing attention.

Although definitions of adaptation vary, the term usually refers to adjustments in ecological, social or economic systems to moderate potential damages. Adaptation helps people and natural systems cope with the stresses that global warming and climate disruption create.

The need to focus on adaptation as well as mitigation should be apparent to anyone familiar with the current political debate. Although the U.S. House of Representatives passed a climate change bill designed to reduce the emission of greenhouse gases in part through implementation of a cap and trade system, that bill did not gain traction in the Senate. With the new Republican majority in the House of Representatives, and an increased Republican minority in the Senate, the chance that Congress will enact comprehensive climate change legislation in the next two years is slim at best. As evidenced by the limited success of the COP-15 conference in Copenhagen, Denmark, in 2009, and the modest expectations for COP-16 to be held later this month in Cancun, Mexico, efforts of other nations to mitigate greenhouse gas emissions likewise face formidable obstacles. With no likely prospect of drastic reductions of global greenhouse gas emissions in the near future, plans to lessen the impact of climate change on human populations and ecological systems through adaptation strategies are vital.

Central to the analysis of adaptation is the concept of vulnerability. Vulnerability involves the ability of society, communities, individuals, or ecosystems to cope with external stressors. In the climate context, vulnerability can be viewed as the ability to adapt to climate disruption. Some commentators have contrasted the "bottom up" approach of adaptation, which may start with an analysis of the vulnerabilities of individuals and communities, with the "top down" approach of

mitigation, which frequently involves laws limiting greenhouse gas emissions that apply on a large geographic scale.

Vulnerability is a term also used in the environmental justice context. In general, people with fewer resources have less capacity to adapt to environmental stressors, which may include climate change. Many of the existing stressors to which people are subjected are community-based and require community-based solutions. By reducing poverty, increasing availability of health services, improving the structural soundness of homes and other actions, and considering input from community stakeholders, inequities can be addressed. Climate change adaptation may therefore have an environmental justice component.

Adaptation strategies are often best employed as an element of decision-making processes or economic development analyses rather than as stand-alone considerations. The IPCC and others have encouraged decision makers to integrate adaptation strategies with sustainable development. For example, when suitable locations for a facility are analyzed, the potential of each location to flood in severe storm events or as a result of sea level rise may be significant to the siting decision. Likewise, a government or private road construction project should be designed to accommodate the projected storm events. Conversely, in areas likely to become more arid, use of farming techniques that conserve water and selection of drought-resistant crops may be important. Commentators have utilized the term “mainstreaming” to refer to the incorporation of strategies to reduce vulnerability to climate change into existing institutional structures and development activities.

Recognizing the importance of adaptation, the White House Council on Environmental Quality (CEQ) recently formulated recommendations for federal actions to expand and strengthen the nation’s capacity to respond to climate change. On Oct. 14, CEQ issued its “Progress Report of the Interagency Climate Change Adaptation Task Force: Recommended Actions in Support of a National Climate Change Adaptation Strategy.” The report acknowledged that mitigation alone is not sufficient to address climate change effects. Actions to build resilience and reduce vulnerability to climate impacts are also essential. CEQ emphasized that approaches that integrate climate change preparation and response into core policies,

planning practices and programs are most likely to be successful.

In addition, CEQ recommended that adaptation strategies prioritize the people, places and infrastructure that are the most vulnerable and use the best available science. CEQ also recommended applying ecosystem-based approaches that protect biodiversity and ecosystem services. The proper functioning of our ecosystems is essential to providing clean water, coastal protection, flood protection, food production and recreation. Protecting ecosystems may constitute cost-effective adaptation measures and reduce the need for structural improvements.

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The design and implementation of climate change strategies have implications for our practices as environmental lawyers. Clients will need representation regarding potential new regulations addressing adaptation. For example, based upon the prediction of more intense storm events, more stringent flood plain and flood proofing requirements may be promulgated to protect people and property. Likewise, the more intermittent nature of storm events may require additional water storage facilities to be constructed and the costs of those facilities to be spread among water users. Similarly, new habitat and ecosystem protection needs may lead to restrictions on development. It may already be necessary to disclose these and other risks in the course of SEC filings. (See SEC Release 33-9106 (Feb. 8, 2010).)

The importance of adaptation strategies to corporate decision makers is not limited to addressing regulatory requirements. For

example, client facilities may be impacted by climate change, and therefore facility siting, waste management, disaster management and insurance functions must take into account vulnerability to extreme climate events. How these vulnerabilities and potential impacts are addressed is also likely to be a central issue in future litigation.

Although challenges to new regulations constitute an important litigation focus, climate change litigation outside the regulatory context is already out of the starting gates. Property owners have asserted nuisance and other claims against electric utilities, oil companies and others seeking orders to abate greenhouse gas emissions or to pay damages for climate effects. See, e.g., *Connecticut v. American Electric Power Co. Inc.*; *Comer v. Murphy Oil USA*; *Native Village of Kivalina v. ExxonMobil Corp.* The obstacles that plaintiffs in these lawsuits face are considerable, particularly because of the difficulty in proving a causal connection between the defendants’ activities and plaintiffs’ injuries.

In contrast, other litigation with a more obvious causal connection may become more prevalent. For example, if a facility is located in an area prone to severe storm events and appropriate precautions are not taken to prevent releases of pollutants from these facilities, an aggrieved neighboring property owner may bring various negligence, toxic tort and statutory claims. In this respect climate change risks are one of many potential vulnerabilities of the facility. Likewise, building owners may sue allegedly negligent architects and engineers who failed to anticipate more severe climate events. Certain adaptation actions may become the “state of the art” to which a client’s conduct is expected to conform. In both the regulatory and litigation contexts, adaptation will be a significant focus of environmental lawyers in years to come. •