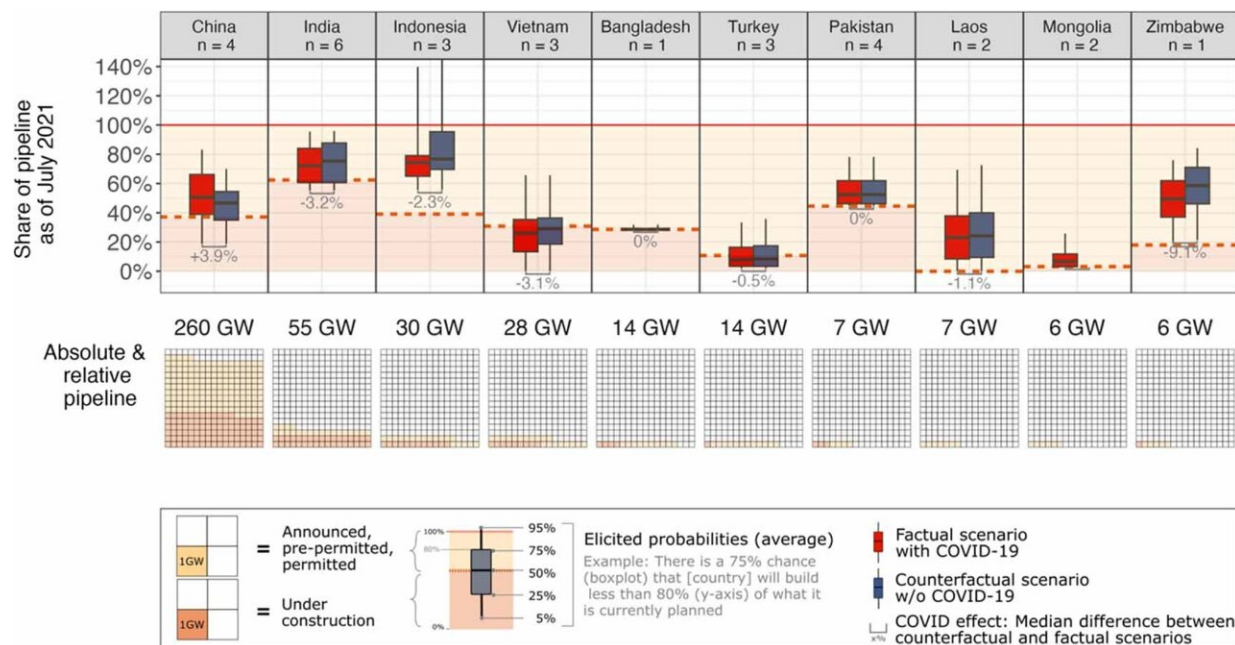


Experts expect about 50% fewer new coal-fired power plants than announced

May 8 2023



Summary of expert elicitation of the coal power capacity expected to come online. Expected realizations are reported as a share of the coal pipeline in July 2021. Single experts' elicited probabilities have been aggregated by country using an unweighted linear average. The boxplots report the 5th, 25th, 50th, 75th, and 95th centiles. The bottom squares indicate the absolute size of the pipeline in July 2021. Baseline and counterfactual scenarios are plotted in red and blue respectively. The percentage difference between the two scenarios is reported below the boxplots. The pipeline as of July 2021 has been taken from Global Energy Monitor (2021). Credit: *Environmental Research Letters* (2023). DOI: 10.1088/1748-9326/accd0

For the climate, it is a shocking number: By the middle of last year, the capacity of new coal-fired power plants under construction or planned totaled 476 gigawatts worldwide. If all were built and ran until the end of their economic lifetime, this would make the international goal of limiting global heating to below 2 and preferably 1.5 degrees unattainable. However, a study now examines the official announcements, which are compiled by the U.S. information service Global Energy Monitor, in terms of their implementation—and indicates that about 50% will be canceled.

The study was led by the Berlin-based climate research institute MCC (Mercator Research Institute on Global Commons and Climate Change), and published in the journal *Environmental Research Letters*. "For the negotiations on the global [coal](#) phase-out, it is important to have a realistic appreciation of the increase in [power plants](#) that still lies ahead," explains Jan Steckel, head of the MCC working group Climate and Development and co-author of the study.

"Planning, and even construction of new plants may be put on hold if, for example, changes occur in finance, national energy strategies, or costs of renewable energies. We shed light on the baseline and thus the level of ambition of past and future coal agreements, the so-called JETPs."

Since 2021, Just Energy Transition Partnerships, representing countries in the Global South and wealthy industrialized countries, have been negotiating on aid programs for phasing out this particularly climate-damaging form of power generation. For South Africa, Indonesia and Vietnam, initial deals worth billions have already been struck.

The analysis now presented draws on a scientific survey of international experts. This is an established research method that is frequently used, especially in the energy sector, for topics where hard statistics are not yet

available. In a systematic search process, the research team identified 29 particularly knowledgeable experts from 10 countries that account for 90% of the new coal-fired power plants under construction or officially planned: Bangladesh, China, India, Indonesia, Laos, Mongolia, Pakistan, Turkey, Vietnam, and Zimbabwe. The experts were contacted in autumn 2021, that is, before the conclusion of the first JETP agreements, to provide expertise for their own country and, to an extent, for other countries.

The responses show that the reduction in future coal investments negotiated with Vietnam and Indonesia corresponds more or less to what had been expected among experts anyway. The likely implementation of the announced coal-fired power plants varies greatly across countries: according to the forecast, the most cancelations are in Bangladesh and Mongolia, and the least in China.

The research team also asked about the reasons for plan changes: in addition to technical and commercial aspects, the political economy of coal, i.e., consideration of regional jobs, tax payments or influence of the coal industry, also play an important role (MCC presented an extensive research work on this last year).

Overall, the experts assume that in the coming years and decades, around 215 gigawatts of new coal-fired power plant capacity will be installed in the 10 countries examined. The study also looks at what this would mean for the climate.

"In three quarters of the scientific climate policy scenarios with only 1.5 degrees of global heating, coal use worldwide is down to zero by 2050," says Lorenzo Montrone, lead author of the study and until recently a Ph.D. student at MCC. "Our study shows how important it is to have international support to phase out coal and develop alternatives. One way to deal with the newly built plants would be to limit their lifetime to 15

years. If that succeeded, the 1.5-degree limit would still be well within reach."

More information: Lorenzo Montrone et al, Investment in new coal-fired power plants after the COVID-19 pandemic: experts expect 170–270 GW of new coal, *Environmental Research Letters* (2023). [DOI: 10.1088/1748-9326/accdf0](https://doi.org/10.1088/1748-9326/accdf0)

Provided by Mercator Research Institute on Global Commons and Climate Change (MCC) gGmbH

Citation: Experts expect about 50% fewer new coal-fired power plants than announced (2023, May 8) retrieved 24 April 2024 from <https://phys.org/news/2023-05-experts-coal-fired-power.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.