Press release

China's climate outlook 2022: Where it is excelling and where it is falling behind

HELSINKI, 21 November 2022 - In a remarkable achievement for the world's largest greenhouse gas emitter today, China has reached rates consistent with Paris Agreement goals in clean energy growth, electric vehicle sales, as well as the coal-to-electricity switch in industry and buildings. Yet, energy demand in industry and buildings has grown much faster than assumed in pathways aiming to meet Paris goals, leading to continued growth in emissions. These findings are based on a new, extensive analysis of China's progress towards its emissions goals by the Centre for Research on Energy and Clean Air (CREA).

In this groundbreaking report tracking China's climate transition, CREA assessed China's progress in curbing emissions against 19 different benchmarks and carried out a survey of 26 Chinese energy sector analysts and experts.

The assessment found multiple indicators that were on track:

- Annually added clean energy capacity
- Electrification
- Electric vehicle sales
- Building sector emissions
- Cement production emissions

However, the report also found that total energy consumption, including energy consumption in industry and buildings, was growing significantly faster than in the Paris-aligned pathways, indicating an energy-intensive pattern of economic growth, as well as lagging progress on energy efficiency in buildings.

A combination of increased energy efficiency measures, a shift in the economic growth model, or an even larger scale of clean energy investment than projected in the transition scenarios is needed for China to successfully peak emissions.

"*China's success in meeting and exceeding its current climate targets is possibly the single most important factor in the global fight against climate change, and therefore measuring and tracking China's progress is more important than ever*," said CREA lead analyst Lauri Myllyvirta.

While energy consumption growth has slowed down, at least temporarily, in 2022, two of CREA's indicators continued to be off track: investments in new coal-based steel capacity have increased in 2022. Permitting of new coal power plants has increased and the government is actively encouraging more coal power capacity. Investments in the power and steel industries need to be aligned with the transition, with a rapid shift away from new coal-based capacity.

"*Scaling up clean energy investments to a level consistent with Paris agreement goals, and to a sufficient level to power the entire country with clean energy by mid-century, if maintained, is an immense achievement, and could form the basis for China to peak emissions and reach carbon neutrality faster than currently targeted*," said CREA China analyst Xing Zhang.

In 2020, President Xi Jinping pledged that China would target carbon neutrality before 2060 and peak CO2 emissions before 2030. Actions to achieve CO2 emissions and clean energy targets have made the country the world leader in deploying renewable energy and nuclear power, but have not yet been sufficient to peak CO2 emissions from fossil energy consumption.

To gauge expert views of China's likely emissions trajectory, CREA surveyed 26 Chinese energy specialists involved in policymaking and analysis for this report.

The survey revealed that most experts expect China's emissions to continue increasing until late 2020s, and some even longer than that. There is an expectation that China will return to the growth pattern that prevailed before mid-2021, with continued increases in coal and oil consumption. These expectations could explain the mismatch between current falling trends in coal consumption and emissions, and policies and investment decisions leading to more coal-based capacity being put in place.

The framework laid out in this report is meant as the basis for a regular re-assessment and update of China's progress by CREA.

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Note to editors

The report is available here in English and Chinese.

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 that allow 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 contacted 30 experts, of which 26 agreed to respond to the survey by sharing their expectations for the trajectory of China's total CO2 emissions and CO2 emissions from the power, industry, building and transport sectors. Of these 26 experts, 20 are located inside

China, and six are outside China. The experts are from different sectors, including coal science and coal mining, power generation, renewable energy, oil, energy storage, carbon capture, environmental science, and buildings. Their roles include media, legal, academics, and civil servants, and they all specialise in energy.