
China Carbon Neutrality Tracker Newsletter



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This bi-monthly China Carbon Neutrality Tracker (CCNT) newsletter provides information on the key climate actions being taken by China's state and non-state actors as it pushes forward in its dual-carbon goals, including new research driving carbon neutrality.

TOP NEWS

Highlights of climate progress across China

SUBNATIONAL UPDATES

Official statistics, policies and actions at the subnational level

PERSPECTIVES

New reports and insights from the field.

Top News

US and China to accelerate concrete climate actions on methane reduction and subnational cooperation

On November 14th, China and the United States released the [Sunnylands Statement on Enhancing Cooperation to Address the Climate Crisis](#), reaffirming their commitment to work jointly and together with other countries to address the climate crisis. The U.S. and China decided to operationalize the *Working Group on Enhancing Climate Action in the 2020s*. The *Working Group* will focus on the identified areas of cooperation, including energy transition, methane, circular economy and resource efficiency, low-carbon and sustainable provinces/states & cities, and deforestation, as well as any other agreed topics.

China releases an action plan to reduce methane emissions

China's [Action Plan for the Control of Methane Emissions](#) aims to strengthen the synergy between air pollution prevention and methane emission control. Here are the highlights:

- It proposes eight key tasks for methane emission control, including strengthening the construction of a methane emission monitoring, accounting, reporting and verification system, promoting the control of methane emission in the energy agriculture and waste sectors, strengthening the synergistic control of pollutants and methane, strengthening technological innovation and the supervision of methane emission control, accelerating the construction of regulations and a standard policy system, and strengthening global methane governance and cooperation.
- It includes sector-specific targets for methane reduction: by 2025, the annual utilization of coal mine gas will reach 6 billion cubic meters, the utilization rate of municipal solid waste nationwide will reach about 60%, and the rate of harmless disposal of urban sludge will reach more than 90%. The comprehensive utilization rate of livestock and poultry waste will reach more than 80% by 2025, and more than 85% by 2030.

On [China Dialogue](#), iGDP comments that the plan offers a comprehensive policy framework that could greatly boost the methane-reduction effects of existing measures. [iGDP analysis](#) (in Chinese) suggests that by implementing the methane reduction priorities in the *Plan*, China could reduce 2.3 billion tonnes of CO₂e from 2022 to 2035 cumulatively, compared with a reference scenario. To reach carbon neutrality, China will need significant technological innovation over the next 30 years.

China will launch 100 carbon-peaking pilot projects in cities and industrial zones

China's National Development and Reform Commission (NDRC) released the [National Carbon Peaking Pilot Construction Plan](#). The *Plan* proposes to select 100 typical representative cities and industrial zones nationwide to carry out carbon peaking pilot projects, with the first batch of pilot projects to be carried out in 15 provinces and regions.

Experts from NDRC pointed out that the *Plan* encourages cities and industrial zones to leverage their unique strengths and foster innovation, also promoting the formation of new industrial competitive advantages. Building a solid data foundation, understanding key constraints, setting reasonable and comprehensive targets, and devising implementation strategies will also be crucial for the effectiveness of the pilots. Please see the [appendix](#) to this newsletter for the complete expert interpretation (in English) of the *Plan*.

iGDP held a virtual panel roundtable with six experts from national, provincial (Jiangxi, Guangdong, Anhui) and city (Wuhan) levels to discuss the significance of the *Plan*. Topics discussed included how the *Plan* will contribute to the transition from energy control to carbon control, experts' expectations of the plan's local implementation, and lessons from the subnational regions above that might provide experience for other parts of China, including:

- Industry structure transformation, government support for high-end manufacturing, RE, EVs, and hydrogen industry in Guangdong.
- Early peaking and piloting, green finance mechanisms and products, and low-carbon innovation in Wuhan.
- Green development planning, dual-carbon performance assessment methods and supporting policies for a high-tech industrial park in Hefei, Anhui.

For expert insights and further information please refer to iGDP's articles on the roundtable (Chinese only), [episode 1](#) and [episode 2](#).

