

Climate Change: Impact on Building Indoor Environmental Quality

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ABSTRACT

Climate change may affect indoor environmental quality in two fundamental ways. One is in direct response to climate change itself. For example, if climate change results in more frequent or severe hurricanes, then increases in mold, bacteria and building dampness may lead to increased indoor air quality problems (Chew 2006, Rabito 2010, Rao 2007). The second is indirect: actions taken to reduce emissions of greenhouse gases may lead to increased concentrations of indoor air contaminants. For example, significant amounts of energy used to heat, cool, dehumidify and humidify are intentionally ventilated or accidentally leaked from a building. Reducing intentional ventilation rates or air sealing an enclosure to reduce accidental infiltration reduces greenhouse gas emissions, but it also lowers a building's total ventilation rate. Lower overall ventilation rates increase the concentration of some indoor contaminants and may lead to excessively high indoor humidity levels during cold weather. The result is greater exposure to indoor air contaminants.

BIOGRAPHY

Terry Brennan is a building scientist and educator. He is the owner of Camroden Associates, Inc., a small consulting and research firm located in Westmoreland, NY. He trained in physics and environmental science. He presented testimony to the Institute of Medicine committee on Committee on the Effect of Climate Change on Indoor Air Quality and Public Health. He is otherwise old and done a lot of stuff.