IPCC και σύγχρονες εκτιμήσεις για την αύξηση της θερμοκρασίας

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΄Δίκαιο και Πολιτική για το Περιβάλλον και την Ενέργεια’
Οικονομική του Περιβάλλοντος

The Intergovernmental Panel on Climate Change (IPCC)

- The IPCC is the international body for assessing the science related to climate change
- It was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP)
- Participation in the IPCC is open to all member countries of the WMO and United Nations (It currently has 195 members)
- Its main objective is to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation
- Those assessments provide a scientific basis for governments at all levels to develop climate related policies, and they are also a key input into international climate change negotiations, such as the UN Climate Conference – the United Nations Framework Convention on Climate Change (UNFCCC)
- They are neutral, policy-relevant but not policy prescriptive: they may present projections of future climate change based on different scenarios and the risks that climate change poses and discuss the implications of response options, but they do not tell policymakers what actions to take.

Assessment Reports

- The IPCC prepares comprehensive Assessment Reports about the state of scientific, technical and socio-economic knowledge on climate change, its causes, potential impacts and response options
- It identifies where there is agreement in the scientific community on topics related to climate change, and whether further research is needed
- The IPCC does not conduct its own research
- IPCC assessments are written by hundreds of leading scientists who volunteer their expertise as Coordinating Lead Authors and Lead Authors of the reports and assess the thousands of scientific papers published each year to provide a comprehensive summary of what is known about the climate change
- IPCC reports undergo multiple rounds of drafting and review in several stages by experts and governments all around the world to ensure they are objective and produced in an open and transparent way, whilst reflecting the full range of views in the scientific community

Other type of reports

- Special Reports, which are an assessment on a special issue
- Methodology Reports, which provide practical guidelines for the preparation of greenhouse gas inventories

There are different types of reports but all go through a rigorous process of scooping, drafting and review to ensure the highest quality

IPCC Plenary

IPCC Bureau

Executive Committee

IPCC Secretariat

Working Group I	Working Group II	Working Group III	Task Force on National Greenhouse Gas Inventories
The Physical Science Basis	Impacts, Adaptation, and Vulnerability	Mitigation of Climate Change	
TSU	TSU	TSU	TSU