China accelerates the carbon footprint management system and will introduce about 50 accounting rules and standards on key products by 2025

On November 24th, multiple departments issued [Opinions on Accelerating the Establishment of a Carbon Footprint Management System for Products](#) to accelerate the improvement of the carbon footprint management standards of key products in China. On the production side, a unified and standardized product carbon labeling certification system will be established to guide enterprises to save energy and reduce carbon by clearly labeling the quantitative information of the product's carbon footprint. On the consumer side, the *Opinions* promote the application of carbon labels in consumer products such as electronic products, household appliances and automobiles. The *Opinions* call for:

- By 2025, introducing about 50 rules and standards for carbon footprint accounting of key products at the national level.
- By 2030, introducing about 200 rules and standards for carbon footprint accounting of key products at the national level.

China is preparing to relaunch its voluntary carbon market—China Certified Emission Reductions (CCER) scheme—which will promote the development of offsetting projects. The first four CCER methodologies approved by MEE include afforestation carbon sequestration, grid-connected solar thermal power, offshore wind power and mangrove cultivation.

To encourage voluntary greenhouse gas emission reduction, on October 20th the Ministry of Ecology and Environment (MEE) and National Bureau of Market Supervision released [*Measures for the Management of Greenhouse Gas Voluntary Emission Reduction Trading \(Trial\)*](#). The *Measures* provide provisions on the various aspects of voluntary emission reduction trading and related activities, including clarifying that voluntary greenhouse gas emission reduction projects applying for registration should be conducive to carbon reduction and sink enhancement, and be capable of avoiding or reducing greenhouse gas emissions or realizing the removal of greenhouse gases.

Subnational Updates

Electric Vehicles and New Energy Vehicles: Local policymakers promote EV and NEV deployment, infrastructure, charging and switching facilities

Hainan Province issued *Several Measures to Encourage the Promotion and Application of New Energy Vehicles in Hainan Province from 2023 to 2025*. According to the *Measures*:

- By 2025, the province's cumulative promotion of new energy vehicles will total more than 500,000 vehicles, with new energy vehicles accounting for more than 60%. The overall vehicle pile ratio will be 2.5:1 or less.

Shanghai Municipality released [*Action Plan for Further Promoting the Development of New Infrastructure in Shanghai \(2023-2026\)*](#). According to the *Action Plan*, Shanghai will:

- Build more than 30,000 new public (including dedicated) charging piles.
- Cumulatively, install more than 200,000 additional smart charging piles and pilot deployment of new devices for reverse charging of electric vehicles.
- Increase the regulatory capacity of virtual power plants to 1000 MW.
- Increase the total number of hydrogen refueling stations to more than 50. Shanghai will expand hydrogen fuel cells in buses, trucks, and large passenger cars, and pilot hydrogen energy storage in settings such as renewable energy consumption and load shifting.

Anhui Province released [*Notice Regarding Accelerating the Application of New Energy Vehicles \(NEV\) in the Public Sector*](#). According to the *Notice*:

- The Party and governments, public institutions, and other entities will use 100% NEV for new and updated official vehicles, law enforcement vehicles and other vehicles (excluding in special geographical environments and for special purposes).
- No less than 80% of updated motor vehicles in postal and express delivery enterprises should be NEV.
- The construction of charging and switching infrastructure will be promoted, and demonstration applications of hydrogen in the public sector will be demonstrated.

- The vehicle purchase tax reduction policy for NEV will be improved, and time-of-use pricing for the electricity used by charging and switching facilities will be implemented.

Shenzhen City issued [*Measures for the Management of New Energy Vehicle Charging and Switching Facilities in Shenzhen*](#). According to the *Measures*:

- Parking lots with charging facilities with a ratio of not less than 20% will be encouraged.
- In highway service areas, if construction conditions allow there will be 100% charging facilities coverage.
- No less than 20% of the parking space in newly constructed highway service areas will be equipped with charging facilities.

Guizhou Province issued [*Guidance on Accelerating the High-quality Development of New Energy Vehicle Industry and Promoting the Construction of “Electric Guizhou”*](#). According to the *Guidance*:

- By 2026, the provincial ownership of new energy vehicles will reach 700,000, and the proportion of new energy vehicles in new car sales will reach 40%.
- More than 2,300 charging and switching stations and more than 490,000 charging piles will be built, of which more than 50,000 will be public charging piles, and the charging service capacity will reach 4800 MW.

