# China's Green Development in the New Era

The State Council Information Office of
the People's Republic of China

January 2023

FOREIGN LANGUAGES PRESS

First Edition 2023

ISBN 978-7-119-13295-2

Published by Foreign Languages Press Co. Ltd
24 Baiwanzhuang Road, Beijing 100037, China
Distributed by China International Book Trading Corporation
35 Chegongzhuang Xilu, Beijing 100044, China
P.O. Box 399, Beijing, China
*Printed in the People's Republic of China*

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# Preface

Green is the color of nature and the symbol of life. A sound eco-environment is the basic foundation for a better life, and the common aspiration of the people. Green development is development that follows the laws of nature to promote harmonious coexistence between humanity and nature, development that obtains the maximum social and economic benefits at minimum cost in resources and environmental impact, and sustainable and high-quality development that protects the eco-environment. It has become the goal of all countries.

Respecting and protecting nature has made an important contribution to the survival and prosperity of the Chinese nation over thousands of years. The concept of "harmony between humanity and nature" is a distinct characteristic of Chinese civilization. To vigorously promote the building of a socialist eco-civilization, China has established a fundamental national policy of conserving resources and protecting the environment, and a national strategy of sustainable development since the launch of reform and opening up.

Since the 18th CPC National Congress in 2012, under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, China has firmly upheld the belief that lucid waters and lush mountains are invaluable assets. It has prioritized eco-environmental conservation and green development, promoted the comprehensive green transformation of economic and social development, and achieved modernization based on harmony between humanity and nature. Wonders have been accomplished in eco-environmental protection and green development, and great strides have been made in building a beautiful China. Green is the defining feature of China in the new era and green development features

the Chinese path to modernization. With more blue skies, green mountains, and lucid waters, the Chinese people could enjoy more accessible and sustainable green benefits. China's green development has helped to expand the greening areas of its own land and the earth, benefitting both China and the world at large.

As the world's largest developing country, China is committed to the idea of a global community of shared future. It has offered unwavering support to multilateralism, proposed the Global Development Initiative and the Global Security Initiative, expanded practical cooperation, and actively participated in global environment and climate governance. It has contributed Chinese wisdom and strength to implementing the UN 2030 Agenda for Sustainable Development, creating a community of life for humanity and nature, and building a clean, beautiful and prosperous world of sustainable development.

The Chinese government is publishing this white paper to present a full picture of China's ideas, actions, and achievements in green development in the new era, and to share with the world its experience in this regard.

# I. Staying Firmly Committed to Green Development

To meet the people's desire for a better life, China has treated lucid waters and lush mountains as invaluable assets and worked to maintain harmony between humanity and nature in its development. China favors high-quality economic growth, high-level environmental protection, and a path of sound development based on higher economic output and living standards, and healthy ecosystems.

**1. Applying a people-centered development philosophy**

The people-centered philosophy is a governing principle of the Communist Party of China (CPC), and a sound eco-environment is the fairest public product and the most inclusive public benefit. As China's modernization advances and living standards improve, the popular demand for a beautiful environment is growing. In the people's happiness index, the weight of environment has increased. To meet the growing demand for a beautiful environment, China has strengthened eco-environmental conservation and protection and vigorously promoted eco-friendly ways of work and life. It has focused on solving the major environmental problems that seriously endanger people's health, improved the quality of the environment and ecosystems, and provided more quality eco-environmental goods, so as to help people feel happier, more satisfied, and more secure in a beautiful environment.

**2. Focusing on sustainable development in China**

Society will prosper when the environment improves, and lose vigor as the environment degrades. Nature provides the basic conditions for

human survival and development. Respecting, accommodating, and protecting nature is essential for sustainable development. Bearing in mind that its environmental capacity is limited and its ecosystem is fragile, China has not only pursued development for the present generation, but also mapped out plans for generations to come. It regards eco-environmental conservation as fundamental to sustainable development in China. It values both the environment and economic development, works to translate eco-environmental strengths into development strengths, and always looks to realize the economic and social value that lucid waters and lush mountains have, which will bring about financial returns, eco-environmental benefits, social benefits, and harmony between humanity and nature.

**3. Applying systems thinking and a coordinated approach**

Green development is an all-round revolutionary change in our values, and in how we work, live, and think. China has applied systems thinking to the whole process of economic and social development and eco-environmental conservation and protection. It has taken a sound approach to the relationships between development and protection, between overall and local interests, and between the present and the future. It has taken a scientific, moderate, and orderly approach to the use of territorial space, and promoted a sound economic structure that facilitates green, low-carbon, and circular development. It has fostered an institutional system that combines both constraints and incentives to coordinate industrial restructuring, pollution control, eco-environmental conservation, and climate response. China has endeavored to cut carbon emissions, reduce pollution, expand green development, and pursue economic growth. It has prioritized eco-environmental protection, conserves resources and uses them efficiently for green and low-carbon development. It has developed spatial configurations, industrial structures, and ways of work and life that help conserve resources and protect the environment, and promoted greener economic and social development in all respects.

### 4. Working together for global sustainable development

Protecting the environment and countering climate change are the common responsibilities of all countries. Only when all countries unite and work together to promote green and sustainable development can we maintain the overall balance in the earth's ecology and protect humanity's one and only home. China has shouldered its responsibilities, actively participated in global environmental governance, and pledged to reach

**Panel 1 Policies and Actions on Carbon Emissions Peaking and Carbon Neutrality**

The "1+N" policy framework for carbon emissions peaking and carbon neutrality:

The "1+N" policy framework comprises of two top-level design documents, i.e., the Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy, the Action Plan for Carbon Dioxide Peaking Before 2030, and the action plans to achieve carbon emissions peak in key areas and sectors such as energy, industry, transport, urban and rural construction, iron & steel, non-ferrous metals, and cement, plus the support measures in technology, finance, standards, and talent development.

Ten major actions for carbon emissions peaking:

In accordance with the Action Plan for Carbon Dioxide Peaking Before 2030, China will take 10 actions:

- for green and low-carbon energy transition;
- for energy saving, carbon emissions reduction, and efficiency improvement;
- for carbon emissions peaking in industry;
- for carbon emissions peaking in urban and rural development;
- for promoting green and low-carbon transport;
- for facilitating carbon emissions reduction through the circular economy;
- for encouraging innovation in green and low-carbon technology;
- for consolidating and improving carbon sink capacity;
- for advocating a green and low-carbon lifestyle nationwide;
- for reaching carbon emissions peak by different regions in a structured and orderly manner.

carbon emissions peak by 2030 and carbon neutrality by 2060. It will advance the green transition with these goals as the lead, play a more active part in bilateral and multilateral international cooperation on green development, promote a fair and equitable system of global environmental governance, and contribute its wisdom and strength to global sustainable development.

# II. A Basic Green Territorial Configuration Is in Place

China is making efforts to optimize its governing system of territorial space. The country has strengthened the overall planning and coordinated management and control of territorial space for working and living and for the environment. It has intensified efforts to protect and restore ecosystems, effectively expanded the capacity of the eco-environment, and promoted the rapid accumulation of natural wealth and eco-environmental wealth, leading to historic, transformative, and comprehensive changes in eco-environmental protection and providing strong support for the sustainable and healthy development of the economy and society.

**1. Optimizing the development and protection of territorial space**

A country's territorial space is the carrier for green development. China has implemented a functional zoning strategy and established a unified territorial space planning system that is science-based, efficient and built upon clearly defined powers and responsibilities. Taking into consideration factors such as population distribution, regional economic structures, land use, and eco-environmental protection, it has planned for the development and protection of territorial space with a holistic approach, so as to achieve higher-quality and more sustainable development of its territorial space.

China has integrated different plans into a single master plan for territorial space development. It has integrated functional zoning, land use, urban and rural planning, and other spatial planning into a unified territorial space plan. A comprehensive system integrating planning approval,

implementation supervision, regulations, policies and technical standards is taking shape. The role of territorial space planning has been strengthened in guiding and constraining various specific plans. It has sped up the drafting of various plans for territorial space at all levels. As a result, an overall master plan will eventually be drawn up for the development and protection of territorial space.

Concerted efforts have been made to optimize the use of territorial space. Based on the results of national land resource surveys, China has carried out an evaluation of the carrying capacity of resources and the environment, and suitability of land development. It has scientifically designated agricultural, ecological, urban and other functional zones, and improved the territorial space layout that consists of three major zones – main agricultural production zones, key ecosystem service zones and urbanized zones. To strengthen national and regional eco-environmental security, China has designated permanent basic cropland, drawn red lines for eco-environmental protection, delineated boundaries for urban development, and set protection lines for all types of sea areas, in a coordinated manner. It has established centralized control over the use of territorial space and ensured that these lines are not crossed.

