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Latest IPCC Report Points to Global Warming and Relevant Human Influence

Ken Koyama, PhD
Chief Economist, Managing Director
The Institute of Energy Economics, Japan

The Intergovernmental Panel on Climate Change released the IPCC Working Group I report's Summary for Policymakers as part of the Fifth IPCC Assessment Report on September 27 after its 36th general conference and the working group's 12th meeting in Sweden's Stockholm.

The IPCC is an international organization created jointly by the United Nations and the World Meteorological Organization in 1988 for international experts on various climate change-related areas to collect, sort out, analyze and assess latest scientific knowledge on climate change. Its assessment report as an accumulation of scientific knowledge on the climate change problems has influenced international discussions on the matter in various ways. The IPCC published the summary as the first part of the Fifth Assessment Report six years after releasing the fourth one in 2007. The other parts of the fifth report will be released gradually, including other working group reports as well as an integrated report due out in October 2014.

What are the key points of the just published Summary for Policymakers known as SPM? First, the SPM, as did the Fourth Assessment Report, described warming in the climate system as "unequivocal" and issued a strong warning about progress in global warming. It noted that the globally averaged combined land and ocean surface temperature data show a warming of 0.85 [0.65 to 1.06] °C over the period 1880–2012, that it is very likely that the number of warm days and nights has increased on a global scale since around 1950, with heavy land precipitation events increasing, that it is virtually certain that the upper ocean (0−700 meters) has warmed, that over the last two decades, the Greenland and Antarctic ice sheets have been losing mass, with glaciers continuing to shrink almost worldwide and with Arctic sea ice continuing to decrease, that the global mean sea level rose by 0.19 meters from 1901 to 2010, and that the atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased to levels unprecedented in at least the last 800,000 years. In this way, the SPM strongly demonstrated climate change progress as actual.

Second, the SPM concluded it is "extremely likely" that human influence has been the dominant cause of the observed warming since the mid-20th century. The wording "extremely likely" (indicating a likeliness of 95-100%) changed from "very likely" (90-100%) in the fourth

report, demonstrating the greater likeliness. By using the latest knowledge to conclude that human activities (including economic, industrial and civic activities) are the dominant cause of the recent warming, the report may have enhanced the “logic” that humans must inevitably consider how to address human activities (and effects of warming caused by human activities) in dealing with global warming. In this sense, the latest assessment is of great significance.

The SPM also provided multiple future scenarios for rising temperatures amid global warming, based on the latest knowledge. "Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system," said Working Group I Co-Chairman Thomas Stocker (professor at the University of Bern in Switzerland) in an IPCC press release. “Global surface temperature change for the end of the 21st century is projected to be likely to exceed 1.5°C relative to 1850 to 1900 in all but the lowest scenario considered, and likely to exceed 2°C for the two high scenarios.” The assessed temperatures are lower than in the previous assessment. Based on an analysis on expected temperature rises, however, Stocker said, “Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions.”

In fact, concern about global warming has slightly waned amid a global economic slump after the Lehman Shock and disarray in global governance involving the global warming problem. Concern has recently grown about the international energy situation and energy security problems including international energy market destabilization represented by crude oil spikes and the volatile Middle Eastern situation, nuclear safety problems emerging from the Fukushima nuclear crisis, and progress in the U.S. shale revolution, preventing the global warming concern from gaining momentum. But global warming and climate change have remained a significant long-term global challenge. Rather, a global expansion in coal and other fossil fuel consumption can be interpreted as having made the challenge even more serious. Attracting attention in this respect will be how future international discussions about global warming would be influenced by the latest IPCC report on the “scientific basis of climate change” being followed by reports about “impacts, adaptations and vulnerability” and about “mitigation of climate change.”

In Japan, discussions are ongoing on the best energy mix. Given the realities after the Fukushima nuclear plant accident, Japan must pursue an energy mix to simultaneously achieve the three Es (energy security, environmental protection and economic efficiency) plus S (safety) and M (macroeconomic soundness). But the nation has a mountain of challenges. In dealing with the 19th Conference of the Parties to the United Nations Framework Convention on Climate Change and other international negotiations on global warming, Japan must establish an environment policy that is consistent and integrated with energy problems. In this respect, Japan is required to pursue global warming prevention as a global interest and as national interests based on the country’s difficult situation. Japan will have to deploy all its resources to develop and implement a strategy to address

energy and environmental problems.

Contact: report@tky.ieej.or.jp

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