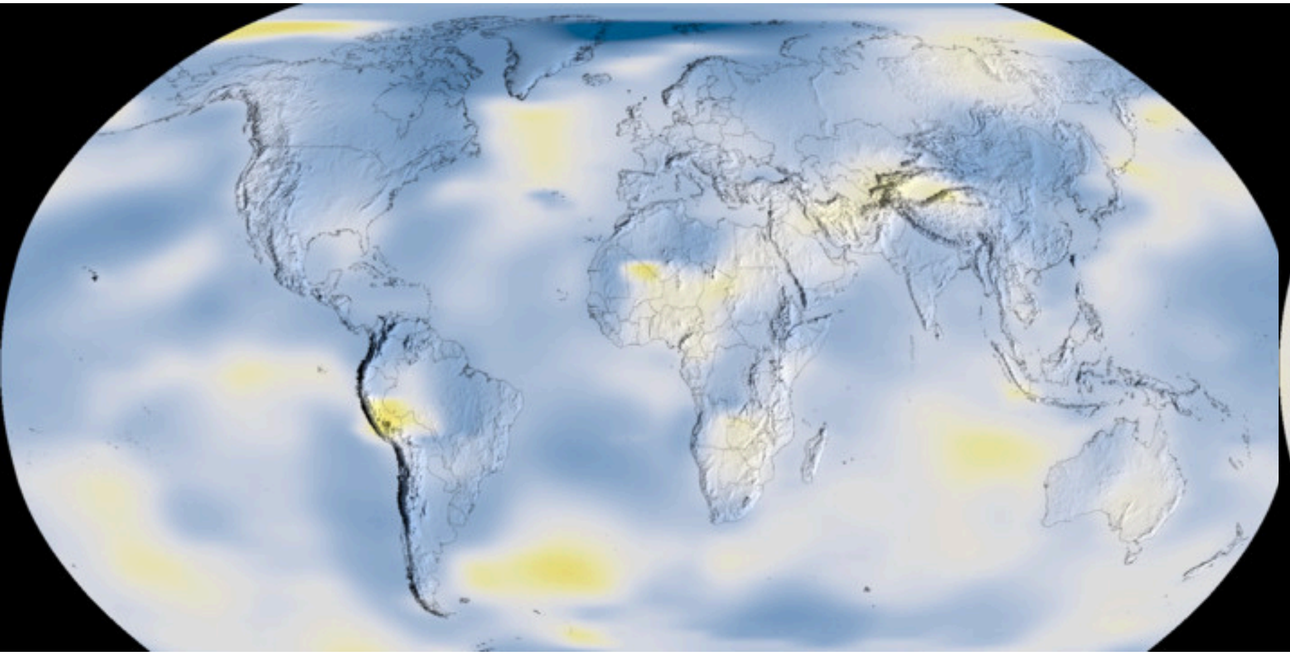
Authors, Contributors, Reviewers

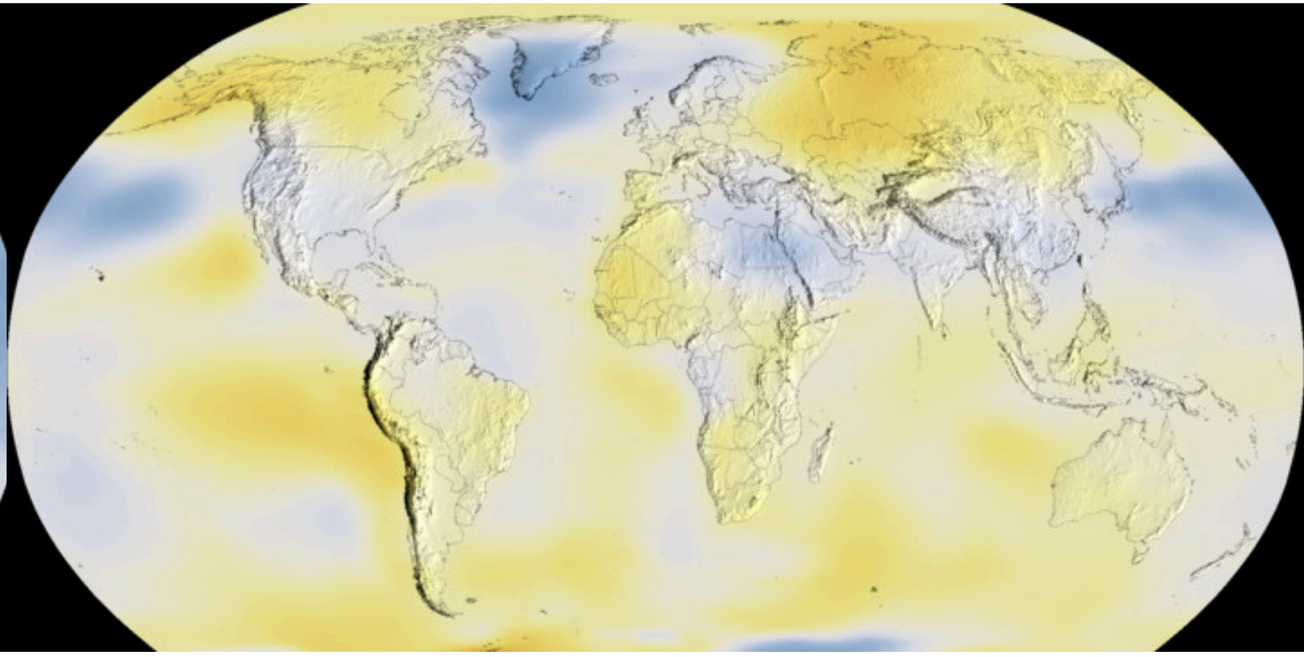
Special Report on global warming of 1.5°C