China has strengthened the management of key ecosystem service zones and endeavored to prevent and control eco-environmental risks. County-level administrative units that perform important ecological functions such as water conservation, soil and water conservation, inhibiting winds, fixing sand, and protecting biodiversity are designated as key ecosystem service zones, which should focus on protecting the environment and providing eco-environmental products and be restricted from large-scale industrialization and urbanization. As a result, China's natural ecosystems are generally stable or improving, eco-environmental services have improved, and the supply of eco-environmental products has continued to increase.

**2. Strengthening eco-environmental conservation and restoration**

Mountains, rivers, forests, farmland, lakes, grasslands and deserts

are communities of life. China has stepped up systematic, comprehensive, and law-based environment governance, tackling problems at their sources. Prioritizing protection and focusing on natural restoration, it has vigorously pressed forward with the protection and restoration of ecosystems, so as to build a solid national eco-environmental security barrier and strengthen the foundations for the sustainable development of the Chinese nation.

A new type of protected area (PA) system has been set up. PAs are major platforms for eco-environmental conservation. China is developing a PA system with national parks as the mainstay, supported by nature reserves and supplemented by nature parks. It has created its first batch of five national parks – the Three-River-Source National Park, the Giant Panda National Park, the Northeast China Tiger and Leopard National Park, the Hainan Tropical Rainforest National Park, and the Wuyishan National Park. It is making steady progress in building national parks in environmentally important regions. As of the end of 2021, nearly 10,000 PAs of various types and levels had been established, covering more than 17 percent of China's land area, bringing under effective protection 90 percent of its natural terrestrial ecosystem types and 74 percent of key state-protected wildlife species.

Setting up scientific eco-environmental conservation red lines (ECRLs). ECRLs are the lifeline of national eco-environmental security. China has brought functional areas of vital importance, exceedingly fragile areas, and areas of potentially vital eco-environmental value within the scope of the ECRL framework. More than 30 percent of China's land area – including integrated and optimized PAs – is now under the protection of ECRLs. Through drawing ECRLs and drafting ecological protection and restoration plans, the country has consolidated an overall eco-environmental conservation configuration composed of Three Eco-zones and Four Shelterbelts – the Qinghai-Tibet Plateau Eco-zone, the Yellow River Eco-zone (including the Loess Plateau Ecological Barrier), the Yangtze River Eco-zone (including the Sichuan-Yunnan Ecological Barrier), and

**Panel 2 Protected Area (PA) System**

PAs are terrestrial or marine areas legally defined or confirmed by governments at various levels, assigned to carry out long-term conservation of important ecosystems, natural relics, and natural landscapes as well as their natural resources, ecological services and cultural values. In accordance with management goals and efficacy, and profiting from international experience, China has classified PAs into national parks, nature reserves and nature parks according to their environmental value and protection sensitivity.

National parks are specific areas of land or sea set aside with the main goal of protecting China's unique ecosystems to achieve scientific conservation and rational utilization of natural resources. They are the most important of the country's natural ecosystems – those with the most distinctive natural landscapes, the finest natural relics, and the richest biodiversity.

Nature reserves are areas with particular ecosystems, natural and concentrated distributions of rare or endangered wildlife species, and natural relics of special significance. Nature reserves are set up to guarantee the safety of the subjects under protection, and maintain and restore populations of rare or endangered wild flora and fauna species and the habitats on which they depend for survival.

Nature parks are areas containing important ecosystems, natural relics, and natural landscapes of ecological, sightseeing, cultural or scientific value that can be used sustainably. Their role is to ensure the effective protection of scarce natural resources such as forests, oceans, wetlands, rivers, glaciers, grasslands and wildlife, as well as the views, geological landforms, and cultural diversity they contain. Nature parks include forest parks, geological parks, marine parks, wetland parks, desert parks and grassland parks.

the Northeast, North, South, and Coastal Shelterbelts.

Carrying out major projects for the conservation and restoration of key national ecosystems. With a focus on major national eco-environmental functional areas, ECRLs and PAs, China has launched projects for holistic conservation and restoration of mountains, rivers, forests, farmland, lakes, grasslands and deserts, taking comprehensive and systematic measures

to deal with problems by addressing their root causes. It has carried out shelterbelt and natural forest protection and restoration programs such as the shelterbelt program in northeast China, north China and northwest China, programs returning marginal farmland to forests and grasslands, the program for ecological restoration of abandoned mines, the Blue Bay environment improvement initiative, the coastal belts protection and restoration program, the comprehensive management of the Bohai Sea water environment, the conservation and restoration of mangrove forests, and other restoration and rehabilitation projects of significant eco-environmental importance. China has carried out large-scale afforestation projects, steadily increased the area of forests, grasslands, wetlands, rivers and lakes, and effectively reversed the trend of desertification.

From 2012 to 2021, 64 million hectares of trees were planted. During this period, desertification prevention and control was carried out over 18.53 million hectares of land, and 40 million hectares of land were improved through sowing grass, and more than 800,000 hectares of wetland were added or restored. In 2021, the forest coverage ratio hit 24 percent, while the forest stock volume grew to 19.5 billion cubic meters. Both figures represented 30 consecutive years of growth, making China the country with the highest growth in forest resources and the largest area of man-made forest. China is also the first country to realize zero net land degradation – its desertified and sandified areas are both shrinking, and this is helping the world to reach the global goal of zero net land degradation in 2030. Since 2000, China has led the world in greening the planet, contributing around one fourth of the newly added green areas in the world.

**3. Promoting the green development of key regions**

China gives full play to the guiding role of major strategies for regional development and the implementation of these strategies, based on prioritizing eco-environmental conservation and promoting green

**Panel 3 Saihanba – From Desert to Oasis**

Saihanba is located in the north of Hebei Province, about 300 kilometers to the north of Beijing. In the 1950s it was a barren land ravaged by yellow sand without so much as a tree for a bird to perch on. Sand whipped up by wind encroached southward, threatening Beijing. To remedy this dire problem, shelter the capital city from sand, and conserve water sources for Beijing and Tianjin, China set up the Saihanba Mechanized Forest Farm in the early 1960s. An initial team of 369 started to reclaim the wasteland. Under sand-blotted sky and on this sand-locked land, several dedicated Saihanba generations have worked without respite, building the world's largest man-made forest and creating a "desert-to-oasis" miracle. They have created a green barrier safeguarding the Beijing-Tianjin-Hebei region, and setting an example for China and the world in terms of desertification control.

Today, the Saihanba Forest Farm covers an area of 76,733 hectares. It has a growing forest stock volume of 10.4 million cubic meters, and every year it conserves and cleans 284 million cubic meters of freshwater, effectively preventing soil erosion and laying a solid foundation for high-quality development in the Beijing-Tianjin-Hebei region. The forest farm has also boosted seedling bases and rural tourism, creating jobs for more than 4,000 locals and benefiting more than 40,000 people in the surrounding area. The forest farm has generated enormous eco-environmental and social benefits, and changed the work and lives of the local people for the better.

The green "Great Wall" built by the Saihanba Forest Farm has earned international honors. In 2017, the forest farm won the UN Champions of the Earth Award, and in 2021 it received the Land for Life Award from the UN.

development. It works to build the key regions into pioneers and models in green development to boost green social and economic development across the country.

Pushing for breakthroughs in environmental protection in the coordinated development of the Beijing-Tianjin-Hebei region. The strategy for the region's coordinated development has been implemented, spurring the integrated development of areas such as transport, environment, industry

and public services, and strengthening joint prevention and control of environmental problems. With the region as a focus, comprehensive efforts have been made to address overexploitation of groundwater in north China, with the groundwater level going down continuously since the 1980s being reversed. In this region, Xiongan New Area is being built according to forward-looking plans and high standards, with a focus on developing it into a destination for entities relocated from Beijing as their functions are non-essential to Beijing's role as the capital. Xiongan will be built into an eco-friendly exemplar city of high-quality green development with a rational layout, a good balance of blue water, green areas, clean air, clear skies and urban facilities. In 2021, in 13 cities in the region, 74 percent of days had good air quality. This was an increase of 32 percentage points compared with 2013. Beijing has set an example in air quality control for the world.

