

IPCC Report highlights need for urgent climate action

Introduction

On Monday, 9th August 2021, the Intergovernmental Panel on Climate Change (IPCC) – the UN body responsible for climate science - published its latest findings as part of its [Sixth Assessment Report \(AR6\)](#). The report synthesizes the latest research regarding the science of climate change, with a sharp emphasis on both the human contribution and impacts of climatic events under different emissions pathways.

The first update since 2013 (AR5), Monday's report provides the scientific consensus on climate change, having convened some 234 scientists across 66 countries and drawn upon 14,000 citations of scientific research to reach its conclusions. The results are staggering: Extreme weather is taking hold in every part of the planet, the atmosphere and seas are warming at rates unprecedented in human history, and some of the consequences are irrevocable. Most importantly, however, these findings provide a clearer picture of the path ahead. We require "immediate, rapid and wide-scale" reductions to limit the worst effects of climate change, which will occur beyond 1.5°C of global warming.

We are already seeing significant reverberations across the corporate and political world. For our clients, during this year of increasing scrutiny on climate, this paper provides further impetus to political, financial and societal stakeholders to advocate for urgent climate action in run-up to COP26 - and will likely provide the foundations for all high-level discussions on climate for the remainder of this year.

Key Findings

1. We are on course to reach 1.5°C of warming by the mid-2030s.

Global surface temperatures are increasing at a startling pace. The IPCC concluded that the world's average temperature currently stands at around **1.1°C above pre-industrial levels**. As a result, the last decade was hotter than any other period in the last 125,000 years.

On this pathway, we are currently set to reach 1.5°C – a key warming limit set out by the Paris Agreement – **by at least 2040 under all emissions scenarios**. In fact, global surface temperatures will continue to rise until at least the mid-century, **regardless of mitigation efforts**.

Why 1.5°C matters: Scientists agree that limiting average global temperatures to 1.5°C above pre-industrial levels will mitigate the worst impacts of climate change for both humans and natural ecosystems.

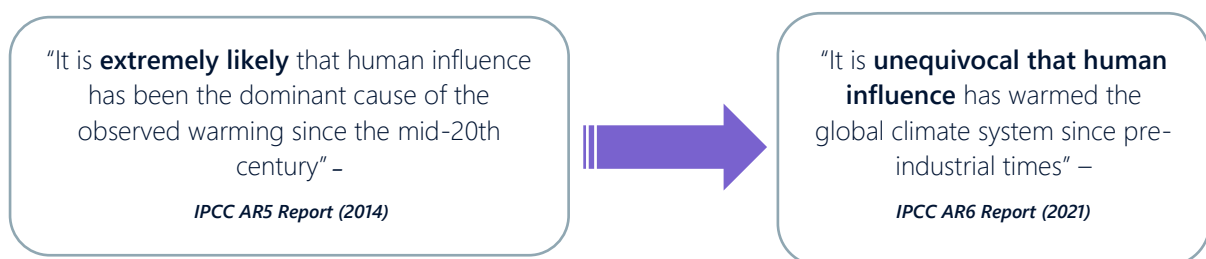
For example, up to 50% less of the earth's population would experience climate-induced water-stress at 1.5°C compared to 2°C. Moreover, between 184 and 270 million fewer people are projected to be exposed to increases in water scarcity in 2050.

However, **this does not mean we have no say in the future of our planet**. Immediate, rapid emissions reductions can still reduce the impacts felt by future generations, and limit the global temperature rise to 1.5°C – as shown in **Appendix I**. Critically, this would involve significantly scaling the use of carbon removal technologies. On the other hand, if the world continues its current trajectory, global warming could climb to 3.3-5.7°C higher than pre-industrial levels by the end of the century.

2. Humans are ‘unequivocally’ responsible for this rapid global warming.

The IPCC firmly states that human actors are the primary driver of global warming. This represents a significant shift in both the language and certainty with which the scientific community attributes climate change to humankind. Speaking on the subject, Professor Ed Hawkins, one of the report’s authors stated: “It is a statement of fact, we cannot be any more certain; it is unequivocal and indisputable that humans are warming the planet”.

This important shift in language can be noted in the differences between the previous IPCC report, AR5, and AR6:



Due to human activity - largely the burning of fossil fuels - concentrations of greenhouse gasses in the atmosphere are higher than at any time in the last two million years, with concentrations continuing to increase in 2020 despite the temporary dip in annual global emissions that resulted from the Covid-19 pandemic, according to the report (**see Appendix II**).