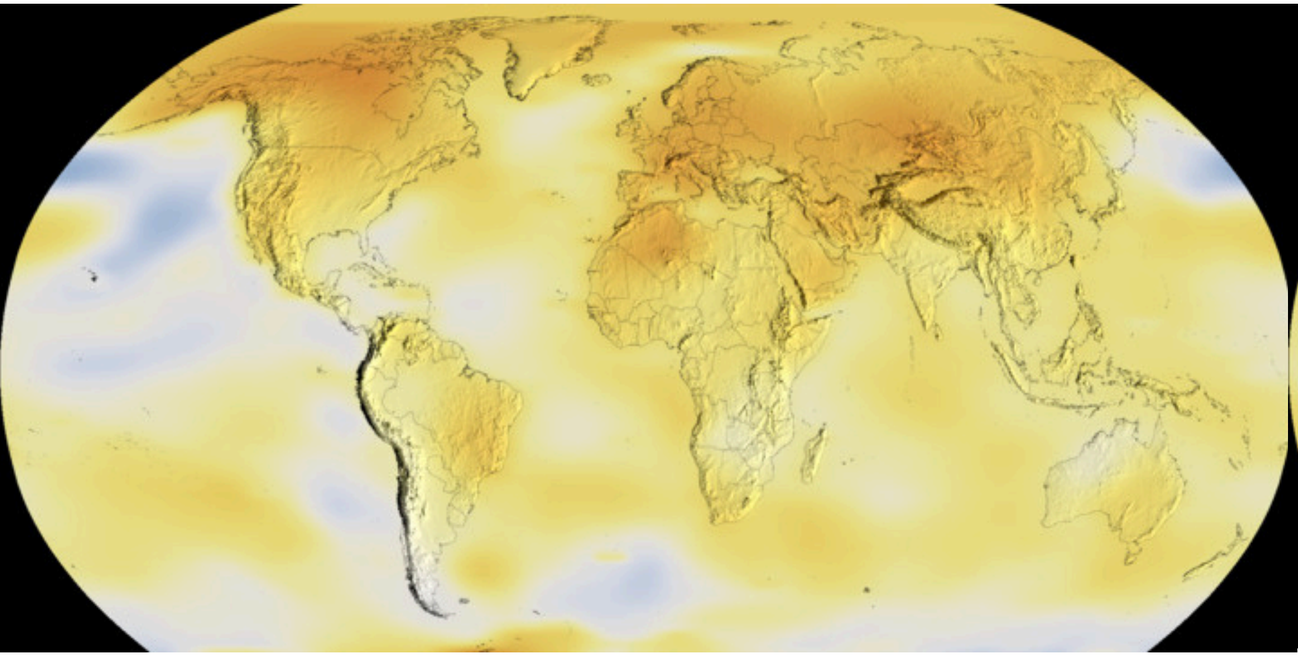
- Impacts
- Related global greenhouse gas emission pathways
- Strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