Promoting well-coordinated environmental conservation and avoiding excessive development while developing the Yangtze River Economic Belt. The Yangtze River is the mother river of the Chinese nation, and a powerhouse for China's development. The restoration of the Yangtze River's eco-environment is a top priority. China is coordinating economic development and environmental protection and building an economic belt epitomizing green development and harmony between humanity and nature.

Taking advantage of the opportunities offered by industrial integration, the Yangtze River Economic Belt is building a green industrial system and accelerating its green economic transformation. A tough battle has been launched to protect and restore the eco-environment in the Yangtze River Basin: Intense efforts have been made to carry out the "4+1" project – the treatment of urban sewage and garbage, chemical pollution, agricultural non-point source pollution, ship pollution and tailing pond pollution; a comprehensive 10-year fishing ban in the Yangtze River Basin has been implemented; action has been taken to regulate banks development projects and remove illegal dykes. Since 2018, unauthorized structures

along 162 kilometers of the river banks have been demolished, more than 12 square kilometers along the banks have been revegetated, and 4,533 hectares have been returned to water. The water quality at the state-monitored sections of the mainstream of the Yangtze River has reached Grade II level (the second best level) for the past two years.

The pioneering role of the Yangtze River Delta region in green development. The construction of the Yangtze River Delta Integrated Green Development Demonstration Zone will be accelerated, to explore ways to translate eco-environmental strengths into social and economic benefits, and ways for the region to transition from coordinated project execution to regional integrated institutional innovation. With picturesque scenery,

**Panel 4 Ten-Year Fishing Ban in the Yangtze River Basin**

At midnight on January 1, 2021, a 10-year fishing ban came into effect in key water areas including the mainstream and major tributaries of the Yangtze River and large lakes connected with it. During this period, fishing for commercial purpose is prohibited. The 111,000 fishing vessels and 231,000 fishermen have all ceased fishing. 222,000 fishermen eligible for social insurance have been covered by this insurance, and 165,000 who are willing and able to work have been transferred into other jobs.

The 10-year ban is an essential measure in protecting biodiversity, restoring the river's ecological functions, and safeguarding the country's environment. Since the ban took effect, the aquatic biological resources in areas along the river have increased remarkably, and the ecological functions of the waters are also gradually recovering. The Yangtze finless porpoise, known as the "smiling angel", is now seen more frequently in Poyang Lake, Dongting Lake, Yichang City of Hubei Province and in the lower reaches of the Yangtze River. Ochetobius elongates, after disappearing from the Yangtze River for 20 years, have reappeared in the middle reaches. Fishery resources in the Chishui River, a tributary of the upper reaches of the Yangtze River, have also rebounded in numbers, with the populations of its fish species having increased from 32 before the ban to 37. The volume of fishery resources has almost doubled since the ban.

a rich culture, specialty industries, and a cluster of innovation resources, the region will lay a solid foundation for green development, and develop into a hub for green and innovation-driven development.

Eco-environmental conservation and high-quality development in the Yellow River Basin. Protecting the Yellow River is a long-term strategy of fundamental importance to the Chinese nation. China has made coordinated plans and carried out ecological protection and improvement in the entire Yellow River Basin, including soil erosion and desertification control in its upper and middle reaches and comprehensive treatment of river courses and banks in the lower reaches. The sediment load of the Yellow River has steadily fallen, which helps to ensure its safety. Water availability has been a determining factor in urban and industrial development, agriculture, and population distribution. A path of intensive water-conservation has been followed so that water security has been effectively ensured, water resources are used efficiently, and the ecology has improved. Areas along the Yellow River are being protected in order to carry forward and disseminate the Yellow River culture, develop specialty industries and nurture new industries and business models. This has raised both the eco-environmental and economic value of the river, to the benefit of the people.

Building a beautiful Guangdong-Hong Kong-Macao Greater Bay Area. China has vigorously improved the quality of the eco-environment in the bay area, explored green and low-carbon urban construction and operation models, and promoted sustainable development, making its skies bluer, mountains greener, and water clearer. The area will enjoy a safe and beautiful eco-environment, a stable society, and cultural prosperity.

**4. Building a beautiful home with a pleasant living environment**

Urban and rural areas are the carriers of human settlements and activities. China integrates the philosophy of green development into urban and rural construction, and promotes beautiful cities and beautiful countryside initiatives. With priority given to environmental pollution control,

China strives to improve the living environment to build a beautiful home featuring lush mountains, green fields, singing birds, and blossoming flowers.

Building beautiful cities featuring harmony between humanity and nature. China has placed great emphasis on urban eco-environmental conservation and has adopted a people-centered approach to urbanization. It has made sound plans for spaces for working, living and eco-environmental conservation, and has worked to make cities livable, resilient and smart. The aim is to build cities into beautiful homes where humanity and nature coexist in harmony. In pursuing urbanization, China respects and accommodates the requirements of nature. It has made use of mountains, waters, and other unique landscapes to integrate cities into nature, so that urban dwellers can enjoy the view and are reminded of their rural origins. Efforts have been made to expand urban eco-environmental space through construction of national garden cities and forest cities, as well as parks and greenways in cities. With increased greenery coverage, the urban eco-environment has been effectively restored. From 2012 to 2021, green coverage of built-up urban areas increased from 39 percent to 42 percent, and the per capita area of park greenery has increased from 11.8 square

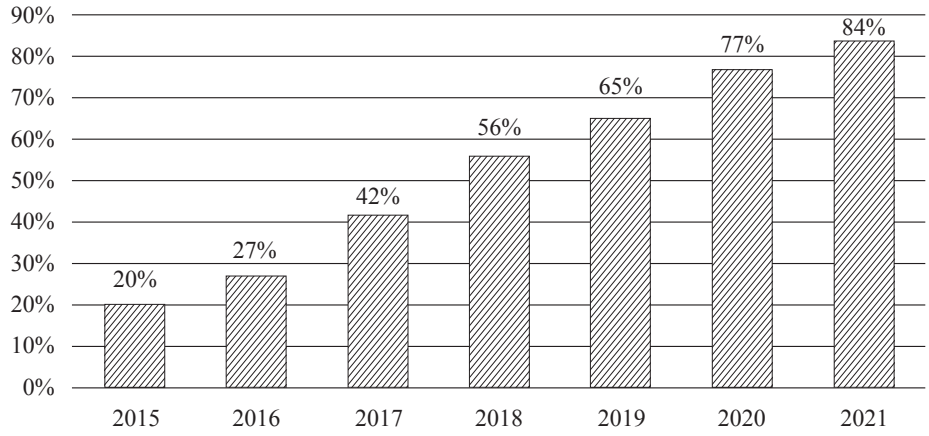


**Figure 1 Yearly increased green building areas as a proportion of new urban building areas in China (2015-2021)**

meters to 14.78 square meters. Great efforts have been made to construct green and low-carbon buildings, and renovation of existing ones has been promoted, contributing to increasingly higher energy efficiency.

Building a beautiful and harmonious countryside that is pleasant to live and work in. Green development is a new driver of rural revitalization, and China is exploring new paths for green development in rural areas. It is actively developing new industries and new forms of business such as eco-agriculture, rural e-commerce, leisure agriculture, rural tourism, health, and elderly care, while advancing projects to protect and restore ecosystems. These efforts allow China to approach its goal of having strong agriculture and a beautiful and revitalized countryside. China is continuing to redevelop the whole rural living environment and steadily advancing the construction of modern and livable homes with sanitary toilets in rural areas, strengthening the treatment and recycling of domestic waste and sewage. As a result, more and more rural areas have access to safe and clean water, paved roads, streetlights, and clean energy. With an improved environment, the vast rural areas have become more sustainable. Lush groves, orchards, and gardens of flowers and vegetables set each other off, and the splendid pastoral scene is a treat for the eyes. A beautiful countryside where the skies are blue, the lands are green, and the waters are clear brings people delight with its scenic view. Greater efforts have also been made to protect and utilize traditional villages and carry forward their fine traditions, which have increased their cultural charm.

