



Fast Action Climate Mitigation Is Urgently Needed to Address China's Rising Temperatures and Increasing Weather Extremes

29 May 2023 — In May 2023, China's Ministry of Ecology and Environment released its annual [Ecological and Environmental Status Bulletin for 2022](#) (hereinafter referred to as the "Environmental Bulletin"). The Environmental Bulletin provides a comprehensive overview of China's ecological and environmental quality over the past year. It does so by presenting national and regional data updates and highlighting key policy developments. In February 2023, China's Meteorological Administration National Climate Center also released its annual [China Climate Bulletin for 2022](#). The Climate Bulletin compiles the latest monitoring data and evaluation information on China's climate, to support national government climate policy making and other research needs.

Both the Environmental Bulletin and the Climate Bulletin highlight the climate emergency we are facing. China's national average temperature in 2022 was the second highest since 1951, while the national average precipitation in 2022 was the lowest since 2021--5% lower than the average precipitation during 1991-2020. Extreme weather events are also becoming more frequent and more severe. In 2022, China experienced the largest number of extreme heat events since 1961. Natural disasters, including droughts and flooding, caused 296 deaths and direct economic loss of over 30 billion USD in 2022. Extreme heat events and severe droughts in China during 2022 also resulted in negative impacts to human health and agricultural yield, and increased energy consumption.

Climate change presents two races that we must simultaneously run: the race to stabilize the climate in the longer term, and the race to slow the rate of warming in the near term to reduce the risk of climate extremes that scale with the rate of warming and threaten to accelerate feedbacks and trigger a cascade of irreversible tipping points. According to the Sixth [Assessment Report](#) by the Intergovernmental Panel on Climate Change, "[i]t is virtually certain that hot extremes (including heatwaves) have become more frequent and more intense across most land regions since the 1950s... with high confidence that human-induced climate change is the main driver of these changes."

Cutting super climate pollutants, in particular the species of non-CO₂ pollutants referred to as short-lived climate pollutants—black carbon, methane (CH₄), tropospheric ozone, and hydrofluorocarbons (HFCs)—can avoid [four times more warming at 2050](#) than CO₂ cuts alone can, and reduce the rate of global warming by half.

In particular, cutting methane emissions is the biggest and fastest strategy for slowing warming and keeping 1.5 °C within reach. The [Global Methane Assessment](#) (GMA) from the United Nations Environment Programme and the Climate and Clean Air Coalition concludes that available mitigation measures could reduce human-caused methane emissions by 45% by 2030 and avoid nearly 0.3 °C warming by the 2040s. The GMA indicates that this could prevent 255,000 premature deaths, 775,000 asthma-related hospital visits, 73 billion hours of lost labor from extreme heat, and 26 million tonnes of crop losses globally (annual value beginning in 2030). Further, the GMA

found that each tonne of methane reduced generates US \$4300 in health, productivity, and other benefits.

IGSD resources (selected examples):

- Tad Ferris, Gabrielle Dreyfus, and Durwood Zaelke (lead authors), with Valarie Fajardo, Caitlan Frederick, Erika Gerstenberger, Romina Picolotti, Connor Schiff, Xiaopu Sun, Trina Chiemi, and Jon Turner, [A Primer on Cutting Methane: The Best Strategy for Slowing Warming in the Decade to 2030](#) (5 Feb. 2023).
- IGSD, [China Announces Progress in Methane Monitoring and Evaluation In Preparation for the Release of Its National Action Plan on Methane](#) (17 Jan. 2023).
- Durwood Zaelke, Romina Picolotti, Kristin Campbell, & Gabrielle Dreyfus, [The Need for Fast-Near-Term Climate Mitigation to Slow Feedbacks and Avoid Tipping Points: Critical Role of Short-lived Super Climate Pollutants to Address the Climate Emergency](#) (14 June 2023).
- Xiaopu Sun, Pu Wang, Tad Ferris, Hui Lin, Gabrielle Dreyfus, Baihe Gu, Durwood Zaelke, & Yi Wang, [Fast Action on Short-Lived Climate Pollutants and Nature-Based Solutions to Help Countries Meet Carbon Neutrality Goals](#) (Advances in Climate Change Research) (Aug. 2022).
- IGSD, [China Announces Actions to Promote the Development and Utilization of Coalbed Methane](#) (5 Aug. 2022).

