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Carbon Neutrality Tracker

[CCNT · Policy Brief]

Green and Low-Carbon Policies as Key Principles in a Stable Industrial Growth Strategy for China

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Author

SONG Manjiao Institute for Global Decarbonization Progress (iGDP)
Assistant Analyst E-Mail: songmanjiao@igdp.cn

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The Ministry of Industry and Information Technology, in collaboration with relevant departments, recently released a series of plans to achieve steady growth in ten key industries (referred to as “steady growth action plans”). Concentrating on the near-term development trajectories of the ten industries in the 2023-2024 period, the primary objectives of these steady growth action plans include propelling comprehensive economic advancement, facilitating the substantial improvement of industrial economic quality, and ensuring judicious quantitative growth. A review of these steady growth action plans shows that green and low-carbon initiatives are crucial in policies that promote stable industrial growth.

China's economy is currently in a critical phase of recovery and transformation. Achieving stable growth in key industries is essential to addressing various economic risks and challenges and laying the foundation for the high-quality development of the industrial sector. At the same time, China is at an important juncture in promoting green and low-carbon industrial development. China’s industrial policies need to balance industrial development with green and low-carbon initiatives.

The steady growth action plans concentrate on pivotal, foundational and strategically emerging industries within China’s national economy. They include ten major industries: iron and steel, non-ferrous metals, petrochemicals, chemicals, building materials, machinery, automobiles, power equipment, light industry and electronic information manufacturing (see Appendix 1). These ten major industries essentially cover the entire manufacturing sector (see Appendix 1). Taken together, they account for approximately 70% of China’s industrial added value (Table 1), and the combined energy consumption of these industries represents about 83% of the total industrial energy consumption (Table 1). Comparing the proportions of energy consumption and value-added within the ten major industries (Figure 1) shows that light industry, electronic information manufacturing, machinery, and other industries are characterized by low energy consumption and high value-added. These industries, serving as essential and strategic sectors, are the focal points for the green and low-carbon development of the industrial sector. On the other hand, industries such as petrochemicals and steel, which are foundational and pillar industries of the national economy, are characterized by high energy consumption and low value-added. These

industries require accelerated efforts in promoting green and low-carbon transformation.

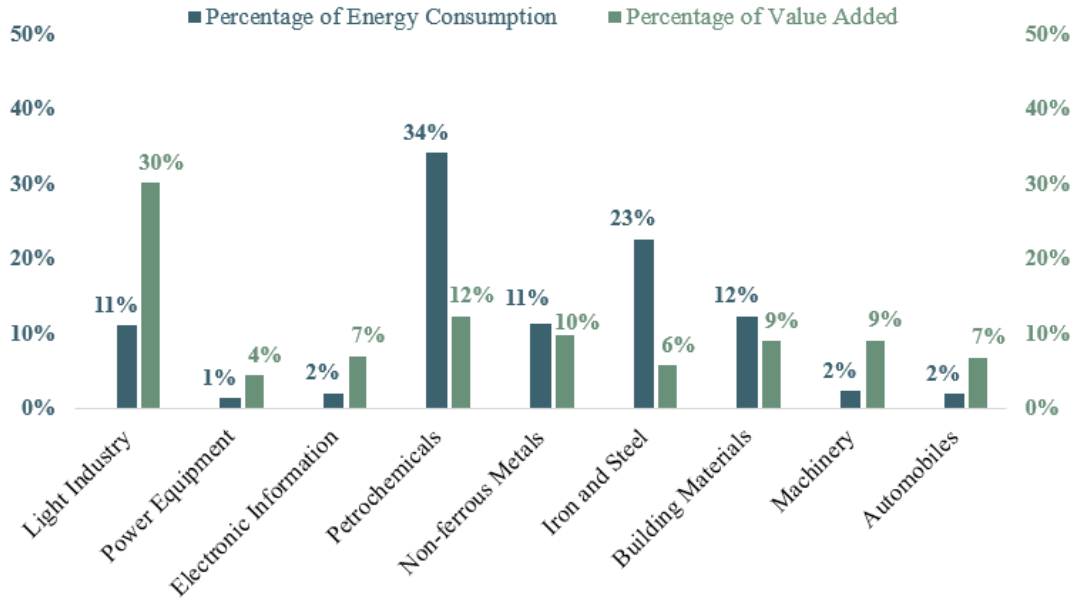

Figure 1: Proportion of Energy Consumption and Value Added in the Top 10 Industries in 2021