Taking further steps to prevent and control pollution. The environment has a significant impact on quality of life. Green mountains display beauty, and blue skies bring happiness. China is curbing pollution in a law-based, scientific, and targeted way. Priority has been given to addressing the thorniest problems of air, water and soil contamination that are of greatest concern to the public. Effective measures have been taken to keep skies blue, waters clear, and land pollution-free. The mechanism of coordinated prevention and control across regions and approaches in

**Panel 5 Improving Urban and Rural Environmental Infrastructure**

China attaches great importance to the construction of environmental infrastructure and strives to address areas of weaknesses, optimize layouts, and improve quality. It has improved facilities for sewage collection, treatment, and recycling, and boosted the classification and treatment capacity of domestic waste. China has also worked to ensure the safe and effective disposal of solid waste, hazardous waste, and medical waste, promoted the integrated, intelligent, and green development of environmental infrastructure, and built a system of environmental infrastructure that integrates facilities and monitoring and supervising capabilities for the treatment and disposal of sewage, garbage, solid waste, hazardous waste, and medical waste. An environmental infrastructure network extending from cities to towns and villages has taken shape. By the end of 2021, the sewage treatment capacity of cities and counties has reached 247 million cubic meters per day, the incineration treatment capacity of urban domestic waste exceeded 770,000 tonnes per day, and the harmless treatment rate of urban domestic waste was close to 100 percent.

dealing with heavy air pollution have achieved remarkable results. The average PM2.5 density of China's cities at prefecture level and above dropped from 46 micrograms per cubic meter in 2015 to 30 micrograms per cubic meter in 2021. On 87.5 percent of the days in 2021, people enjoyed good air quality. China is making the fastest progress in air quality improvement. With an accelerated pace in curbing industrial, agricultural and domestic pollution sources, and in regulating water ecological systems, China has significantly reduced seriously polluted water bodies and sub-standard water bodies, and the safety of drinking water is ensured. In 2021, the proportion of surface water at or above Grade III in the country's five-tier water quality system reached 84.9 percent. China has banned the import of foreign waste, fulfilling its goal of "zero import" of solid waste while basically bringing the threat of soil contamination under control. Brilliant blue skies are dotted with white clouds during the day; when the sun sets, twinkling stars pattern the firmament. The shores are

green and the waters are clean, with fish gliding under the clear water. People are breathing fresher air, drinking cleaner water, and eating safer food. Living in a beautiful environment, people can truly feel the happiness and beauty brought about by eco-environmental conservation.

# III. Adjusting and Improving the Industrial Structure

China is committed to the philosophy of innovative, coordinated, green, open and shared development, and takes innovation-driven development as the driving force to create new momentum and build new strengths for economic development. China has placed rigid constraints on the exploitation of resources and the environment to promote comprehensive adjustment of the industrial structure, and strengthened regional cooperation to optimize the spatial configuration of industry. As a result, China's economy has registered a steady improvement in the quality of development while maintaining a reasonable pace of growth.

### 1. Vigorously developing strategic emerging industries

China implements the innovation-driven development strategy. It takes scientific and technological innovation as the driving force and guarantee for adjustment of industrial structure and green and low-carbon transition of the economy and society and regards strategic emerging industries as a key driver for economic development, reaping remarkable economic and social benefits as a result.

China has intensified investment in scientific and technological innovation. The nation's gross domestic research and development (R&D) spending grew from RMB1.03 trillion in 2012 to more than RMB2.8 trillion in 2021. Its R&D spending intensity, or the expenditure on R&D as a percentage of its GDP, rose from 1.91 percent in 2012 to 2.44 percent in 2021, approaching the average level of the Organization for Economic Cooperation and Development (OECD) countries. Chinese enterprises'

investment in R&D has continued to increase, accounting for more than 76 percent of the country's total R&D investment. By the end of 2021, China's energy conservation and environmental protection industry owned 49,000 valid invention patents, and the new energy industry held 60,000, 1.6 and 1.7 times more than in 2017. From 2011 to 2020, the number of patent applications filed by China for environment-related technology inventions was close to 60 percent of the world total, making it the most active country in environmental technology innovation.

Emerging technologies have become the main props of China's economic development. Thanks to accelerated efforts to implement emerging technologies such as artificial intelligence (AI), big data, blockchain, and quantum communication, new products and business forms including intelligent terminals, telemedicine, and online education have been cultivated, and their role in boosting growth has continued to increase. China's digital economy ranks second in the world. During the 13th Five-year Plan period (2016-2020), the average annual growth rate of the added value of information transmission, software and information technology services reached 21 percent. The internet, big data, AI, 5G and other emerging technologies are deeply integrated with traditional industries, facilitating the integration of advanced manufacturing with modern services. The value-added output of high-tech and equipment manufacturing in 2021 accounted for 15.1 and 32.4 percent of that of industries above designated size, up 5.7 and 4.2 percentage points from 2012 respectively. China is on the way to realize the transformation and upgrading from "made in China" to "intelligent manufacturing in China".

China's green industries continue to grow. The renewable energy industry is growing rapidly, and China leads the world in the manufacture of clean energy generation facilities for wind and photovoltaic power. China produces more than 70 percent of the global total of polysilicon, wafers, cells and modules. The quality and efficiency of the energy-saving and environmental protection industries have continued to improve. China has developed a green technical equipment manufacturing system covering

various sectors such as energy and water conservation, environmental protection, and renewable energy. The manufacturing and supply capacity of green technical equipment increases markedly while the cost keeps dropping. Technology in the fields of energy and water conservation equipment, pollution control, and environmental monitoring meets the highest international standards. New forms and models of business continue to grow, such as comprehensive energy services, contract-based energy and water management, third-party treatment of environmental pollution, and comprehensive carbon emissions management services. In 2021, the output value of China's energy conservation and environmental protection industries exceeded RMB8 trillion. Extensive pilot projects have been carried out at local level to explore methods and pathways to realize the value of eco-environmental products. New models of eco-friendly industry such as urban modern agriculture, leisure agriculture, eco-environmental tourism, forest healthcare, boutique homestays, and pastoral leisure complexes have witnessed rapid development.

**2. Taking well-ordered steps to develop resource-based industries**

China continues to expand supply-side structural reform and reverse the extensive development model that relies heavily on resource consumption at the cost of high pollution and emissions. With environmental capacity as a rigid constraint, it has exerted tight control over the production capacity of energy-intensive industries and industries with high emissions or water consumption, in order to optimize its industrial structure.

Easing overcapacity and closing down outdated production facilities. While protecting industrial and supply chains, China has taken active and well-ordered steps to ease overcapacity and close down outdated production facilities. Measures have been taken to curb industries that over-exploit resources and cause environmental damage, such as steel, cement and electrolytic aluminum. A swap system has been introduced that allows producers to open equal or lower amounts of new capacity in return for closures elsewhere. During the 13th Five-year Plan period (2016-

2020), China has removed more than 150 million tonnes of excess steel production capacity and 300 million tonnes of excess cement production capacity. Substandard steel products have been eliminated and almost all outdated production capacity in industries such as electrolytic aluminum and cement manufacturing has been removed.

China is resolved to stop the blind development of energy-intensive projects with high emissions and outdated production techniques. It has raised the entry threshold for some key industries in terms of land use, environmental protection, energy and water conservation, technology, and safety. A differentiated system has been introduced for energy-intensive industries, covering differentiated electricity pricing, tiered electricity pricing, and punitive electricity pricing. For energy-intensive projects with high emissions and outdated production techniques, China applies a list-based management approach involving classification and dynamic monitoring. It resolutely investigates and punishes all projects that violate laws or regulations. In areas with problems of water shortage or overconsumption, restrictions are imposed on various types of new development zones and projects requiring high water consumption.

**3. Optimizing regional distribution of industries**

Fully considering factors such as energy resources, environmental capacity, and market potential, China promotes the convergence of some industries in areas with more suitable conditions and greater potential for development. To expedite the formation of a modern and efficient industrial development configuration, it improves the distribution of productive forces and expands the division of industries and coordination across regions.

Working to bring about a rational distribution of raw material industries. China employs overall planning of resources such as coal and water and takes into consideration environmental capacity. Several modern coal chemical industry demonstration zones have been established in the central and western regions to pilot projects for technology upgrading in the

coal chemical industry. A group of large-scale high-quality petrochemical industry bases has been constructed in coastal areas to promote the safe, green, intensive, and efficient development of the industry.

Expanding the division of industries and cooperation across regions. China is seeking to establish and improve a benefit-sharing mechanism by employing the comparative strengths of every region, each relying on its own resources and environmental advantages, and on the foundations of industrial development. Multi-type and multi-mechanism industrial division and coordination have been strengthened, along with cooperation between the east and the central and western regions, creating a framework of coordination, complementarity of strengths, and common development. Transferring industries and cooperation across regions are measures that help to break through the environmental and resource constraints that stifle industrial development. They also make room for the development of high-tech industries in the eastern region and propel the industrialization and urbanization process of underdeveloped areas in the central and western regions, improving the balance and strengthening the coordination of regional development.

