

Press release

Experts say China can peak coal consumption by 2025 amid clean energy expansion

HELSINKI / BEIJING, 27 November 2024 - A majority of experts surveyed believe China is on track to peak coal consumption by 2025. China's renewables additions are bound to break last year's records, according to a newly released report carried out by the [Centre for Research on Energy and Clean Air \(CREA\)](#) and the [International Society for Energy Transition Studies \(ISETS\)](#). Amid this robust clean energy growth, 52% of experts surveyed for the report expect China's coal consumption to peak by 2025, while only 20% say the peak will take place later.

In the third annual edition of CREA's **China's Climate Transition: Outlook 2024** report, CREA reassesses China's progress towards the country's climate commitments and emissions pathways aligned with the Paris Agreement goals. This year's report surveyed a pool of 44 experts representing diverse specialisations in the fields of climate and energy.

Over the past three years, expert views have steadily shifted towards optimism on China's progress. This year's findings include:

- In 2022, 69% of experts expected China's emissions to peak more than 15% above their 2020 level; by 2024, this share was 44%.
- The proportion of experts who believe that China's CO₂ emissions have already peaked or will peak by 2025 has increased significantly, rising from 15% in 2022 to 21% in 2023, and reaching 44% in 2024.
- The share of experts believing that China's coal consumption has already peaked increased from 15% in 2023 to 36% in 2024.
- Expectations of the timing of the CO₂ peak in power, industry and transportation also all became more optimistic. However, while the majority of experts continue to think that China's current economic situation is leading to an acceleration of the energy transition, the share of those who think the economic situation is going to slow down progress increased from 34% in 2023 to 43% in 2024.

'Achieving carbon neutrality in a rapidly growing economy like China is no easy feat, but the country's substantial efforts are starting to bear fruit. Clean energy industries have emerged as key drivers of economic growth. As China continues its transition, the benefits are becoming increasingly clear – expanded deployment of clean energy and ongoing industrial transformation promise even greater advantages. This progress is fueling optimism about

the future, as it accelerates decarbonisation and ensures long-term prosperity for all,' said Xunpeng Shi from ISETS.

In addition to the survey, the CREA report also comprises a series of findings on the state of China's emissions and renewables development:

- China's CO₂ emissions for the full year are expected to be flat or record a small increase.
- Controlling for variations in hydropower availability, emissions are structurally stable but not yet falling. As a result, China will remain off track to its 2025 carbon intensity target after 2024.
- Growth in solar and wind power generation and, as a result, total non-fossil energy, accelerated further after their rapid capacity expansion in 2023.
- Electric vehicle sales continued impressive growth, exceeding 50% of all vehicle sales for three consecutive months in 2024. The growth in clean energy technologies is faster than in the transition pathways.
- Energy consumption growth continued to outpace GDP growth. Both energy consumption and electricity consumption growth are faster than in the transition pathways aligned with the Paris Agreement.
- China made progress in controlling investments in new fossil power generation and steelmaking capacity compared with 2023, and in reducing emissions from steel and transportation. Meanwhile, the increase in emissions from the coal-to-chemicals industry accelerated compared with 2023.

'Despite optimism around emissions and the renewable energy transition, there is still to date little clarity on China's emissions pathway, which leaves open the possibility of emissions increases until 2030 and very slow reductions after. This scenario would make meeting global climate targets all but impossible. In order to align with the Paris Agreement and its corresponding transition pathways, China will need to either speed up renewable energy deployment even further or guide economic development in a less energy-intensive direction. China's upcoming nationally determined contributions (NDCs) will be essential for specifying and, ideally, firming up the country's ambition on reducing emissions over the next decade, after the emission peak,' said Lauri Myllyvirta, Lead Analyst at CREA.

CREA's assessment found multiple indicators that are on track:

- Clean energy investments
- Electrification

- Building sector coal use
- Transport energy consumption and CO₂ emissions
- Steel and cement output
- Construction materials sector emissions
- Electric vehicle sales

CREA also found the following indicators to be still off track:

- Total CO₂ emissions, excluding the effect of weather variations
- Total energy consumption
- Industrial energy consumption
- Buildings energy consumption
- Coal consumption growth in the coal-to-chemicals sector accelerated, and the growth of the sector received new policy backing
- Emissions of non-CO₂ greenhouse gases still track annual reporting and targets that would enable systematic emission reductions and monitoring of progress

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Note(s) to editors

The publication related to this press release is available [here](#)

All CREA publications can be found here:

energyandcleanair.org/publications

About CREA

The Centre for Research on Energy and Clean Air (CREA) is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions, to air pollution. CREA was founded in December 2019 in Helsinki and has staff in several Asian and European countries. The organisation's work is funded through philanthropic grants and revenue from commissioned research.

www.energyandcleanair.org

About the data

To measure China's progress, CREA analysts compiled a suite of climate transition scenarios published by different international organisations and academic institutions and identified a set of indicators that can be compared against historical data and used to measure progress in a much more granular and forward-looking fashion than a simple look at the annual change in emissions would permit. The analysts converted the scenario data into benchmarks for each indicator, allowing us to assess whether the country's emissions and energy trend in key sectors aligned with the climate transition scenarios and Paris Agreement.

For the expert survey, we have invited outstanding experts from various fields to participate in a questionnaire survey on the progress and prospects of China's climate efforts. We used the same survey questionnaire as in 2022 and 2023 and compared the data from this survey and last year's data. The primary purpose of this decision is to observe changes and trends since last year, especially to determine if significant changes have occurred in specific areas or issues.

Of the 44 valid responses received, 33 came from domestic and 11 from international experts, with one-third participating in previous surveys. The respondents stated affiliations with academic institutions, consulting firms, and energy industries (such as power, oil, and gas), with 50% from research institutions/universities representing the highest proportion.