1+N: City-level and other subnational plans released, tailored to reflect local conditions

Five cities released implementation plans for carbon peaking:

- **Shenzhen City, Tai'an City and Zaozhuang City:** Energy consumption per unit of GDP will drop by 14.5%, 15.7% and 15.8% (16.6% for incentive target) respectively, by 2025 compared with 2020.
- **Zhangjiajie City:** By 2025, the proportion of non-fossil energy consumption will reach about 22%.
- **Pu'er City:** The city will promote renewable energy by deploying “solar PV combined with tea plantation” and “solar PV combined with coffee plantation” as well as other demonstrative projects.

Two provincial regions released implementation plans for carbon peaking in the industrial sector:

- **Sichuan Province:** By 2025, the energy consumption per unit of added value of industries above a designated size will decrease by 14% compared with 2020, and carbon dioxide emissions per unit of industrial added value will decrease by 19.5% compared with 2020.
- **Guangxi Autonomous Region:** By 2025, the energy consumption per unit of added value of industries above designated size will decrease by 15.8% compared with 2020.

Renewable Energy: Beijing and Inner Mongolia to promote renewable energy for heating and power generation respectively

Beijing issued [*Implementation Views on Comprehensively Promoting the High-Quality Development of New Energy Heat Supply*](#). According to the *Views*:

- The construction and expansion of new gas-fired independent heating systems (except when unfavorable renewable energy heating conditions, or residents installing their own gas wall-hung boilers for heating) will be prohibited.
- The proportion of installed new energy heating capacity in new heating projects should not be less than 60%.
- By 2025, the city's new energy heating area will reach 145 million square meters, and the proportion of new energy heating area in the city's heating area will reach more than 10%. By 2030, the new energy heating area will account for more than 15% of the city's heating area.

Inner Mongolia released [*Action Plan for New Energy Doubling in Inner Mongolia Autonomous Region*](#). According to the *Plan*:

- By 2025, the region's renewable power generation capacity will strive to reach more than 150 million kilowatts.
- By 2030, the renewable power generation capacity will increase to more than 300 million kilowatts, and the total amount of renewable power generation will exceed the total amount of thermal power generation.

Hydrogen: Guangdong aims to build a leading hydrogen industry and promote hydrogen energy storage

Guangdong Province released [*Views on Accelerating the Innovation and Development of Hydrogen Energy Industry in Guangdong Province*](#). According to the *Views*:

- By 2025, more than 10,000 fuel cell vehicles will be promoted, the annual hydrogen supply capacity will be more than 100,000 tons, and more than 200 hydrogen refueling stations will be built.
- By 2027, fuel cell vehicles will be popularized and applied on a large scale, the hydrogen infrastructure will be basically complete, and the share of hydrogen energy in the fields of energy and energy storage will be significantly increased.
- The annual sales volume of new energy vehicles will reach more than 1 million by 2025.

Perspectives

- [*Assessing Low-Carbon Strategies of Local Governments Through the Lens of Climate Policy Coverage*](#) (World Resources Institute)

This study established the Assessment System for City Climate Policy Coverage and investigated 12 cities in China and overseas. Cities should set sectoral goals that align with overall targets and foster markets for more investment into the field of climate change.

- [*Cycling Environment Assessment Within the 4th Ring Road of Beijing*](#) (Natural Resources Defense Council)

In collaboration with the School of Architecture at Tsinghua University, this report evaluates the 2963.4 km of cycling paths within the 4th Ring Road of Beijing based on 12 risk factors. In addition to the improvement of cycling infrastructure, the study suggests the need to raise cyclists' awareness of safety cycling.

- [*Development Status of Virtual Power Plants in the Yangtze River Delta*](#) (Natural Resources Defense Council)

The report analyzes the current situation and typical cases of virtual power plants (VPP) in the Yangtze River Delta region. Conducting quantitative analysis on a VPP in the Suzhou Industrial Zone, it investigates the potential of VPP construction to provide a reference experience for other regions.