# IV. Extensive Application of Green Production Methods

China has accelerated the building of a green, circular, and low-carbon economy. It practices green production methods, promotes the energy revolution, the economical and intensive use of resources, and cleaner production, and pursues synergy in the reduction of pollution and carbon emissions. All these efforts have contributed to the coordinated development and balanced progress of the economy, society, and environmental protection.

### 1. Promoting the green transformation of traditional industries

In order to build a green, circular, and low-carbon production system, China has integrated the concept of green development into the entire life cycles of industry, agriculture and the service sector. To conserve energy, reduce emissions, raise efficiency, and facilitate the comprehensive green transformation of traditional industries, China has encouraged innovations in technology, models, and standards.

Promoting the green development of industry. China is committed to establishing a green manufacturing system, and creating green factories, green industrial parks, green supply chains, and green product evaluation standards. In order to accelerate the building of green industrial chains and supply chains, China provides guidance for enterprises to achieve innovations in the design of green products and adopt green, low-carbon and eco-friendly processes and equipment, and optimizes the spatial layout of enterprises, industries and infrastructure in industrial parks. Following the principles of "coupling of industries, extended responsibility

of enterprises, and circular use of resources", it has promoted the transformation of industrial parks, circular combination of industries and circular production in enterprises. China has transformed its major industries to achieve clean production, and carried out comprehensive inspections of clean production. It has promoted digital transformation across the board. The digital control rate of key processes in key areas increased from 24.6 percent in 2012 to 55.3 percent in 2021, and the penetration rate of digital R&D and design tools increased from 48.8 percent to 74.7 percent in the same period. By the end of 2021, China hosted a total of 2,783 green factories, 223 green industrial parks, and 296 green supply chain management enterprises. The manufacturing sector has been significantly upgraded for green production.

Transforming the production methods of agriculture. China has created new systems and mechanisms for the green development of agriculture, expanded the functions of agriculture, explored the diversified rural values, and strengthened the protection and efficient use of agricultural resources. It has gradually improved the farmland protection system and the system of fallowing and crop rotation, put permanent basic cropland under special protection, and thereby made initial progress in containing the decline in the size of farmland. It has steadily advanced the conservation of chernozem soil. The quality of farmland has been upgraded steadily throughout the country. Measures have been taken to save water for agricultural irrigation and reduce the volume of chemical fertilizers and pesticides used by targeting higher efficiency. In 2021, the irrigation efficiency was raised to 0.568. China has developed a circular agricultural economy by promoting circular agricultural production modes – integrating planting and breeding with processing, farming and animal husbandry with fishing, and production and processing with marketing. It has increased the utilization of agricultural waste as a resource. It has taken a coordinated approach to promoting green and organic agricultural products, products with quality certifications and those with geographical indications, cultivating new breeds, improving product quality, fostering agricultural brands and

standardizing agricultural production. China has implemented programs to protect agricultural products with geographical indications. There are now 60,000 types of green food and organic agricultural products across the country. The quality and safety standards of agricultural products have been steadily upgraded. The supply of high-quality agricultural products has increased significantly, which has effectively contributed to the upgrading of the whole industry, and generated higher incomes for farmers.

Advancing the green transformation of the service sector. China has actively cultivated green firms of business circulation, and launched a campaign to create green shopping malls. Nationwide, a total of 592 green shopping malls had been built by the end of 2021. China has continued to improve the energy efficiency of the information service industry, with some world-leading green data centers. To accelerate the reduction, standardization and recycling of express delivery packages, it has upgraded and improved the express delivery packaging standard system. To promote the green development of e-commerce enterprises, it has given guidance for producers and consumers to use renewable and degradable express delivery packages. By the end of 2021, 80.5 percent of e-commerce parcels were free of secondary packaging, all express delivery packages were sealed with thinner (45mm) tape, and all transit bags used in the sector were renewable.

China has promoted the green development of the convention and exhibition industry by formulating green standards and facilitating the repeated use of facilities. China has significantly reduced paper usage by introducing electronic railway tickets nationwide and encouraging electronic invoicing. In the catering industry, disposable tableware is being phased out. Guest houses and hotels have been encouraged not to offer disposable items as part of their services.

**2. Promoting green and low-carbon energy**

China applies the principle of building the new before discarding the old in a well-planned way. With growing capacity to ensure energy

supply, it has moved faster to build a new energy system. The proportion of clean energy sources has increased significantly. Success has been achieved in the green and low-carbon transformation of the country's energy mix.

Vigorously developing non-fossil energy. China has made rapid progress in building large-scale wind and photovoltaic power stations on infertile and rocky terrain and in deserts. It has steadily developed offshore wind farms, actively promoted rooftop photovoltaic power generation in urban and rural areas, and encouraged distributed wind power generation in rural areas. China has built a structured matrix of large hydropower stations in the basins of major rivers, especially those in the southwest. In accordance with local conditions, it has developed solar, biomass, geothermal and ocean energy, and power generation through urban solid waste incineration. It has developed nuclear power in a safe and orderly manner. Committed to innovation-driven development, China has worked on developing hydrogen energy. It has accelerated the construction of a new power system to adapt to the steady increase in the proportion of new energy. To promote the efficient use of renewable energy, it has carried out appraisals of relevant parties' performance in meeting the set goals for consumption of power generated from renewable energy. The proportion of clean energy sources in total energy consumption increased from 14.5 percent in 2012 to 25.5 percent by the end of 2021, and the proportion of coal decreased from 68.5 percent to 56 percent over the same period. The installed capacity of renewable energy was more than one billion kilowatts, accounting for 44.8 percent of China's overall installed capacity. The installed capacity of hydropower, wind power, and photovoltaic power each exceeded 300 million kilowatts, all ranking the highest in the world.

Advancing the clean and efficient use of fossil energy. To promote the clean and low-carbon development of coal-fired power, China has upgraded coal-fired power plants to conserve resources, reduce carbon emissions and make their operation more flexible, and transformed heating

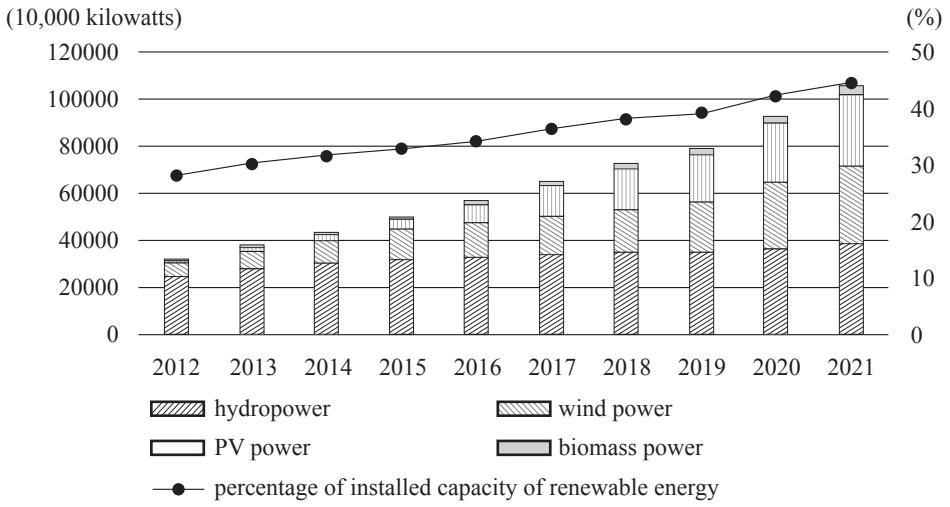


**Figure 2 China's installed capacity of renewable energy and percentage in the country's overall installed capacity (2012-2021)**

facilities. It has implemented stricter energy-saving standards for newly-installed coal-fired generating units. The efficiency and pollutant control levels of these units are on par with the most advanced international standards. China has promoted clean end-use energy by replacing coal with natural gas, electricity, and renewable energy. It has actively supported clean heating in winter in northern China. It has made the use of natural gas more efficient in urban areas, as well as in industrial fuel, power generation, and transport, and promoted natural gas combined cooling, heating, and power (CCHP). It has launched a campaign to upgrade the quality of refined oil products. In less than 10 years China achieved the upgrading that took developed countries 30-plus years, and its refined oil products are now of the best quality by international standards. As a result, vehicle pollutant discharge has been effectively reduced.