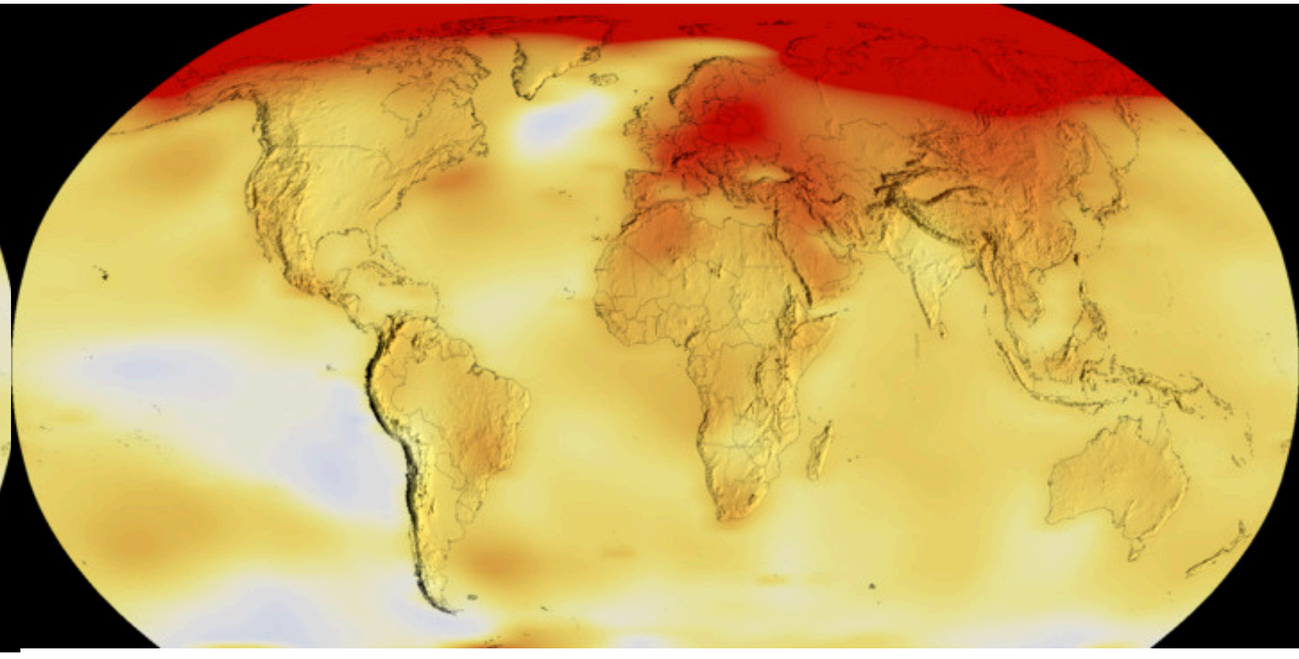
Understanding global warming

- Approximately 1.0°C of global warming caused by human activities
- Likely to reach 1.5°C between 2030 and 2052
  Climate related risks for natural and human systems are higher for global warming of 1.5°C than at present, and lower than at 2°C
  They depend on the magnitude and rate of warming, geographic location, levels of development and vulnerability, and on the choices and implementation of adaptation and mitigation options









Why it is vital to maintain the global temperature increase below 1.5°C (Impacts)

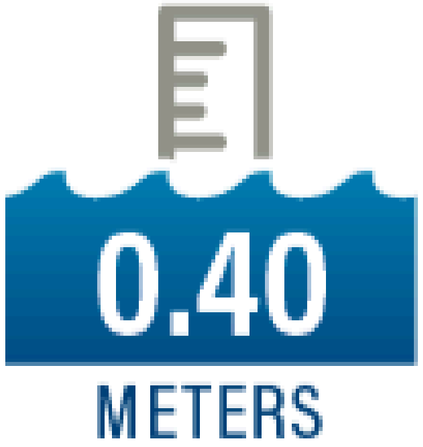
- Adaptations will be easier
- Less negative impacts on the intensity and frequency of extreme events, on resources, ecosystems, biodiversity, health, food security, water supply, economic growth, and carbon removal
- The differences between present-day, global warming of 1.5°C, and global warming of 2°C include increases in: mean temperature in most land and ocean regions, hot extremes in most inhabited regions, and the probability of drought and precipitation deficits in some regions.

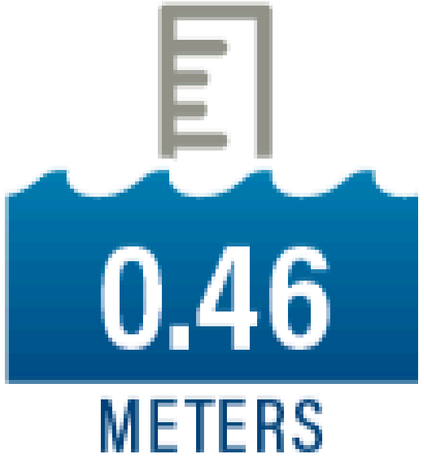
EXPLAINING IPCC'S 1.5°C SPECIAL REPORT

	1.5°C	2°C	2°C IMPACTS
EXTREME HEAT Global population exposed to severe heat at least once every five years			**2.6x** WORSE
SEA-ICE-FREE ARCTIC Number of ice-free summers			**10x** WORSE