As a result, climate change is already affecting every inhabited region on Earth, and consequences such as sea level rise, ocean acidification, and permafrost melt are inevitable and considered near-irreversible, leaving only their extent open to question.

3. Climate change is affecting, and will continue to affect, every region in the world.

Climate change is currently affecting every habitable region, to the detriment of **human health, ecosystems, and industry**. This is set to continue, with every region projected to experience concurrent and increasingly extreme climate-impact drivers. Shared in Appendix III are three such examples: Hot extremes, heavy precipitation, and drought.

These drivers will have a drastic impact on **human health and nutrition**, particularly as climatic shocks increasingly affect global food production. However, such changes will also affect a **deeply interconnected global economy**; for example, as a result of changes in snow ice and river flooding, North America, Europe, Asia (and more) are expected to experience significant impacts on infrastructure, tourism, transport, and energy production.

Against this backdrop, we cannot count on the global north continuing to be a safe haven from the worst climate impacts. Moreover, according to sources like the World Resources Institute, this report only

reinforces the economic imperative for action – with the human and economic costs of climate change far outweighing abatement costs.

4. Methane emissions are now a key global concern.

Methane is a potent greenhouse gas which has a warming effect more than 80 times that of carbon dioxide (CO₂) over a twenty-year period. For the first time, the IPCC report highlights the need for **“strong, rapid and sustained reductions” in methane emissions**, in addition to slashing CO₂ emissions, to slow warming and hit climate targets. According to the IPCC, 0.3°C of the 1.1°C that the world has already warmed by comes from methane. Sustained methane reductions are considered essential to achieve Paris Agreement targets, and many mitigation measures have the dual benefit of improving local air quality.

The report sends a loud signal to governments to incorporate aggressive methane policies into their climate strategies. The EU is considering new methane proposals this autumn and in the US, the Biden administration is preparing to tighten rules, which would impact major methane emitters, such as companies in the **oil and gas companies, agriculture and waste** sectors.

5. Limiting global warming to 1.5°C by the end of the century is still within reach, but this requires transformational change.

If the world takes ambitious action with **“immediate, rapid and large-scale reductions” in emissions**, warming could be limited to 1.5°C by the end of the century. The world’s remaining carbon budget — the total amount we can emit and still have a 50% chance of limiting warming to 1.5°C — is only 460 gigatonnes of carbon dioxide (GtCO₂) as of the beginning of 2021, which is equivalent to just over a decade of current emissions before we exhaust the budget.

Therefore, the IPCC points to a fundamental need to redefine the way in which we **use and produce energy, make and consume goods and services, and manage our land**. Carbon removal will also be necessary to help compensate for harder-to-abate emissions. And whilst the scale of transformation required is enormous, it also provides a massive opportunity: transformation can lead to **better-quality jobs, health benefits and livelihoods**.

Global Reaction

The report garnered a widespread reaction from media, politicians, corporates, and green groups, with consensus that **urgent action must be agreed at COP26**. Boris Johnson described the report as a *“sobering reading”* that should provide the world with a wake-up call ahead of COP26, and US special presidential envoy for climate, John Kerry, agreed that COP26 must be a *“turning point”* for climate action. With climate inequality a persistent theme in the COP discussions, we note the remarks from Diann Black-Layne, Lead Climate Negotiator at the Alliance of Small Island Developing states, one of the worst affected groups: *“If we stop warming from reaching 2°C, we can avoid a long-term three metres of sea level rise. That is our very future, right there”*.

However, not all international governments answered the call for immediate change. Australian Prime Minister, Scott Morrison, argued against adopting a net-zero target: *“Australia is doing its part,”* Morrison said. *“I won’t be signing a blank cheque on behalf of Australians to targets without plans”*. Chinese officials re-emphasized China’s existing policies, which will see them reaching peak carbon emissions by 2030, before reaching net-zero by 2060.

Beyond these responses, most pointed to the need for **all actors** to turn ambition into action. Environmental groups were unanimous in their reaction, calling for an urgent scaling up of decarbonisation

efforts from governments, businesses, and society. In particular, Greenpeace warned that they will be **"taking this report with us to the courts"** as environmental NGOs consider litigation against governments and energy companies for failing to adequately respond to the climate crisis.

Finally, Alok Sharma, COP26 President, highlighted the need for worldwide action: *"Our message to every country, government, business and part of society is simple. The next decade is decisive: follow the science and embrace your responsibility to keep the goal of 1.5°C alive."*

What next?