### 3. Building a green transport network

The transport sector is one that consumes a large amount of energy and generates significant pollutant and greenhouse gas emissions. This

**Panel 6 Green Electricity for the 2022 Beijing Winter Olympics**

The Beijing Winter Olympic Games opened on February 4, 2022. These games were different from their predecessors in that green electricity was used in all the 26 venues in the three competition zones – the first time in the history of the Olympic Games that all the venues had been powered by green electricity. Green electricity served all the purposes of the Beijing Winter Olympic Games – venue lighting, ice surface maintenance, production of artificial snow, TV broadcasting, timekeeping, security and logistical support. China put into action the concept of sustainable development it advocated when bidding for the Games. To supply the Games with green electricity, China built a large number of wind and PV power projects in Beijing, Zhangjiakou and other regions, and launched the Zhangjiakou-Beijing flexible HVDC pilot project, to transmit clean electricity to the Games venues. This not only met the demand of the Games for lighting, operations, transport and other purposes, but also raised by a substantial margin the share of clean energy consumption in Beijing and surrounding areas. Seizing the opportunities presented by hosting the green Winter Olympic Games, China has realized the large-scale transmission, grid-connection, and uptake of clean energy, accumulating valuable practical experience for the further development of clean energy, and demonstrating its confidence and determination in achieving the goals of carbon emissions peaking and carbon neutrality.

is an area that deserves more attention in the pursuit of green development. By upgrading the energy efficiency of transport equipment, China has accelerated the building of a green transport network, with optimizing the structure of energy consumption and improving the efficiency of organization as its priorities, so that transport will be more eco-friendly, and travel will be more low-carbon.

Optimizing the structure of transport. China has accelerated the construction of special railway lines, promoted the shift of freight transport from road to railway and waterway, and encouraged intermodal transport. In 2021, the railway and waterway freight volume accounted for 24.56 percent of the total in China, an increase of 3.85 percentage points over

2012. China has also emphasized the strategy of giving priority to urban public transport. By the end of 2021, there were 275 urban rail transit lines in operation in 51 cities, with a total track length of more than 8,700 kilometers. The length of exclusive bus lanes increased from 5,256 kilometers in 2012 to 18,264 kilometers in 2021.

Promoting the green transformation of transport vehicles. China has vigorously promoted the use of new-energy vehicles in public transport, taxi service, environmental sanitation, logistics, distribution, civil aviation, airports, and Party and government institutions. By the end of 2021, the number of China's registered new energy vehicles had reached 7.84 million, accounting for about half of the global figure. There were 508,900 new energy buses, accounting for 71.7 percent of the total number of buses in China. There were 207,800 new energy taxis. China has continued the green transformation of mobile railway equipment. The proportion of internal combustion locomotives decreased from 51 percent in 2012 to 36 percent in 2021. China has also updated the pollutant discharge standards for motor vehicles, promoted the use of liquefied natural

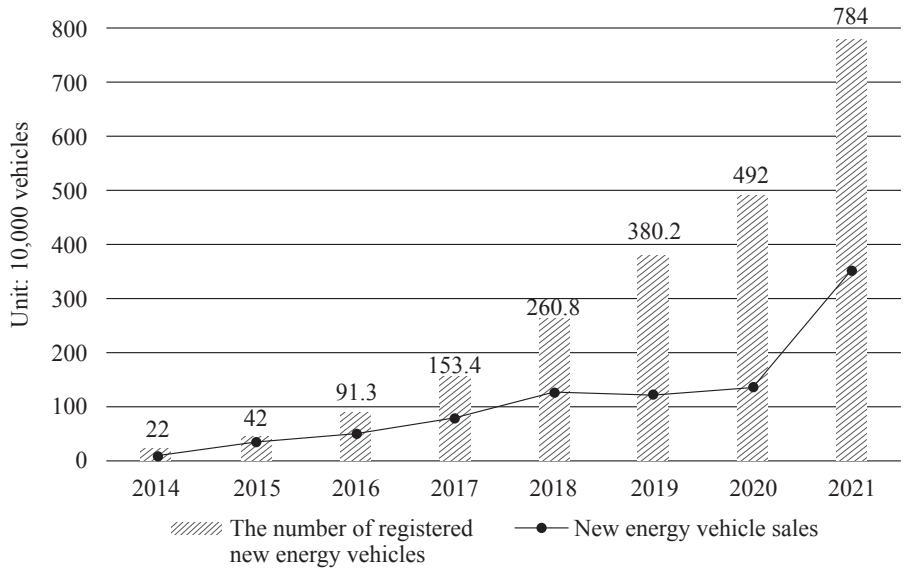


**Figure 3 China's total number of new energy vehicles and such vehicle sales (2014-2021)**

gas (LNG) powered boats and transformation of shore power facilities, and accelerated the transformation or elimination of obsolete vehicles and boats. Since 2012, more than 30 million yellow-label vehicles with high emissions have been eliminated, and 47,100 obsolete inland river boats have been re-engineered or mothballed.

Upgrading transport infrastructure for green development. China has initiated a special program for the construction of green highways, and the recycling of waste road surface materials. By the end of 2021, more than 95 percent of the waste materials from expressways and 80 percent of the waste materials from national and provincial highways had been recycled. China has steadily improved afforestation along its roads. Green belts have been built along 570,000 kilometers of its trunk roads, about 200,000 kilometers more than in 2012. China has continued the electrification of its railways, with the proportion of electric railways increasing from 52.3 percent in 2012 to 73.3 percent in 2021. It has also built more green port and road transport support facilities. By the end of 2021, five types of shore power facilities had been built in 75 percent of the specialized berths of major ports, and 13,374 charging piles had been built in expressway service areas – the highest number in the world.

**4. Promoting the economical and intensive use of resources**

As a country with a great demand for resources, China has accelerated the fundamental change in the way resources are utilized. To make a major contribution to the sustainable development of global resources and the environment, and to ensure a happy life for the people today as well as sufficient resources to meet the needs of future generations, China tries to obtain the maximum social and economic benefits at a minimum cost in resources and the environment.

Improving the efficiency of energy use. China is exercising better control over the amount and intensity of energy consumption, particularly the consumption of fossil fuels. It has vigorously promoted technical, managerial, and structural energy conservation, to constantly improve the

efficiency of energy use. It has initiated campaigns for all industrial enterprises, especially the big consumers of energy, to save energy, reduce carbon emissions, and improve the efficiency of energy use. The "forerunners" have been encouraged to play an exemplary role for other enterprises. China has organized the transformation of energy-intensive industries such as steel, power generation, and chemicals, to help them save energy and reduce carbon emissions. It has also strengthened the energy-saving management of key energy consumers, to enable large and medium-sized enterprises in key industries to reach advanced international levels in energy efficiency. Since 2012, China's average annual economic growth of 6.6 percent has been supported by an average annual growth of 3 percent in energy consumption, and the energy consumption per RMB10,000 of GDP in 2021 was 26.4 percent lower than in 2012.

Improving the efficiency of water utilization. China has imposed increasingly rigid constraints on water use. Industrial and urban configurations are determined scientifically in accordance with water availability. China has launched nationwide water-saving campaigns to control the total amount and intensity of water consumption. It has upgraded water-saving technologies for industries with high water consumption, and promoted highly water-efficient irrigation for agriculture. It has advocated the building of water-saving cities, established a water efficiency labeling system, introduced certification standards for water conservation products, and promoted the use of water-saving products and appliances. The comprehensive per capita water consumption in cities is falling steadily. China has also incorporated unconventional water sources, such as reclaimed water, desalinated seawater, collected rainwater, brackish water, and mine water, into the unified allocation of water resources, which has effectively eased the strain on demand in areas with a shortage of water. Water consumption per RMB10,000 of GDP in 2021 was 45 percent lower than in 2012.

Strengthening the economical and intensive use of land. China has improved the standards for urban and rural land use. The designation,

standards and approval of land use for all kinds of construction projects are strictly controlled, and the economical and intensive use of land in the construction of transport, energy, and water infrastructure is encouraged. China has strengthened the management of rural land, and promoted the economical and intensive use of rural land for collective construction projects. It has also established mechanisms for coordinating the use of existing land resources and made the arrangements for additional resources, and for recovering idle land, in order to put all existing land resources to good use. From 2012 to 2021, the area of land designated for construction projects per unit of GDP decreased by 40.85 percent.

Making scientific use of marine resources. China has strictly controlled land reclamation from the sea. It has prohibited all coastal reclamation activities except those for major national projects, and dealt with problems left over from history in this regard with different approaches. It has established a control system to retain natural shorelines, and carried out classified protection and economical utilization of them. It has strictly protected uninhabited islands at sea and minimized their development and utilization.

