

China Carbon Neutrality Tracker Newsletter



The 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: Subnational and city-level official statistics, policies and actions related to dual-carbon goals

PERSPECTIVES: New reports and insights from the field

Top News

China will establish and refine its carbon emissions accounting system and reporting scheme to consolidate the dual control over the amount and intensity of carbon emissions.

The National Development and Reform Commission (NDRC) and seven other departments jointly issued the [Work Plan for Improving the Carbon Emission Accounting and Statistical System](#). The *Plan* aims to consolidate the dual control system for carbon emissions (total amount and intensity). Goals include:

By 2025,

- Establish a reporting system for national and provincial carbon emissions, including annual and bulletin reports.
- Publish and implement industry and product carbon emissions accounting standards for selected industries and products.
- Complete the national greenhouse gas emission factor database with regular updates.

By 2030:

- Build a comprehensive carbon emissions accounting system.
- Fully operationalize national and provincial carbon emissions accounting protocols.
- Refine standards and guidelines for carbon accounting in key industries.
- Significantly enhance carbon management capacity for energy- and emission-intensive units.

To promote green transportation, China will carry out Vehicle to Grid (V2G) pilots at a large scale and support the power batteries renewal of new energy buses with government bonds.

The NDRC and three other departments jointly issued the [Notice on Promoting the Scale Application Pilot of Vehicle to Grid \(V2G\) Interaction](#). The *Notice* calls for orderly charging for new energy vehicles (NEVs) and the expansion of V2G projects. It proposes that:

- Participating regions should implement differentiated electricity pricing for charging, with peak and off-peak rates. Annually, **over 60% of charging should occur during off-peak hours**, and more than 80% of private charging in low-demand periods.
- V2G projects involved in the pilot should, in principle, have a minimum discharge capacity of 500 kW and an annual discharge volume of at least 100,000 kWh, with some flexibility for western regions.
- The pilot will include **at least five cities** with strong infrastructure, supportive policies, and high-impact potential, as well as no fewer than 50 V2G projects.

The Ministry of Transportation, the NDRC and the Ministry of Finance jointly issued [Supplementary Notice on Further Advancing the Renewal of New Energy Buses and](#)

[Power Batteries](#) to leverage ultra-long-term special government bonds to support the transition to new energy buses. It proposes that:

- 80,000 yuan and 42,000 yuan of subsidy will be provided for renewal of new energy buses and their power batteries, respectively.
- For battery replacements, the subsidy amount per bus is capped at 50% of the cost of a new power battery.

As China pursues modernization, its agricultural sector will also embrace the application of intellectual technology and equipment to develop smart agriculture.

The Ministry of Agriculture and Rural Affairs sequentially released the [Guiding Opinions on Promoting the Development of Smart Agriculture](#) and the [National Action Plan for Smart Agriculture \(2024-2028\)](#) to accelerate the application of intelligent technology and equipment in agriculture.

The *Opinions* proposes that by 2030 and 2035, the agricultural production informatization rate will increase to approximately 35% and more than 40%, respectively. *The Plan* proposes that to implement the *Opinions*, there should be capacity building for public service, application and expansion of technology and equipment in key areas, as well as demonstration projects.

Subnational Updates

Over one-third of provincial regions issued notices, implementation plans, and details to promote equipment upgrades and trade-ins of consumer goods, with fiscal support from provincial governments.

[Fujian Province](#), [Jilin Province](#), [Jiangsu Province](#), [Jiangxi Province](#), and [Shanghai Municipality](#) issued the *Implementation Plan for Strengthening Support for Trade-ins of Consumer Goods*, to promote trade-ins of **passenger vehicles and trucks**, upgrade high-efficiency **household appliances**, trade-ins of **electric bicycles**, and retirement and replacement of **agricultural machinery**.

[Shanxi Province](#), [Anhui Province](#), and [Henan Province](#) issued similar policies, with a focus on **vehicle renewal**. These provinces have **specified the subsidy standards** for vehicle renewal – Shanxi and Anhui capped their subsidy at 20,000 Yuan for replacing fuel vehicles/vehicles below National III emission standards with NEV while Henan set its subsidy corresponding to the price of NEV, with a cap at 16,000 Yuan.

[Guizhou Province](#), [Hebei Province](#), [Heilongjiang Province](#), and [Tianjin Municipality](#) released policies with quantitative targets on large-scale equipment upgrades and trade-in of consumer goods.