The IPCC's fifth assessment report provided the scientific foundation for the Paris Agreement. Published less than three months before COP26 takes place in Glasgow, the IPCC 6th Assessment Report **will likely be the bedrock of the negotiations**, strengthening the rationale for strong Glasgow outcomes including emissions reduction, adaptation, finance mobilization, and collaboration.

Monday's release is the first of three major reports that will make up the Sixth Assessment Cycle; the second will assess the impacts of climate change on people and ecosystems, and the third will assess our progress in limiting emissions. Both reports will be available in 2022 and expected to further support the impetus for urgent climate action.

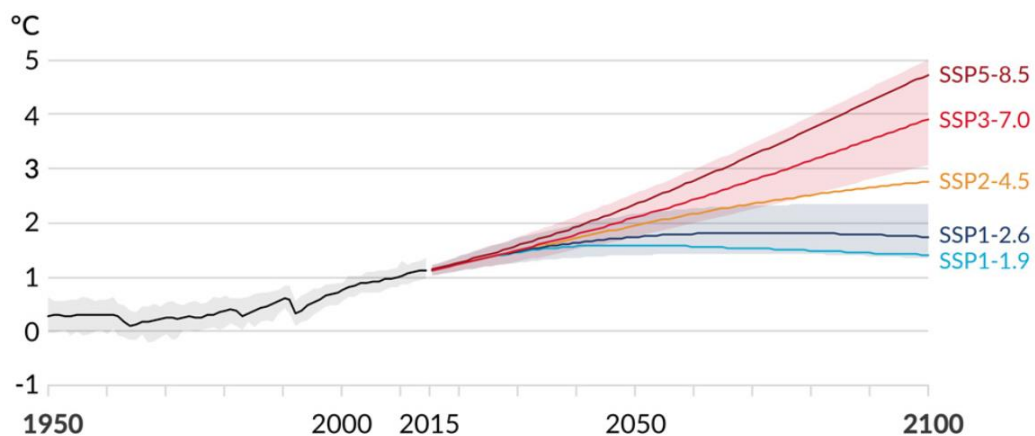
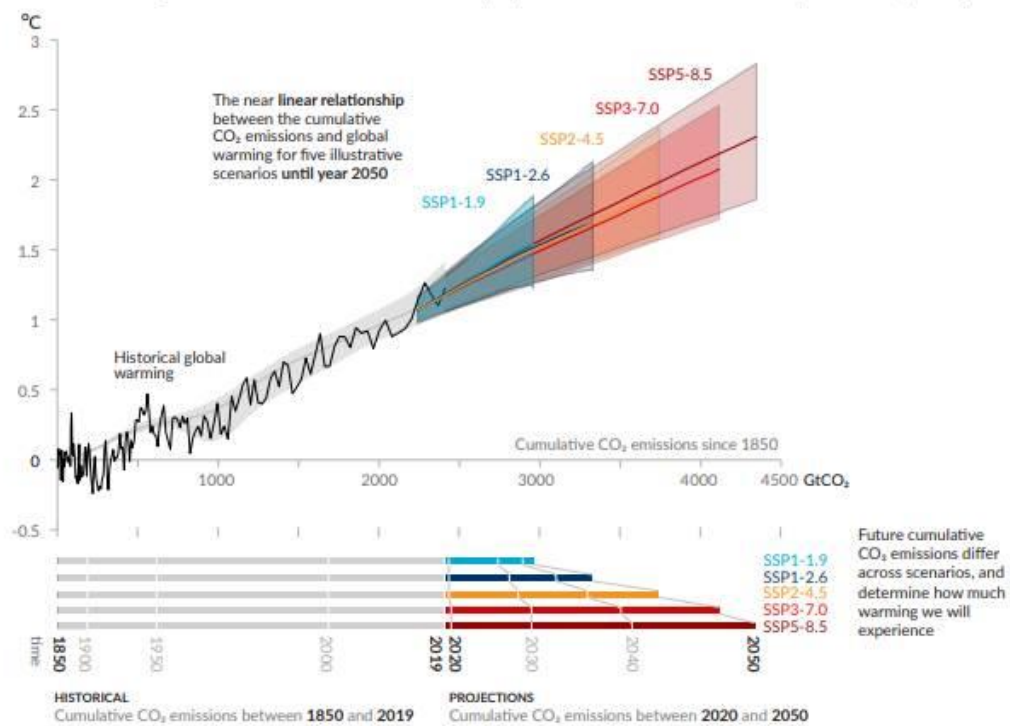
Appendix I – Global warming scenarios