Ensuring the comprehensive use of resources. China has advocated the construction of green mines, promoted green exploration and exploitation, and worked to increase the recovery rate, processing recovery rate, and multipurpose utilization rate of major mineral resources. A total of 1,101 state-level green mines have been built. China has selected a total of 100 pilot projects and 100 backbone enterprises to promote the comprehensive use of resources and started the construction of national demonstration bases for recovering mineral resources from city waste. It has also updated the waste material collection network, coordinated the recycling of waste resources, and improved the processing and utilization of renewable resources. In 2021, 385 million tonnes of nine renewable resources – waste iron and steel, copper, aluminum, lead, zinc, paper, plastic, rubber, and glass – were recycled for new purposes.

# V. Eco-Friendly Living Becomes the Prevailing Ethos

Green development requires everyone's efforts, and each of us can promote and practice green living. China actively promotes the values and ideas of eco-environmental conservation, raises public awareness to conserve resources and protect the eco-environment, and advocates the practice of a simpler, greener, and low-carbon lifestyle, creating a conducive social atmosphere for jointly promoting green development.

**1. Continuing progress towards raising conservation awareness**

China places particular emphasis on cultivating its citizens' conservation awareness. It organizes systematic publicity and other awareness-raising activities in this regard, and advocates a social environment and lifestyle of diligence and frugality. Publicity activities themed on National Energy-Saving Publicity Week, China's Water Week, National Urban Water-Saving Week, National Low-Carbon Day, National Tree-Planting Day, World Environment Day, the International Day for Biological Diversity, and Earth Day, are organized on a regular basis to encourage and persuade the whole of society to engage in green development activities. The idea of eco-friendly living has become widely accepted in families, communities, factories, and rural areas. Material on green development has been incorporated into China's national education system through compiling textbooks on eco-environmental conservation and carrying out education in primary and secondary schools on the condition of national resources including forests, grasslands, rivers and lakes, land, water and grain. Respect for and love of nature have been advocated. Environmental

Code of Conduct for Citizens (for Trial Implementation) was published to guide the public to follow a green lifestyle. As a result, a culture of ecological and environmental protection has joined the mainstream and been cherished by all.

**2. Widespread initiatives to promote eco-friendly lifestyles**

China has launched initiatives to promote the building of resource-conserving Party and government offices, and develop eco-friendly families, schools, communities, transport services, shopping malls, and buildings, popularizing eco-friendly habits in all areas including clothing, food, housing, transport, and tourism. To date, 70 percent of Party and government offices at and above county level are now committed to resource conservation, almost 100 colleges and universities have realized smart monitoring of water and electricity consumption, 109 cities have participated in green transport and commutes initiatives. Household waste sorting has been widely promoted in cities at or above prefecture level. Much progress is being made as residents gradually adopt the habit of sorting their waste. The Law of the People's Republic of China on Food Waste has been enacted, and initiatives launched to promote food saving and curb food waste including a "clean plate" campaign on a large scale, which have yielded remarkable results as more people are saving food.

**3. Growing market of green products**

China has actively promoted energy-saving and low-carbon products such as new-energy vehicles and energy-efficient household appliances. It has provided tax reductions or exemptions and government subsidies for new-energy vehicles and continued to improve charging infrastructure. As a result, the sales of new-energy vehicles have rapidly risen from 13,000 in 2012 to 3.52 million in 2021. For the seven years since 2015, China has ranked first in the world in the production and sales of new-energy vehicles. In addition, China has steadily improved the certification and promotion system for green products and the green government procurement

system, implemented an energy efficiency and water efficiency labeling system to encourage the consumption of green products. It has promoted the construction of green infrastructure in the circulation sector such as green shopping malls, and supported new business models such as the sharing economy and second-hand transactions. There is a richer variety of green products and a growing number of people who spend on green products.

# VI. Improving the Institutions and Mechanisms for Green Development

Sound institutions and mechanisms are essential to green development. With this understanding, China has stepped up efforts to create an eco-environmental conservation system based on clear orientation, sound decision-making, effective implementation, and strong incentives, and continued to improve government performance in promoting green development. This provides a solid guarantee for the realization of the country's green development goals.

### 1. Strengthening the rule of law

China is committed to the rule of law in pursuing progress in eco-environmental conservation. It has written into its Constitution eco-environmental improvement and conservation, and promulgated and/or revised laws such as the Yangtze River Protection Law, the Yellow River Protection Law, the Land Administration Law, the Forest Law, the Grassland Law, the Wetland Protection Law, the Environmental Protection Law, the Law on Environmental Protection Tax, the Law on the Prevention and Control of Atmospheric Pollution, the Law on the Prevention and Control of Water Pollution, the Law on the Prevention and Control of Soil Pollution, and the Nuclear Safety Law. A legal system for eco-environmental conservation that covers all key areas, all types of resources, and all environmental factors has taken shape. China has also made consistent efforts to refine green development standards for key areas – more than 3,000 such standards have been formulated or amended.

To better investigate and strictly punish violations of laws and regu-

lations concerning natural resources and the eco-environment, China has reformed the system that places the monitoring, supervision, and law enforcement activities of environmental protection bodies below the provincial level under the leadership of the same type of bodies at the immediate higher level. To strengthen coordination between the criminal justice system and law enforcement by government departments, China has established a system for procuratorates, courts, public security organs, and government departments responsible for coordinated law enforcement for environmental protection, enabling them to share relevant information, issue case briefings, and transfer cases among them. This has built a strong synergy for the investigation and punishment of environmental crimes, and provided powerful legal safeguards for green development.

**2. Tightening supervision and management**

China has improved the performance evaluation system for green development, and taken strict measures to ensure that enterprises fulfill their principal responsibilities and that the government performs the duty of supervision in pursuing green development. GDP growth is no longer the sole criterion for the assessment of the development of regions or the performance of officials. Instead, binding targets concerning resources and the environment are set for economic and social development, and a more balanced assessment system for economic and social development is in progress – one that measures the use of resources, energy consumption, environmental damage, and the eco-environmental impact. This allows assessment to play its full guiding role in promoting green development.

China has put in place an accountability system for leading officials, and formulated and/or revised a number of CPC regulations, including the Measures for Holding Leading Officials of the Party and the Government Accountable for Environmental Damage (for Trial Implementation), the Regulations on Central Environmental Inspections, and the Regulations on the Auditing of Natural Resource Assets for Leading Officials at the End of Their Tenures (for Trial Implementation). These are designed to

ensure that Party committees and governments assume equal responsibilities for environmental protection, that leading officials perform their environmental protection responsibilities with diligence, in addition to their other prescribed duties, and that they are held accountable when they fail to do so. China mandates end-of-tenure auditing of natural resource assets for leading officials, and imposes lifelong accountability for environmental damage. By implementing the central environmental inspection system, China has ensured that all parties concerned truly fulfill their responsibilities for environmental protection, and has solved many environmental issues of pressing public concern.

**3. Improving market-based mechanisms**

China is creating institutions and mechanisms for green development through which the government provides strong guidance, enterprises are fully engaged, and the market plays an effective role, thereby generating society-wide enthusiasm and participation. It has introduced new measures to improve the pricing mechanisms in key areas such as water and energy saving, sewage and waste treatment, and air pollution control, adopted more than 50 preferential policies to cut taxes and fees, encouraged better resource allocation, and supported conservation and efficient use of resources to advance green development. China has enforced a unified registration system for ownership of natural resources and an eco-environmental conservation compensation system that covers forests, grasslands, wetlands, deserts, water bodies and farmland. It is working on mechanisms for realizing the market value of ecosystem goods and services. China also encourages and supports private investment in environmental conservation and rehabilitation.

On the base of a reasonable ceiling for total consumption, China has established initial allocation and trading systems for water, energy, pollution, and carbon permits. With the opening of the national carbon emissions trading market and trials in green electricity trading, progress is being made in allowing the market to play a fundamental role in the

**Panel 7 Compensation System for Eco-Environmental Conservation**

China has taken active steps to improve its compensation system for eco-environmental conservation, and continued to increase fiscal support for this compensation in key areas. Interregional cooperation has been steadily expanded, and new progress has been made in establishing market-based compensation mechanisms.

China has improved the mechanism for fiscal compensation from higher-level to lower-level governments. Governments are required to play the leading role in ensuring that all parties concerned fulfill their responsibilities for environmental protection. A compensation mechanism has been established for the conservation of key ecological systems including forests and grasslands. More support is provided to main players in eco-environmental conservation. The mechanism for compensation and transfer payments to key functional zones now covers more than 800 counties across the country.