- [*Technological System and Business Model for Virtual Power Plants Towards Carbon Peaking and Neutrality Goals*](#) (Natural Resources Defense Council)

On the basis of analyzing the technical system and business model of VPP, the report puts forward policy recommendations on the development pathway and development of VPP in China.

Appendix

Title: Expert Interpretation | Promoting Green, Low-Carbon, and High-Quality Development through National Carbon Peaking Pilots Demonstration

Author: Kang Yanbing, Deputy Director, National Energy Conservation Center

Source: National Energy Conservation Center

(original link: <https://mp.weixin.qq.com/s/3kgKJRWsK1ULyprXpG8lyA>)

Recently, the National Development and Reform Commission (NDRC) issued the National Carbon Peaking Pilots Construction Plan (NDRC 1409, hereinafter referred to as the “Plan”). The Plan outlines the strategic deployment for the national pilot carbon peaking efforts and provides clear guidelines for conducting these pilots. Carrying out the pilot work of carbon peaking in cities and parks is of great significance in accelerating the green and low-carbon transformation of the development mode, exploring the paths of carbon peaking in cities and parks with different resource endowments and development bases, and providing the country with operable, replicable, and popularized experiences and practices, as well as helping to realize the goal of carbon peaking and carbon neutrality.

I. Fully understand the significance of carrying out Carbon Peaking Pilots

The report of the 20th CPC National Congress highlighted the need to actively and steadily advance the goals of carbon peaking and carbon neutrality, leveraging China’s energy resource endowment. It emphasizes the importance of a systematic approach, where initiatives are first established and then gradually expanded, ensuring the planned and step-by-step implementation of actions to achieve carbon peaking. The Views of the State Council of the Central Committee of the Communist Party of China on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality proposed to organize and carry out carbon peaking and carbon neutrality demonstrations, and to explore the effective models and useful experience. The Carbon Peaking Action Plan by 2030 published by the State Council clearly requires that 100 typical representative cities and parks be selected to carry out carbon peaking pilot construction. The Plan is in line with the relevant deployment of the CPC Central Committee and the State Council, and clearly defines the work objectives, main tasks, implementation procedures, timetable, and other requirements of the national carbon peaking pilots, which is of great significance for accelerating the green, low-carbon and high-quality development and realizing the “dual-carbon” goal.

- (I) Carbon Peaking Pilots explore the effective experience and practices for carbon peaking actions. The energy structure, resource endowment and development stage of each region in China are different, and the promotion of “dual carbon” work also faces different difficulties and challenges. Although all provinces, autonomous regions, and municipalities directly under the central government have formulated their own regional carbon peaking implementation plans, there is still much work to be further refined and explored at the city and park levels. Carrying out the national carbon peaking pilots construction can inspire the relevant regions to explore green, low-carbon and high-quality development paths in line with their own realities, explore systematic innovations in multiple fields and dimensions, and form a good

demonstration and driving effect by summarizing the effective development models of different types of cities and parks.

- (II) Carbon Peaking Pilots inspires cities and parks to explore new paths of green and low-carbon development. Cities and parks are important carriers of economic development and job creation, as well as important sources of energy consumption and carbon emissions. Implementing the Carbon Peaking Pilots can fully mobilize the initiative and creativity of pilot cities and parks. It encourages them to leverage their unique strengths, concentrate on early pilot objectives and tasks, and foster innovation. This approach accelerates the establishment of a market-oriented green technological innovation system. Simultaneously, it enhances the policy framework conducive to green and low-carbon development. Through these efforts, pilot cities and parks can explore and adopt new technologies, business models, and approaches in this field. This proactive approach helps these regions achieve sustainable development that is green, low-carbon, and of high quality.
- (III) Carbon Peaking Pilots promote the formation of new industrial competitive advantages. The 20th CPC National Congress called for vigorously developing green and low-carbon industries, accelerating the research and development of energy-saving and low-carbon advanced technologies, and popularizing their application. By laying out several green and low-carbon projects with leading technology levels and outstanding emission reduction effects during the pilot process, and supporting enterprises to carry out energy-saving and carbon-reducing reforms such as clean energy substitution, electrification transformation, and industrial process reengineering, the pilots will help accelerate the optimization of the industrial structure, help accelerate the transformation of the industry to high-end, intelligent, and green, and forge a new competitive advantage for the industry in the process of promoting the tasks of carbon peaking and carbon neutrality targets.