The charts below show warming scenarios modelled by the IPCC under five different emissions trajectories. Under the lowest emissions scenario (SSP1-1.9), there is a greater than 50% chance that the 1.5°C target is reached or crossed between 2021 and 2040, with temperatures stabilizing over the remainder of the century. Under a high-emissions scenario, the world reaches the 1.5°C threshold even more quickly with temperatures increasing by 3.3-5.7°C higher than pre-industrial levels by the end of the century.

Variations in the trajectories are due to uncertainties regarding the sensitivity of the climate to additional greenhouse gas emissions, paths of future emissions and feedback loops in the carbon cycle (such as the release of additional emissions due to thawing of the permafrost).

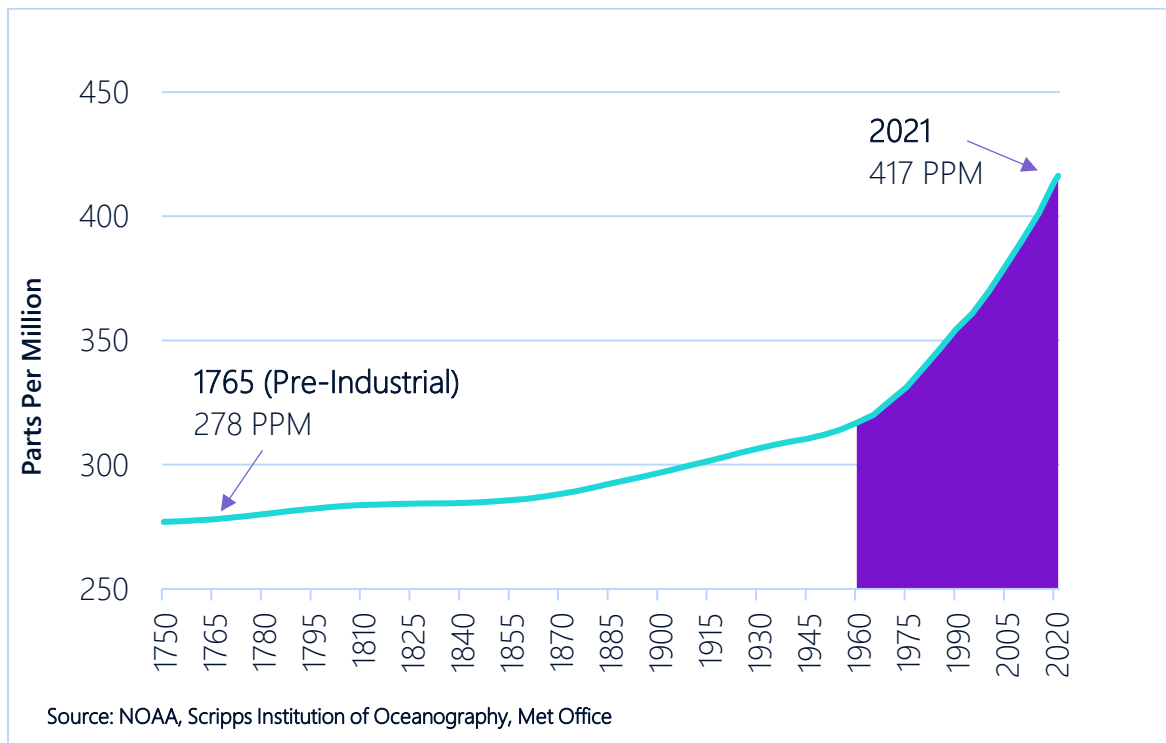
Every tonne of CO₂ emissions adds to global warming

Global surface temperature increase since 1850-1900 (°C) as a function of cumulative CO₂ emissions (GtCO₂)



Global surface temperature changes relative to 1850-1900, degrees C, under the five core emissions scenarios used in AR6. Source: IPCC (2021) Figure SPM.8a.

Appendix II - Historic growth of CO₂ concentration in the Earth's atmosphere



Appendix III – Regional impacts of hot extremes, drought and heavy precipitation around the world

The charts below show how different regions around the world will experience different types of climate impacts. Each hexagon represents a different region, and is colour-coded according to whether these climatic events will increase, decrease or remain neutral.