China has strengthened interregional cooperation in compensation for eco-environmental conservation. Policies have been introduced to support transregional compensation mechanisms in the Yangtze River and Yellow River basins. Guidelines were formulated on compensation in the Dongting Lake, Poyang Lake and Taihu Lake basins. To encourage closer ties between the regions which carry out eco-environmental conservation and those regions which benefit from these endeavors, and between the regions located in the upper reaches of a river and those in the lower reaches, China has initiated a compensatory relationship for pollution control and cooperation on industrial projects. As of the end of 2021, 14 cross-provincial compensation mechanisms had been established for eco-environmental conservation across river basins.

China has adopted creative measures to develop market-based compensation mechanisms. By leveraging the roles of both the government and the market, China encourages and guides all stake-holders to participate in compensation systems, so as to open up more financing channels. It has continuously improved its systems for carbon emissions, pollutant discharge, and water use permits, and refined its policies concerning green finance, green labelling, and green buildings in support of green industries.

allocation of eco-environmental resources.

In order to boost green finance, China has developed a multi-level market and a portfolio of green financial products, such as green credit, green bonds, green insurance, green funds, and green trust. At the end of 2021 China's green loan balance in RMB and foreign currencies stood at RMB15.9 trillion, and its outstanding green bonds at RMB1.1 trillion, both ranking among the largest in the world.

# VII. Building the Earth into a Beautiful Home

Green development and eco-environmental progress are the responsibility of all humanity. China has always been a major participant, contributor, and torchbearer in the global movement for building an eco-civilization. It firmly safeguards multilateralism, and is actively forging an international eco-environmental governance pattern in which countries align their interests and share their rights and responsibilities. This is how China does its part in pursuing the sustainable development of humanity.

**1. Participating in global climate governance**

Following the principles of equity, common but differentiated responsibilities and respective capabilities, China has acted in accordance with the United Nations Framework Convention on Climate Change, actively participated in global climate negotiations in a constructive manner, and made historic contributions to the conclusion and implementation of the Paris Agreement. In doing so, it helps to build a fair, rational, and mutually beneficial global climate governance system.

China has reinforced the effort to achieve its Nationally Determined Contributions (NDCs). It will make the steepest cuts in the world to the intensity of its carbon emissions, and complete the process from carbon emissions peaking to carbon neutrality in the shortest span of time. This fully demonstrates its strong sense of responsibility as a major country.

China is also an active participant in South-South cooperation on climate change. Since 2016, working in other developing countries, it has launched 10 low-carbon demonstration zones, 100 projects for climate change mitigation and adaption, training sessions on climate change response for 1,000 people, and more than 200 foreign assistance programs

on climate change.

International cooperation on climate change may encounter difficulties and setbacks, but China will remain committed to improving global climate governance and taking solid actions. As always, it will work with firm resolve towards the goals of carbon emissions peaking and carbon neutrality, actively participate in international cooperation on climate change, engage in international negotiations on climate change in a constructive manner, and do everything in its power to support and assist other developing countries in this realm. In doing so, China will continue to contribute to global efforts to tackle the grave challenge of climate change.

**2. Building a green Belt and Road**

China is committed to working with other countries on promoting green development under the Belt and Road Initiative (BRI), making it a green initiative. In order to establish a cooperation mechanism for green and low-carbon development under the BRI, China has signed an MoU with the United Nations Environment Programme on building a green Belt and Road, and reached more than 50 cooperation agreements on eco-environmental conservation with relevant countries and international organizations. It has also launched the Initiative for Belt and Road Partnership on Green Development with 31 countries, established the Belt and Road Energy Partnership (BREP) with 32 countries, led the creation of the Belt and Road Initiative International Green Development Coalition (BRIGC), founded the BRI Green Development Institute, and launched the BRI Environmental Big Data Platform.

China has helped other participants in the BRI to build up their environmental governance capacity and improve their people's well-being. It also helps these countries in training personnel for green development, having trained 3,000 people from more than 120 countries under the Green Silk Road Envoys Program. China formulated the Green Investment Principles for the Belt and Road to encourage such investments in related regions. Concurrently, Chinese enterprises have funded renewable

energy projects in other BRI countries, and helped them build a number of major clean energy facilities. All these efforts have boosted green development in these countries.

**3. Carrying out extensive bilateral and multilateral cooperation**

China has taken active steps to advance practical cooperation on saving resources and protecting the eco-environment. It successfully hosted the first part of the 15th meeting of the Conference of the Parties to the

**Panel 8 Forging Green, Inclusive BREP**

During the second Belt and Road Forum for International Cooperation in April 2019, China and 29 other countries initiated the Belt and Road Energy Partnership to promote common development and prosperity in the energy sector under the BRI. With the subsequent accession of Cuba, Morocco and Thailand, membership of this partnership has expanded to 33.

BREP is the first international cooperation platform in the energy sector initiated by China. Through this platform, China has hosted two sessions of the Belt and Road Energy Ministerial Conference and two sessions of the Belt and Road Energy Partnership Forum. These have set the stage for cooperation on bilateral and multilateral projects and on technological exchanges among participating countries, and facilitated practical cooperation on a number of issues. Partnership countries have released multiple key documents, including the Cooperation Principles and Concrete Actions of the Belt and Road Energy Partnership and the Belt and Road Green Energy Cooperation Qingdao Initiative, which have reinforced consensus and pooled the strengths of all parties concerned.

Partnership countries have also issued the Best Practice Cases of Belt and Road Energy Cooperation to highlight green energy projects that are low in pollution and high in efficiency and quality. To advance practical cooperation on green energy, they have founded a cooperation network consisting of government agencies, energy businesses, university think tanks and financial institutions, and they have organized partnership capacity building activities to share experience and advances in green energy development among developing countries.

Convention on Biological Diversity (COP15) and the 14th meeting of the Conference of the Contracting Parties to the Ramsar Convention on Wetlands. China is an active participant in cooperation on energy transition and energy efficiency under the frameworks of G20, China-ASEAN partnership, ASEAN Plus Three, East Asia Summit, Forum on China-Africa Cooperation, BRICS, Shanghai Cooperation Organization, and Asia-Pacific Economic Cooperation (APEC). It took the lead in formulating the G20 Energy Efficiency Leading Programme, a key outcome of the G20 Hangzhou Summit. It has put into action the Global Development Initiative, and worked for the establishment of the Global Clean Energy Cooperation Partnership.

China has also carried out cooperation with other countries and regions – including India, Brazil, South Africa, the United States, Japan, Germany, France, and ASEAN countries – in the fields of energy conservation, environmental protection, clean energy, response to climate change, biodiversity protection, prevention and control of desertification, and conservation of marine and forest resources.

China also supports international organizations, including the UN agencies, Asian Development Bank, Asian Infrastructure Investment Bank, New Development Bank, Global Environment Facility, Green Climate Fund, International Energy Agency, and International Renewable Energy Agency, in carrying out technological assistance, capacity building and trial programs for green and low-carbon development in key sectors such as industry, agriculture, energy, transport, and urban-rural development. Through these efforts China has made a significant contribution to advancing sustainable development worldwide.

# Conclusion

China has embarked on a new journey to build itself into a modern socialist country in all respects and advance the rejuvenation of the Chinese nation. Harmony between humanity and nature is an important feature of China's modernization.

The just-concluded 20th CPC National Congress has made strategic plans for China's future development which will help to create a better environment with greener mountains, cleaner water, and clearer air. China will keep to the path of green development, continue to build an eco-civilization, and strive to realize development with a higher level of quality, efficiency, equity, sustainability and security. We will make "green" a defining feature of a beautiful China and allow the people to share the beauty of nature and life in a healthy environment.

The earth is our one and only home, and humanity and nature form a community of life. It is the common responsibility of all countries to protect the environment and promote sustainable development. China stands ready to work with the international community to advance eco-environmental conservation, promote green development, protect the green earth, and build a cleaner and more beautiful world.

**图书在版编目(CIP)数据**

新时代的中国绿色发展: 英文/中华人民共和国国务院新闻办公室发布.—北京: 外文出版社, 2023.1

ISBN 978-7-119-13295-2

I. ①新… II. ①中… III. ①中国经济－绿色经济－经济发展－英文 IV. ①F124.5

中国版本图书馆CIP数据核字(2022)第214330号

**新时代的中国绿色发展**

中华人民共和国
国务院新闻办公室

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外文出版社有限责任公司出版发行
（中国北京百万庄大街24号）
邮政编码 100037
北京新华印刷有限公司印刷
2023年（16开）第1版
2023年第1版第1次印刷
英文版
ISBN 978-7-119-13295-2