Each of the ten major industries contains explicit two-year growth targets in its steady growth action plan, incorporating tasks associated with green and low-carbon initiatives (Table 1). Over the next two years, the green and low-carbon strategies within these industries will emphasize clean and low-carbon transformation in their energy systems, energy efficiency and carbon reduction in manufacturing processes. Strategies also include comprehensive resource utilization, development of low-carbon products, and the promotion of green transportation. Support will come from research and development breakthroughs, technological transformations, demonstration projects and large-scale applications. Each industry has outlined the key components of its green and low-carbon initiatives for the upcoming two years based on their distinct characteristics and role within China's "dual carbon" strategy. To bolster financial and fiscal support for stability and growth, the steady growth action plans also call for the comprehensive use of diverse financial instruments, including existing funding channels, credit facilities, bonds and funds.

However, a comparison of the steady growth action plans shows that at present only the non-ferrous metals industry has explicitly outlined energy-saving targets for the years 2023 and 2024. Additionally, while the steady growth action plans call for green and low-carbon measures, they lack specific guidance on technologies and projects, particularly for industries with high energy consumption and emissions such as

petrochemicals and steel, and quantifiable targets and robust constraints have yet to be established. Most action plans do not explicitly prioritize the green and low-carbon sector in their policy safeguard measures; instead, the emphasis is on providing high-quality financial services to enterprises.

This suggests that the ten major industries with steady growth action plans should organize industry-specific long-term carbon-neutrality strategic studies. These studies should propose energy-saving, carbon reduction targets, and technological pathways for different periods, identify investment needs, and outline implementation paths. This would provide policy support for directing financial, fiscal, and social capital towards the green and low-carbon transformations of these key Chinese industries.

Table 1 Steady Growth Policies and their Green and Low-Carbon Goals and Measures of the Top 10 Industries

Plan Title	Issuing Organization	Release Date	National Economic Industry Positioning	Energy Consumption Percentage[i]	Value Added Percentage[ii]	2023-2024 Average Annual Growth Rate Target for Value Added	Green Objectives	Green and Low-Carbon Encouragement Direction
Steady Growth Action Plan for Light Industry (2023-2024)	Ministry of Industry and Information Technology, National Development and Reform Commission, Ministry of Commerce	2023.7.19	Dominant and Livelihood Industries	11.10%	30.07%	Approximately 4%	/	Promoting green intelligent household products, water-saving plastic equipment, and fully biodegradable films; increasing the ratio and efficiency of cogeneration, expanding the application of biomass energy, and organizing energy-saving and carbon reduction technology transformations and equipment upgrades.
Steady Growth Action Plan for the Power Equipment Industry (2023-2024)	Ministry of Industry and Information Technology	2023.8.9	/	1.33%	4.36%	Approximately 9%	/	Ensuring the supply of power equipment for major projects such as large-scale wind and photovoltaic bases, nuclear power projects, integrated demonstration bases for water and wind power, and ultra-high voltage projects.

[i] Proportion of energy consumption by various industries in manufacturing total energy consumption in 2021, compiled based on “China Energy Statistical Yearbook 2022.”

[ii] Proportion of value added by various industries in manufacturing total value added in 2021, calculated using the 2020 national input-output table (calculated at current producer prices) and “2021 Industrial Operation Analysis Report.”