Guizhou Province will in 2024:

- Arrange approximately 3.7 billion Yuan in special long-term government bond funds and provincial fiscal support for trade-in of consumer goods.
- Replace over 30,000 **passenger vehicles**, trade in more than 90,000 passenger vehicles, and accelerate the replacement of over 1,000 **trucks**.
- Retire more than 1,300 **buses** and replace over 300 **power batteries** for new energy buses.
- Upgrade over 100,000 **electric bicycles**, renew over 800,000 **household appliances**, and replace over 40,000 units of **agricultural machinery**.

Hebei Province proposes:

- To provide a tiered subsidy ranging from 10,000 to 140,000 Yuan for early retirement of **diesel trucks** and purchase of qualified new energy trucks.
- For renewal or **battery replacements** of buses aged 8 years and older, a fixed subsidy of 60,000 Yuan is available per vehicle.
- Individual consumers who retire fuel vehicles or NEVs registered before April 30, 2018, and purchase new energy vehicles will receive a subsidy of 20,000 Yuan.

Heilongjiang Province announces that by the end of 2024:

- It will retire and replace over 19,000 **trucks**, over 1,400 **new energy buses**, more than 12,000 **agricultural machines**, and over 58,000 **passenger vehicles**.
- It will support more than 400 major **household appliance** retailers to sell over 80,000 units of home appliances and over 50,000 **electric bicycles**, with a year-on-year sales growth of 5% for electric bicycle retailers.
- The Plan also specifies the **standards and subsidies** for retirement and replacement of these consumer products.

Tianjin Municipality proposes that by the end of 2024:

- To retire and replace approximately 500 **agricultural machines** and over 1,200 trucks, while promoting the adoption of about 50 new energy urban **cold chain delivery trucks**.
- Replace more than 1,000 **new energy buses** and upgrade over 100 power batteries for these buses.
- Retire over 40,000 **passenger vehicles** and replace around 30,000 of them.
- Trade in approximately 400,000 **electric bicycles** and upgrade outdated indoor **heating systems** in about 100,000 households.

Zhejiang Province released the first provincial level regulations to promote green and low-carbon transition, further enhancing its provincial 1+N policy system.

[Regulation on Accelerating Green, Low-carbon Transition in Zhejiang Province](#) applies to green and low-carbon transition in the sector of energy, industry, transportation, urban and rural construction, agriculture, and public life within Zhejiang. It makes provisions

for the green and low-carbon transition in areas such as the dual control system, clean energy, green production, and low-carbon lifestyle.

Shanxi Province issued a policy to ensure the achievement of its energy intensity reduction target during the 14th Five Year Plan period.

[*Action Plan for Energy Conservation and Carbon Reduction in the Energy Sector in Shanxi Province \(2024-2025\)*](#) proposes that:

- By 2024 and 2025, the energy consumption per unit of GDP in Shanxi Province will decrease by 2.0% compared to 2023 and decrease by 14.5% (striving to decrease 16.5%) compared to the 2020 level.
- By 2025, new energy and clean energy capacity will account for half of the installed capacity and 30% of electricity generation. Planned capacity for new energy storage will reach 6 million kilowatts.
- The provincial green power consumption rate will remain at over 95% from 2024 to 2025.

Anhui Province released a policy to support “zero-waste city” initiative and circular economy, with a focus on the agricultural, residential, and building sectors.

[*Action Plan for the Construction of a 'Zero-Waste' City in Anhui Province*](#) proposes that:

- By 2027, the comprehensive **utilization rate of crop straw and livestock and poultry manure** will exceed 95% and 85% respectively.
- The recycling rate of **agricultural film and pesticide packaging** will both exceed 85%, while the amount of plastic film residue will show a decreasing trend.
- The urban domestic **waste recycling** rate will reach 40%, and the **harmless treatment** rate of rural domestic waste will reach 90%.
- The **share of prefabricated buildings** in new constructions will surpass 40%.

Inner Mongolia Autonomous Region released policy to promote low-carbon development of the aluminum industry. Efforts include accelerating recycled aluminum, equipment upgrades, and technology innovation.