SEA LEVEL RISE

Amount of sea level rise by 2100





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MORE

SPECIES LOSS: VERTEBRATES

Vertebrates that lose at least half of their range

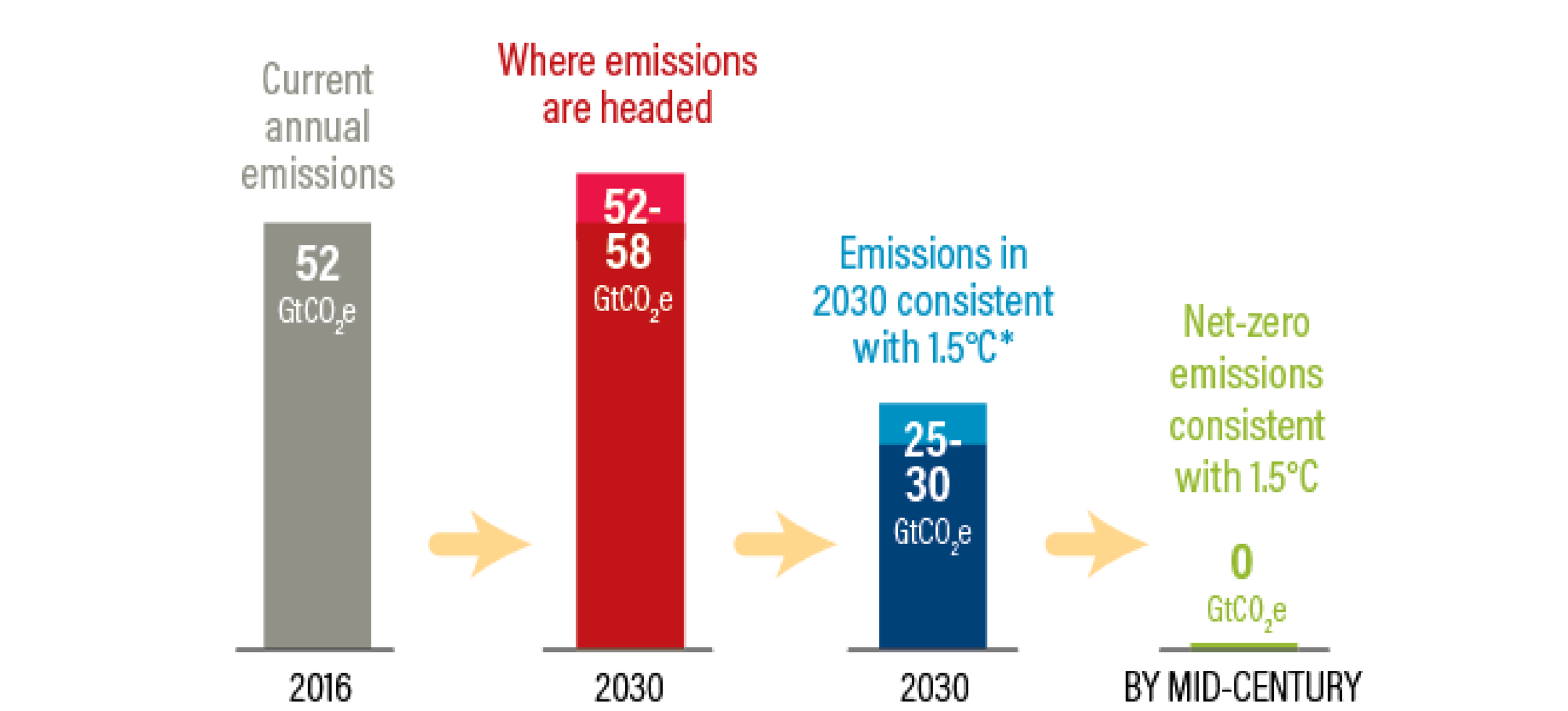
2X
WORSE

Pathways

(A pathway is a transformational process that delivers long-term emissions reductions and sustainable development in collaboration with local communities, businesses and other key actors)

1. model pathways + 1.5°C → CO2 emissions -45% by 2030, net zero around 2050
2. model pathways + 2.0°C → CO2 emissions -25% by 2030, net zero around 2070

- pathways limiting global warming to 1.5°C would require rapid and far-reaching transitions in energy, land, ecosystem, urban and infrastructure, and industrial systems
- while deep emissions reductions are required in all sectors by the use of Carbon Dioxide Removal (CDR) (technologies, practices, and approaches that remove and durably store carbon dioxide from atmosphere)



Notes: *on average, no or low overshoot.

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Strengthening the Global Response in the context of Sustainable Development and Efforts to Eradicate Poverty

- Climate change impacts would be alleviated if global warming were limited to 1.5 °C, if mitigation and adaptation synergies are maximized, while trade-offs are minimized (a trade-off is a situation where an improvement in the status of one aspect of the environment or of human well-being is necessarily associated with the decline in or loss of a different aspect)
- Adaptation options specific to national contexts, if carefully selected together with enabling conditions, will have benefits for sustainable development and poverty reduction although trade-offs are possible
- Sustainable development supports transitions that can limit global warming to 1.5 °C , such changes could also reduce inequalities
- Strengthening the capacities for climate action of authorities, civil society, the private sector and local communities is vital as well as international cooperation

CONCLUSION

Keeping warming to 1.5˚C is very challenging. But the world has the scientific understanding, the technological capacity and the financial means to tackle climate change. Now what we need is the political will to take the necessary action to stabilize temperature rise below 1.5 C.

Apart from that there are substantial economic and development benefits from climate action. And even more importantly, limiting global warming to 1.5˚ is imperative. Falling short would lock in climate impacts so catastrophic our world would be unrecognizable.

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Thank you