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Steady Growth Action Plan for the Electronic Information Manufacturing Industry (2023-2024)	Ministry of Industry and Information Technology, Ministry of Finance	2023.8.10	Strategic, Fundamental, and Pioneering Industries	2.05%	6.92%	Approximately 5%	/	Encouraging the construction of green factories in the electronic information manufacturing industry; Promoting the circular utilization of industrial resources; Vigorously developing and promoting process technologies and equipment with functions such as efficient energy utilization, pollution reduction, and waste resource utilization; Advancing the intelligent transformation and upgrade of the photovoltaic industry; Promoting the development and upgrade of the LED industry.
Steady Growth Action Plan for the Petrochemical Industry	Ministry of Industry and Information Technology, National Development and Reform Commission, Ministry of Finance, Ministry of Ecology and Environment, Ministry of Commerce, Ministry of Emergency Management, All-China Federation of Supply and Marketing Cooperatives	2023.8.18	Fundamental and Pillar Industries	34.07%	12.29%	Approximately 5%	/	Tackling key materials and process technology equipment, enhancing the level of energy conservation, emission reduction, and carbon reduction; Implementing energy efficiency and emission limit standards for key industries, intensifying efforts in industry energy conservation, pollution reduction, and carbon reduction; Encouraging projects coupled with renewable energy resources and with comprehensive energy efficiency superior to benchmark levels.

Steady Growth Action Plan for the Non-Ferrous Metals Industry	Ministry of Industry and Information Technology, National Development and Reform Commission, Ministry of Finance, Ministry of Natural Resources, Ministry of Commerce, General Administration of Customs, National Food and Strategic Reserves Administration	2023.8.21	Supporting the Development of Strategic Emerging Industries and National Defense Science and Technology Industry	11.36%	9.78%	Aiming for around 5.5% in 2023 and over 5.5% in 2024	The annual energy consumption of smelting products such as copper and lead will decrease by more than 2% on average.	Focusing on new energy vehicles, energy conservation, and carbon reduction, leveraging demonstration platforms for new material production and application, manufacturing innovation centers, and other carriers; Accelerating the promotion of mature green and low-carbon technologies; Guiding enterprises to carry out energy conservation and carbon reduction technology upgrades.
Steady Growth Action Plan for the Iron and Steel Industry	Ministry of Industry and Information Technology, National Development and Reform Commission, Ministry of Finance, Ministry of Natural Resources, Ministry of Ecology and Environment, Ministry of Commerce, General Administration of Customs	2023.8.21	Fundamental and Pillar Industries	22.61%	5.69%	Approximately 3.5% in 2023 and over 4% in 2024	/	Supporting the implementation of "extreme energy efficiency" transformation projects, exploring the creation of super-efficient factories, accelerating the promotion and application of energy-saving and efficiency-increasing technologies and equipment； Intensifying support for the testing and industrialization of low-carbon common technologies such as hydrogen metallurgy and low-carbon metallurgy； Promoting sustainable transportation; Accelerating the implementation of the high-quality development leading project for electric furnace short-process steelmaking.

Plan Title	Issuing Organization	Release Date	National Economic Industry Positioning	Energy Consumption Percentage[i]	Value Added Percentage[ii]	2023-2024 Average Annual Growth Rate Target for Value Added	Green Objectives	Green and Low-Carbon Encouragement Direction
Steady Growth Action Plan for the Building Materials Industry	Ministry of Industry and Information Technology, National Development and Reform Commission, Ministry of Finance, Ministry of Natural Resources, Ministry of Ecology and Environment, Ministry of Housing and Urban-Rural Development, Ministry of Commerce, National Financial Regulatory Administration	2023.8.22	Important Basic Industries	12.30%	8.96%	Approximately 3.5% in 2023 and around 4% in 2024	/	Optimizing the energy structure of the building materials industry, promoting the use of clean energy alternatives; Advancing sustainable transportation; Prioritizing measures such as source reduction and process control in an orderly manner to advance ultra-low emission transformations in the cement industry; Promoting in-depth governance in industries such as glass, ceramics, and glass fibers, and advancing coordinated pollution reduction and carbon reduction control; Encouraging enterprises to improve the capacity to consume industrial waste in products such as cement, concrete, wall materials, pre-mixed mortar, solid waste ceramic particles, and machined sand; Encouraging exploration of new models for bringing green building materials to rural areas and organizing demonstration projects for the application of green building materials.