[*Several Opinions on Promoting High-Quality Development of the Aluminum Industry in the Inner Mongolia Autonomous Region*](#) proposes that:

- For new electrolytic aluminum projects, the proportion of **renewable energy used** must be no less than 50% (national target is 25% by the end of 2025).
- For **energy-saving** improvement projects that reduce 2,000 tons of standard coal or more on a yearly basis, a **subsidy** of 200 Yuan is available for per ton of standard coal saved, with a maximum subsidy of 5 million Yuan per project.

Shanghai Municipality outlines the short-term targets for green and low-carbon transformation in energy, industry, transportation, building, and circular economy sector.

[*Action Plan for Accelerating Green, Low-Carbon Transition in Shanghai \(2024-2027\)*](#)

proposes that by 2025:

- **Demand-side peak load response capacity** will be maintained at a minimum of 5%.
- The ratio of scrap steel usage will exceed 15%, with carbon **emissions per ton of steel** reduced by approximately 5% compared to 2020.

By 2027:

- The municipality's installed **solar PV capacity** will reach 4.5 million kilowatts.
- The proportion of **pure electric vehicles** among newly purchased personal vehicles will exceed 50%.
- A total of 20 million square meters of **ultra-low energy buildings** will be constructed.
- Power usage effectiveness (PUE, expressed as a ratio, decreasing toward 1.0 as overall efficiency improves) for newly built **data centers** will remain below 1.25, while retrofitted centers will have a PUE no higher than 1.4.

Perspectives

[*The low-carbon development path toward common prosperity: A case study of Zhejiang*](#)
(World Resources Institute)

- This study focuses on China’s first and only “demonstration zone for common prosperity” in Zhejiang Province. It provides a systematic framework to understand the synergy between low-carbon development and common prosperity.

[*Charging up Hainan’s Transition to Electric Vehicles: Assessment of Current Charging Infrastructure Deployment and Projection of Infrastructure Needs Through 2030*](#)
(International Council on Clean Transportation)

- As of 2023, Hainan’s electric vehicle (EV) deployment has doubled the national average. By 2030, the province aims for full electrification across almost all vehicle categories, excluding heavy-duty trucks. This report examines Hainan Province’s EV transition plan, and the infrastructure required to support it. The report emphasizes the critical need for expanding EV charging infrastructure, with a primary focus on home chargers.

[*Real-world use cases for zero-emission buses: Operations, charging, and maintenance in Chinese cities*](#) (International Council on Clean Transportation)

- This study analyzes the operations of fleet operators in eight cities (Zhengzhou, Tangshan, Tianjin, Dalian, Harbin, Haikou, Neijiang, and Sanya) in China and assesses the challenges faced by electric bus operators in recent years. The results of this analysis support several policy considerations including in testing procedures, financial support, and warranty requirements.

[*Advancing High Proportion Renewable Energy Development in Northwest China: A Study on Energy Storage Development and Interprovincial Power Trading Mechanisms*](#) (Natural Resources Defense Council)

- Supported by NRDC, the Dual-Carbon Industry Cooperation Branch of the China Energy Research Society prepared this report to analyze the status, trends, and challenges of energy storage development and interprovincial trading in Northwest China, offering solutions and recommendations.

[*Evaluation on the Policy Effectiveness of Synergizing Pollution and Carbon Emissions Reduction in Typical Cities in the Fenwei Plain*](#) (Natural Resources Defense Council)

- Supported by NRDC, the Chinese Academy of Environmental Planning (CAEP) released a report to analyze different measures for reducing air pollutants and carbon emissions in Fenwei Plain's coal-dependent cities. It assesses the effectiveness of synergizing pollution reduction and carbon emission policies and evaluates the attainability of "14th Five-Year Plan" targets for reducing pollutants and carbon emissions. Key recommendations, including optimizing energy and industrial structure, and promoting non-coal economic growth, are proposed for further synergistic reductions.

[*Low-carbon Transition of Traditional Energy Regions in China: A Case Study of the Coal Triangle Area*](#) (Environmental Defense Fund)

- This report proposes the concept of China's Coal Triangle Area – Inner Mongolia, Ningxia, Shaanxi, and Shanxi – that has long been overly dependent on coal resources. It studies the energy transformation in the Coal Triangle Area and formulates relevant strategic plans and supporting policies to facilitate energy and industrial transitions, as well as regional economic and social development in the area. It also suggests measures to achieve regional, ecological and employment equity.

About the Institute for Global Decarbonization Progress (iGDP)

The Institute for Global Decarbonization Progress (iGDP) is a 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.

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