



CHANGE POLICIES

NOT THE CLIMATE!



The Greens | European Free Alliance
in the European Parliament

IPCC

The Intergovernmental Panel on Climate Change's (IPCC) reports are the most comprehensive global overview to date of the science behind climate change. These climate reports are used by governments to help them take the necessary action to prevent catastrophic global warming and adapt to the impacts of climate change.

The IPCC is composed of three working groups (WG) whose findings are brought together in a final synthesis report. Working Group 1 focuses on climate science and trends in extreme weather events; Working Group 2 focuses on impacts - agriculture, disease, infrastructure, and adaptation; Working Group 3 focuses on mitigation. The next IPCC's Fifth 'Assessment Report' (AR5) will be published end of 2014, but the reports from each working group will be released next year already.

This new report from the WG I (AR5 WG1) focusing on science reiterates a warning that we know already too well: climate change is real, humans are having a major impact and unless drastic action is taken, the world is on track to overshoot the internationally agreed warming limit of 2°C.

Policy-makers around the world must show strong political will and do their utmost to reach an ambitious global climate deal in 2015. There is still a window of opportunity to avoid irreversible and destructive climate change impacts like rising sea levels, floods, droughts and the disappearance of Arctic ice. We must not miss this chance to change the tides on climate change.

KEY MESSAGE OF THE NEW IPCC REPORT



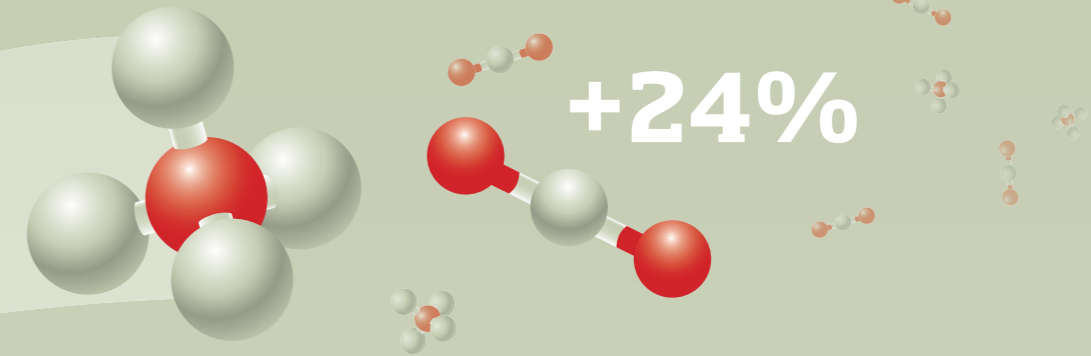
GLOBAL WARMING IS UNEQUIVOCAL

Scientists are now more confident that changes are 'significant, unusual or unprecedented on time scales of decades to many hundreds of thousands of years'. The new IPCC report confirms that natural forces played only a very small role in warming since 1950. There is now a 95% per cent likelihood that global warming is caused by human activities.

However, while the certainty surrounding climate change has increased, it remains difficult to predict where extreme weather events will take place and what specific impacts they will have over the coming decades.

But the fact that there are still some uncertainties does not mean that we should maintain the status quo. The risks are now far too high for governments to simply wait for every detail to be laid out with 100% certainty. Focusing on adaptation only is no solution as this will be more difficult and more expensive than reducing greenhouse gas emissions.

While there are still some uncertainties surrounding some of the IPCC's findings, there are certain key areas where scientific understanding has developed over the last five years and these warnings must be taken seriously and lead to bolder political decision-making at global level.



The strongest drivers of climate change are greenhouse gases. According to the IPCC document, atmospheric concentrations of long-lived greenhouse gases - CO₂, CH₄, N₂O - further increased from 2005 to 2011. Since starting systematic measurements of CO₂ in 1958, annual mean concentrations have constantly increased and are now 24% higher than when records started.

According to the report it is very likely that early 20th century warming is due in part to external forces, including greenhouse gas concentrations and solar variations. Climate model simulations that include only natural forces (volcanic eruptions and solar variations) can explain a substantial part of the pre-industrial inter-decadal temperature variability since 1400 but fail to explain more recent warming since 1950.

**GREENHOUSE GAS CONCENTRATIONS HAVE
INCREASED**

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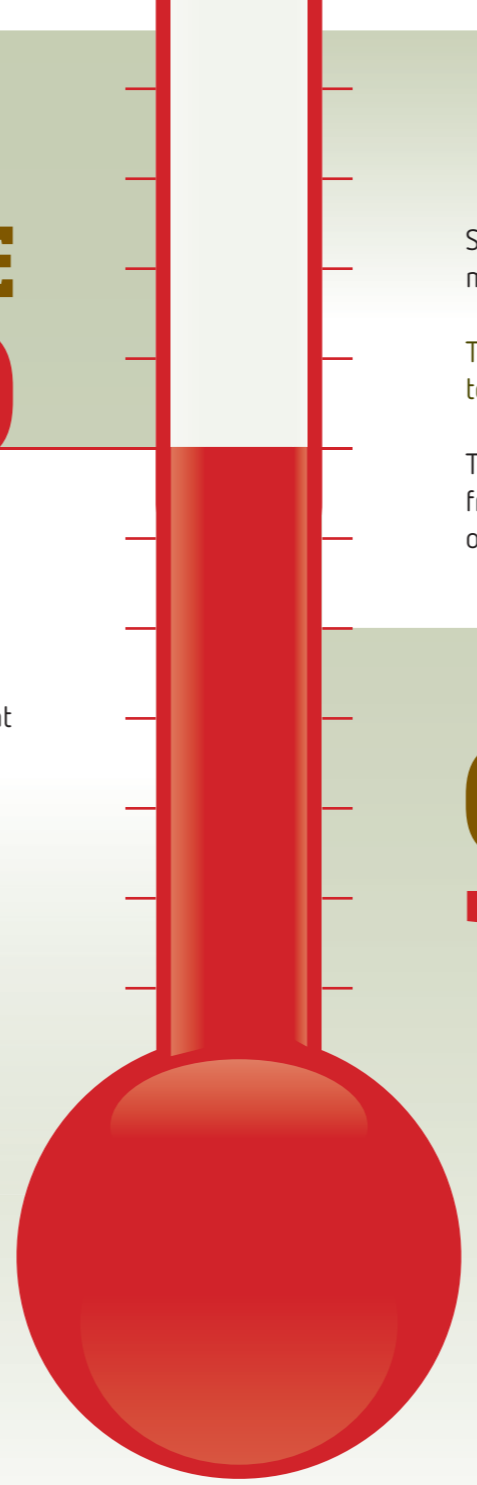