Steady Growth Action Plan for the Machinery Industry (2023-2024)	Ministry of Industry and Information Technology, Ministry of Finance, Ministry of Agriculture and Rural Affairs, Ministry of Commerce, General Administration of Customs, National Financial Regulatory Administration, National Medical Products Administration	2023.8.17	Basic and Strategic Industry for Providing Technological Equipment for National Economic Development, National Defense and Military Construction, and Livelihood Projects	2.28%	9.05%	Aiming for over 3%	/	Accelerating the promotion of modern energy systems such as clean energy bases, power transmission channels, and coastal nuclear power; Advancing the construction of urban infrastructure such as electric vehicle charging facilities; Accelerating the promotion of major engineering projects such as new energy vehicles; Guiding enterprises to strengthen research and development of key core components for new energy engineering machinery, conducting pilot applications and large-scale promotion; Carrying out demonstration applications of electrified products for major construction projects; Conducting research on the manufacturing of rail transportation equipment and the development of green intelligent equipment.
Steady Growth Action Plan for the Automotive Industry (2023-2024)	Ministry of Industry and Information Technology, Ministry of Finance, Ministry of Transport, Ministry of Commerce, General Administration of Customs, National Financial Regulatory Administration, National Energy Administration	2023.8.25	Important Pillar Industry	1.90%	6.78%	Approximately 5% in 2023	/	Organizing pilot projects for comprehensive electrification of vehicles in public areas; Accelerating the promotion and application of new energy vehicles in urban public transportation, taxis, sanitation, postal and express delivery, and urban logistics distribution; Conducting research, exploring, and advocating 10 essential aspects for the adoption of zero-

								emission heavy-duty trucks in regional freight transportation; Organizing activities to promote new energy vehicles in rural areas; Encouraging the application of new energy vehicle battery exchange mode; Further advancing demonstrations of medium to long-distance and medium to heavy-duty fuel cell commercial vehicles; Actively exploring hybrid power, low-carbon fuel, and other technical routes; Improving the scrap motor vehicle recycling system, promoting the circulation of second-hand cars; Advancing the construction of charging and hydrogen infrastructure and the popularization and application of new technologies.

Table 1 Correspondence between the Top Ten Industries and Industrial Categories of the "National Economic Industry Classification"

Light Industry	Food and Beverage Processing Industry
	Food Processing Industry
	Liquor, Beverage, and Refined Tea Manufacturing Industry
	Tobacco Products Industry
	Textile Industry
	Textile, Clothing, and Apparel Manufacturing Industry
	Leather, Fur, Feather, and Its Products and Footwear Manufacturing Industry
	Wood Processing and Wood, Bamboo, Rattan, Palm, Grass, and Straw Products Industry
	Furniture Manufacturing Industry
	Papermaking and Paper Products Industry
	Printing and Record Media Reproduction Industry
	Cultural, Educational, and Sports and Entertainment Goods Manufacturing Industry
	Pharmaceutical Manufacturing Industry
	Rubber and Plastic Products Industry
Power Equipment Industry	Electrical Machinery and Equipment Manufacturing Industry
Electronic Information Manufacturing Industry	Computer, Communication, and Other Electronic Equipment Manufacturing Industry
Petrochemical Industry	Petroleum, Coal, and Other Fuel Processing Industry
	Chemical Raw Materials and Chemical Products Manufacturing Industry
	Chemical Fiber Manufacturing Industry
Nonferrous Metals Industry	Nonferrous Metal Smelting and Rolling Processing Industry
Iron and Steel Industry	Ferrous Metal Smelting and Rolling Processing Industry
Building Materials Industry	Non-Metallic Mineral Products Industry
Machinery Industry	Special Equipment Manufacturing Industry
	Metal Products, Machinery, and Equipment Repair Industry
Automobile Industry	Automobile Manufacturing Industry
	Railway, Shipbuilding, Aerospace and Other Transportation Equipment Manufacturing Industry

About 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 efforts 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 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.

Contact us:

Tel: 86-10-8532 3096
Fax: 86-10-8532 2632
Email: igdpoffice@igdp.cn
Web.: www.igdp.cn
Add.: 6-2-62, Jianguomenwai Diplomatic Residence Compound, 1 Xiushui Street, Chaoyang District, Beijing