

## Foreword

Climate Change 2022: Mitigation of Climate Change is the third part of the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) and was prepared by its Working Group III. The volume provides an updated global assessment of current and projected emissions from all sources and sectors, mitigation options that reduce emissions or remove greenhouse gases from the atmosphere, and progress towards meeting climate ambitions. It assesses what is required to achieve net zero emissions as pledged by many countries.

This report shows that greenhouse gas emissions over the last decade are at the highest levels in human history. It shows that urgent action is needed. Unless there are immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C will be beyond reach. Global greenhouse gas emissions implied by Nationally Determined Contributions announced prior to COP26 make it likely that warming will exceed 1.5°C and will also make it harder to limit warming to below 2°C.

But there are positive signs and increased evidence of climate action. Options are available now in every sector that can at least halve emissions by 2030. Some countries have already achieved a steady decrease in emissions consistent with limiting warming to 2°C. Costs for some forms of renewable energy have fallen, use of renewables continues to rise and, in some countries and regions, electricity systems are already predominantly powered by renewables.

This IPCC report highlights for the first time the social and demand-side aspects of climate mitigation. As long as the necessary policies, infrastructure and technologies are in place, changes to lifestyles and behaviour have the potential for large reductions in global greenhouse gas emissions and, at the same time, lead to improved wellbeing.

The report calls attention to the deep links between climate mitigation and sustainable development. It draws attention to the way that climate action is intimately connected to addressing the nature crisis. Attention to equity and just transitions can support deeper ambition for accelerated climate action.

The findings in this report have considerably enhanced our understanding of available mitigation pathways. The timing of this report is critical. It provides crucial information that informs the first Global Stocktake under the Paris Agreement. It demands the urgent attention of policymakers and the general public.



**Petteri Taalas**  
Secretary-General  
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As an intergovernmental body jointly established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), the IPCC has successfully provided policymakers with the most authoritative and objective scientific and technical assessments, which are policy relevant without being policy prescriptive. Beginning in 1990, this series of IPCC Assessment Reports, Special Reports, Technical Papers, Methodology Reports and other products have become standard works of reference.

This Working Group III assessment was made possible thanks to the commitment and dedication of many hundreds of experts, representing a wide range of regions and scientific disciplines. WMO and UNEP are proud that so many of the experts belong to their communities and networks.

We express our deep gratitude to all authors, review editors and expert reviewers for devoting their knowledge, expertise and time. We note the particular challenges presented by the COVID-19 pandemic and the burdens placed on experts. We would like to thank the staff of the Working Group III Technical Support Unit and the IPCC Secretariat for their dedication.

We are also thankful to the governments that supported their scientists' participation in developing this report and that contributed to the IPCC Trust Fund to provide for the essential participation of experts from developing countries and countries with economies in transition.

We would like to express our appreciation to the government of Ethiopia for hosting the scoping meeting for the IPCC's Sixth Assessment Report, to the governments of the United Kingdom of Great Britain and Northern Ireland, India, Ecuador and Italy for hosting drafting sessions for the Working Group III contribution. The latter two meetings were held in a virtual format due to the COVID-19 pandemic. We also express our thanks to the government of the United Kingdom for hosting the Fourteenth Session of Working Group III for approval of the Working Group III Report. The generous financial support by the government of the United Kingdom, and the hosting of the Working Group III Technical Support Unit by Imperial College London (United Kingdom) and Ahmedabad University (India), is gratefully acknowledged.

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**Inger Andersen**  
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