TEMPERATURES HAVE INCREASED

Globally averaged near surface temperatures have increased since the beginning of the 20th century and the warming has been particularly marked since the 1970s. Each of the last three decades has been significantly warmer than all preceding decades since 1850. The most robust global changes are observed in measures of temperature. The length of warm spells, including heat waves, has increased globally since the middle of the 20th century.

Analyses of a number of independent paleoclimatic archives provide a multi-century perspective of northern hemisphere temperature and indicate that 1981–2010 was very likely the warmest 30-year period of the last 800 years and probably also the warmest period of the last 1300 years.

Scientists agree that, in most places, there will be more hot and fewer cold temperature extremes as global temperature increases. These changes are expected for events defined as extremes on both daily and seasonal time scales. Although increases in the frequency, duration and magnitude of hot extremes are expected, occasional cold winter extremes will continue to occur.



Scientists agree that the upper ocean has warmed since 1971. Warming of the ocean accounts for more than 90% of the extra energy stored by the Earth between 1971 and 2010.

The ocean is taking up anthropogenic carbon dioxide from the atmosphere. More than half of the total carbon emitted by human activities has been taken up by the ocean and the land since 1750.

There is very high confidence that the global ocean content of anthropogenic carbon increased from 1994 to 2010. This oceanic uptake of anthropogenic CO₂ has resulted in gradual acidification of seawater evidenced by a decreasing pH in surface waters.

OCEANS HAVE WARMED



ICE SHEETS, PERMAFROST AND GLACIERS CONTINUE TO
DECREASE
AT RAPID PACE
IN THE NORTHERN HEMISPHERE

There is now more evidence that - due to human influence - the ice sheets are losing mass, glaciers are shrinking globally, Arctic sea ice cover has reduced, snow cover is decreasing and permafrost is thawing in the northern hemisphere.

Permafrost temperatures have increased by up to 3°C over major permafrost regions of the northern hemisphere during the past three decades due to increased air temperature and changing snow cover.

As for the Arctic, its sea ice has decreased every season since satellite observations commenced in 1979, its overall mean winter thickness approximately halved between 1980 and 2009. It is very likely that there will be continued loss of sea ice cover in the Arctic, decrease of snow cover, and reductions of permafrost at high latitudes of the northern hemisphere by 2016–2035. The scientists agree that the Arctic region will warm most rapidly and it is very likely that its sea ice cover will continue to shrink and thin in the course of the 21st century as global temperature rises. An increase in annual mean global surface temperature greater than 2°C above present will eventually lead to a nearly ice-free Arctic Ocean in late summer.



SEA LEVEL PROJECTED TO
RISE RAPIDLY

The rate of global mean sea level rise during this century is very likely to be higher than what was recorded between 1971–2010, driven mainly by ocean thermal expansion and melting glaciers. The thermal expansion is very likely to continue for centuries and millennia beyond 2100.



THE IMPACTS OF PRECIPITATIONS WILL BE **HARDER TO PREDICT**

Changes in precipitation in a warming world will not be uniform. The high latitudes are very likely to experience larger amounts of precipitation. Many regions in the mid-latitudes that are arid and semi-arid will experience less precipitation, while those that are moist will receive more precipitation. While scientists say there is high confidence in the patterns of these changes, they are not certain about the magnitude.

CLIMATE CHANGE WILL **PERSIST FOR CENTURIES** EVEN IF CONCENTRATIONS OF GREENHOUSE GASES ARE STABILIZED

For scenarios driven by carbon dioxide alone, global average temperature is projected to remain approximately constant for many centuries following a complete cessation of emissions. Thus a large fraction of climate change is largely irreversible on human time scales, except if net anthropogenic greenhouse gas emissions were strongly negative over a sustained period.

CONCLUSIONS

The latest draft of the IPCC report shows that scientists are more certain than ever about how humans are changing the climate and how dangerous it will be if no actions are taken to reduce our carbon emissions.

The impacts of climate change are already hitting hard and will only get worse as the rate of change continues to accelerate. We have already hit atmospheric CO₂ concentrations of 400 parts per million in the atmosphere (the safest being 350ppm), a level unseen for three million years. According to the Climate Action Tracker, the world is currently heading for a 3.3°C increase in average global temperatures by 2100. Yet world governments still are not acting fast enough to reduce greenhouse gas emissions to keep us from a catastrophic rise in temperatures.

Policy-makers cannot continue to ignore the overwhelming body of scientific evidence. They now know more than enough on the urgency of action to stop the worst impacts from occurring!



We know that the primary cause of global warming is from burning fossil fuels. The sooner we move to limit carbon pollution by switching to clean, renewable energy and to more sustainable practices in all sectors (agriculture, transport, manufacturing, etc.) the more likely it is that we will avoid the worst impacts of climate change.

SO LET'S DO IT! →

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