The Human Responses to Climate Change: Reflections on the Big Picture

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Abstract: In 1988, at the Toronto Conference on the Changing Atmosphere, scientists and policymakers from around the world warned that "humanity is conducting an unintended, uncontrolled, globally pervasive experiment whose ultimate consequences could be second only to global nuclear war". They were referring to the link between growing concentrations of carbon dioxide and other greenhouse gases in the upper atmosphere resulting from industrial energy use and land use patterns, and the potential for this growing concentration of heat trapping gases to destabilize the global ecosystems on which human health and prosperity depend. In the 22 years since that warning was issued there has been intense public debate leading to public policy responses by every level government and by the international community of nations. There has been intensive scientific and technological research and development, widespread mobilization of financial and other resources, and significant business and institutional innovations, all directed at both mitigation of and (especially recently) adaptation to climate change.

Nevertheless, emissions continue to grow, the empirical evidence of climate change continues to accumulate, and increasing levels of fossil fuel consumption (and associated greenhouse gas emissions) continue to hold a central place in the prevailing paradigm of economic development. Whatever prospects there might have been in the 1980's for the Precautionary Principle to prevail and for a rapid and effective global mitigation response to be mounted, dangerous levels of climate change now seem all but inevitable in the years and decades ahead. In the 21st century global warming, and the more general challenge of sustainability of which it is part, must be addressed in the context of a world in which climate change and environmental decline will themselves demand increasing levels of financial, managerial and political resources. This will necessitate the replacement of the remedial approaches that have framed scientific, political and business strategies for environmental sustainability with new approaches in which sustainability is integrated into technology design, economic development and human endeavor.

Summary: It has now been over twenty years since the international community acknowledged the threat climate change presents to energy and land use patterns of modern civilization. This presentation will review responses, explore the reasons they are failing, and suggest scenarios for how public policy and business strategies may evolve, characterizing the decades ahead.