



REGIONAL ASSOCIATION OF OIL AND NATURAL GAS
COMPANIES IN LATIN AMERICA AND THE CARIBBEAN

17th Upper Managers Report on Climate Change

*The Fourth Assessment Report of the
Intergovernmental Panel on Climate Change*

Prepared by
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Summary of IPCC Announcing Climate Science Assessment Results

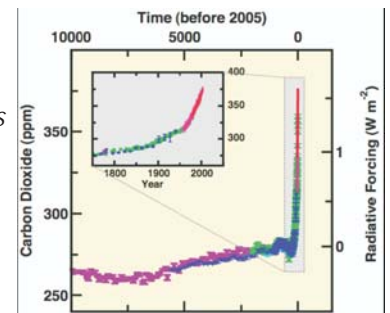
From 29 January to 2 February, the headlines have focused once again on the scientific basis of climate change. The Intergovernmental Panel on Climate Change (IPCC), consisting of several hundred scientists convened by the 100+ member governments and government officials, met in Paris to approve, line-by-line¹, the Summary for Policymakers of the IPCC Working Group 1 Fourth Assessment Report «*Climate Change 2007: The Physical Science Basis*». The release of the report on 2 February capped an assessment process that began in 2004.

The science of climate change has seen advances since the Third Assessment Report («TAR») in 2001. The IPCC Fourth Assessment Report («AR4»), Working Group 1 (released February 2, 2007), reported on a stronger scientific basis and used stronger language to describe the multiple lines of observational evidence for warming and other changes in climate, and their anthropogenic cause. Modeling of future climate change also advanced as the physical science basis improved. Near term projections (for the next couple of decades) have improved and the high confidence is strengthened by the fact that the models are now constrained by observations.

Key Messages

- ❖ The continuing rise of CO₂ and methane are assessed by the IPCC as due primarily to the use of fossil fuels, agriculture, and land-use changes. The levels of CO₂ and methane concentrations far exceed values found in the last 650,000 years. Carbon dioxide is the most important anthropogenic greenhouse gas. Its atmospheric concentration increased from a pre-industrial value of about 280 ppm to 379 ppm in 2005. Annual fossil carbon dioxide emissions increased from an average of 6.4 [6.0 to 6.8] GtC per yr in the 1990s, to 7.2 [6.9 to 7.5] GtC per yr in 2000–2005. Average carbon dioxide emissions associated with land-use change in the 1990s are likely to have been between 0.5 and 2.7 GtC per yr. See Figure.

Carbon Dioxide concentration in the last 10,000 years from various sources of data, including ice cores and atmospheric measurements.



- ❖ The word «unequivocal» was used to describe warming of the climate system. The multiple lines of observational evidence being reported in AR4 led to its final acceptance. This phrasing will grab headlines.
- ❖ Some aspects of climate appear not to have changed or that there is insufficient evidence.
- ❖ Climate change is said to be detected when there is only a small likelihood that observed changes might have occurred solely due to natural variability. Attribution evaluates whether observed changes are consistent with responses of climate models to different forcings (i.e., man-made sources of emissions) and are not consistent with alternative physically plausible explanations. The AR4 includes a key message that it is «very likely» that anthropogenic greenhouse gas increases caused most of the observed increase in globally averaged temperatures since the mid-20th century. The assessment has gone from «likely» to «very likely» in describing the cause of the increase in temperatures. In IPCC parlance, «likely» is > 66% likelihood. «Very likely» is > 90% likelihood.

Next Steps

Working Group 2, which focuses on «Impact, Adaptation, and Vulnerability», is going through review by governments right now. Working Group 3, which focuses on «Mitigation,» will be going through its next round of reviews. It is expected that these other reports will be more controversial when they are published later this year. The synthesis report, combining the key results of all three working groups, will be released by November/2007.

Go to <http://www.ipcc.ch> to get the full Working Group 1 Fourth Assessment Report.

¹ Line-by-line approval is the normal procedure for these large intergovernmental assessments as the findings are intended to be policy-relevant but not policy-prescriptive. Therefore, the wording of each sentence is important as to how it may or may not influence policy development by governments

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