II. Accurately grasp the specific requirements of the Carbon Peaking Pilots

- (I) Laying a solid foundation for preliminary work. Initiating carbon peaking pilots requires preliminary preparation by pilot cities and parks. First, to find out the carbon emissions data. Accurate and effective carbon emissions data serves as an important foundation for the "dual carbon" work. Pilot cities and parks should seriously measure energy production, energy consumption, energy structure, carbon emissions and other basic data, analyze changes in total energy consumption and intensity, changes in the overall intensity of carbon emissions, and changes in carbon emissions in key areas, key industries, key regions, key enterprises, key sources of emissions identification, carbon emissions trend forecasting and other good data support. Secondly, key constraints should be analyzed in depth. Pilot cities and parks should consider the actual local economic and social development, analyze the main difficulties and shortcomings faced by the green low-carbon transformation and "dual-carbon" work, and provide ideas for improving the pertinence of policies and measures, and carrying out pilot work in a targeted manner. Thirdly, the progress of work should be systematically sorted out. Pilot cities and parks should systematically sort out the industrial structure adjustment, energy efficiency improvement in key areas, innovation in green and low-carbon management system and mechanism, scientific and technological innovation research, and promotion, to prepare for the scientific and reasonable setting of the pilot construction goals and tasks. Based on

the work foundation and challenges sorted out in the previous period, carry out the detailed analysis to identify the pilot paths for carbon peaking in pilot cities and parks.

- (II) Reasonable setting of pilot targets. The Plan adheres to target orientation and provides guidelines for pilot cities and parks to set reasonable pilot targets. The target system for the establishing founding unit includes indicators such as energy, urban and rural development, transportation, circular economy, innovation capacity, and maintains strong flexibility. Pilot cities and parks can, following the pertinent guidelines outlined in the "Guidelines for Carbon Peaking Pilot Implementation Plan", can propose comprehensive objectives and implementation strategies for carbon peaking pilots. This should be done by considering their specific economic, social, and environmental conditions. They can also suggest specific carbon peaking pilot targets for key sectors and industries, and adjust these targets as needed based on the actual circumstances.
- (III) Define the tasks of pilots construction. The Plan, under the comprehensive consideration of functional positioning, regional characteristics, economic development level, resource endowment, puts forward key tasks of pilot construction for cities and parks respectively, and guides the pilot cities and parks to find the direction of strength according to their local conditions: accelerate the development and utilization of renewable energy in combination with their own actual situation, and further expand the scale of green power and green certificate trading; put energy conservation in a prominent position, and do energy conservation work with a higher level and higher quality, and strive to improve the resources for energy conservation; to prioritize energy conservation, enhance energy-saving efforts at a higher level and quality, focus on improving energy resource utilization efficiency, promote efficient energy cascade utilization, leverage the role of the circular economy in reducing carbon emissions, and achieve maximum benefits at minimal costs; to fully integrate with the basis of industrial development in cities and parks, and to promote the carbon peaking in key industries by category; to promote the promotion of low-energy buildings, green building materials, green construction methods, and other targeted measures in accordance with the climatic zoning of buildings; to optimize the transport structure of cities and parks, and to accelerate the promotion of transport tools. It is also necessary to optimize the transport structure of cities and parks, accelerate the low-carbon transformation of transport tools and equipment, and strengthen the construction of green infrastructure for transport, so as to promote the green and low-carbon development of transport. In addition, the Guidelines also set out requirements for strengthening scientific and technological innovation, implementing key projects, improving policies and mechanisms, and carrying out actions for all.
- III. Strengthening the organization and implementation to ensure that the carbon peaking pilots work is effective.

The national carbon peaking pilots throughout the "14th Five-Year Plan" and "15th Five-Year Plan" two phases, in the process of promoting the work, it must adhere to the "active and prudent, according to local conditions, reform and innovation, safe carbon reduction in the promoting process, it is necessary to adhere to the working principles of "active and steady, appropriate to local conditions, reform and innovation, safe and carbon reduction", and grasp the key links and key tasks.

- (I) Focus on safe carbon reduction by grasping the work rhythm. The carbon peaking pilots work is highly concerned by all parties. The Plan proposes that it must adhere to safe carbon reduction, adjust and optimize specific measures in a timely manner according to the development and changes in the situation and the actual progress of work, and appropriately integrating development and security while promoting green and low-carbon development, so as to effectively safeguard the national energy security, industrial chain supply chain security and food security, and ensure that the normal life of the people will not be affected. It must maintain the pace and intensity of the work, adhere to a phased approach, and implement initiatives in a planned and step-by-step manner. When it comes to pilot initiatives, the effectiveness of the work should not be simply measured by the timing or magnitude of achieving carbon peaking, and one-size-fits-all approaches should be avoided; Cities and parks should not engage in pilot initiatives just for the sake of piloting, and achieving carbon peaking should not be pursued merely for the sake of reaching the peak. It must firmly guard against a “campaign-style carbon reduction” approach.
- (II) Focus on work tailored to local conditions. The characteristics, resource endowments, development levels, functional positioning, energy structures, and industrial structures vary among different regions and districts, and some differences can be significant. It cannot simply replicate existing models and development paths. Pilot initiatives should be tailored to local conditions. Pilots should focus on addressing problems, setting goals, and achieving results. It should thoroughly explore the potential for carbon reduction, implement targeted measures, and ensure the pilot work is done appropriately, solidly, and in detail. It needs to explore diverse paths for green and low-carbon transformation.
- (III) Focus on science and technology and policy innovation. Scientific and technological innovation and policy innovation is an important guarantee to support the steady progress of the "dual-carbon" work. The Plan requires pilots to strengthen technological support and leadership, focus on the technological needs of green and low-carbon initiatives, and propose innovative directions for technological support in achieving 'dual carbon' goals. It should take the lead in green and low-carbon technology basic research, technology development, application demonstrations, and talent cultivation, exploring technological support paths for achieving “dual carbon” goals. Efforts should be accelerated to improve fiscal, financial, investment, pricing policies, and standards systems conducive to green development. Additionally, research should be conducted to establish a green and low-carbon management mechanism oriented toward carbon reduction in pilot parks, providing solid policy support for the “dual carbon” initiative.
- (IV) Emphasize the guarantee of key project elements. Implementing key green and low-carbon projects is a crucial approach to achieving carbon peaking and carbon neutrality goals. The Plan requires a clear identification of key project areas, including energy infrastructure, energy-saving and carbon reduction transformations, demonstrations of advanced green and low-carbon technologies, environmental infrastructure, circular economy development, and ecological protection and restoration. It is necessary to strengthen the guarantee of various elements for supporting complementary project construction, promoting the orderly implementation of key project initiatives.

About the Institute for Global Decarbonization Progress (iGDP)

The Institute for Global Decarbonization Progress (iGDP) is an international non-profit think tank focusing on green and low-carbon development with offices in China and Europe. Established in Beijing in 2014, iGDP is dedicated to supporting China's green and low-carbon practices, contributing to the global effort to address climate change, and providing decision-makers, investors and local communities with forward-thinking solutions. Through interdisciplinary, systematic, and empirical policy research, iGDP promotes robust energy and climate solutions with high implementation and investment feasibility. iGDP works with its partners to promote a zero emissions future and tell the story of China's green and low-carbon development.

About China Carbon Neutrality Tracker (CCNT)

China Carbon Neutrality Tracker (CCNT) is an online database and interactive platform that tracks China's national and sub-national carbon neutrality actions by collecting and sorting publicly available policy documents with an impact on GHG emissions. It offers an overview and structural classification of China's climate actions and serves as a comprehensive compendium of the specific policies and actions of various government departments and key non-state entities. CCNT includes all policies and actions with a climate impact and classifies them by region and sector. It gathers policy information primarily from authoritative government sources at national, regional, provincial and municipal levels. CCNT currently has national and provincial webpages. The database is continuously updated to include new provincial and city-level actions, and CCNT regularly issues short policy briefings.

For the latest national and subnational carbon neutrality actions, please visit the CCNT database at <https://ccnt.igdp.cn>.

If you have any suggestions or feedback, please email us at ccnt@igdp.cn.