

# Code Spurs Innovation for Green Development

## Policy Express

By HU Dingkun & TANG Zhexiao

On March 12, China's Ecological and Environmental Code was adopted at the closing meeting of the fourth session of the 14th National People's Congress, the nation's top legislature. It is a landmark document integrating and consolidating China's existing ecological and environmental legal frameworks, mechanisms and regulatory norms.

A key focus of the code, which is China's second formal statutory code, is its strong emphasis on empowering environmental protection through advanced technology, unlocking new drivers for green development by activating sci-tech innovation.

The general provisions section of the code suggests establishing state-backed support for research, development, application and talent cultivation in eco-environmental science and technology.

Numerous clauses across its chapters on pollution prevention, ecological conservation and green-low-carbon development encourage or mandate the adoption of new technologies such as advanced processes, cleaner production and ecological monitoring.

Additionally, the code makes forward-looking arrangements for cutting-edge areas. They include controlled thermonuclear fusion, hydrogen energy, carbon footprint management, as well as emerging technologies like digital



Scenery of the Weishan Lake National Wetland Park in Jining, Shandong province. (PHOTO: XINHUA)

systems and AI.

The high priority on technological innovation stems from innovation's fundamental and strategic role in advancing green development.

On one hand, technological innovation is profoundly transforming the concepts, tools and methods of ecological governance.

For instance, traditional ecological monitoring, using labor-intensive practices, is inefficient and costly. In contrast, the application of satellites and unmanned aerial vehicles enables efficient large-scale monitoring. The integration of AI and image recognition technologies facilitates automatic monitoring

and intelligent decision-making.

On the other hand, technological innovation creates new opportunities for the green economy. It accelerates industrial green transformation and fosters emerging green tech sectors.

The new energy vehicle industry is a prime example. Continuous advancements in battery technologies have extended driving ranges and shortened charging times, leading to the vehicles' strong market acceptance.

China has made remarkable progress in green tech innovation, leading the world in numerous fields. Legally safeguarding and promoting advanced technologies is therefore, an inevitable trend.

In 2025, China's newly installed wind and solar capacity historically surpassed that of thermal power. According to *Science* magazine, China produces approximately 80 percent of the world's solar panels and 70 percent of the wind turbines.

The code's provisions to promote the remanufacturing of high-end wind and photovoltaic equipment align perfectly with China's industrial reality.

With the legal safeguards provided by the code, China's innovation environment in eco-environmental protection will be optimized, laying a solid foundation for the green transformation of social development.

## Case Study

# Dongguan Seizes Opportunities from Composite Demands

Edited by YAO Yan

Dongguan in Guangdong, dubbed the "World's Factory," has not only maintained its high order volumes and robust production at the beginning of 2026 but also shows a convergence of cross-industry integration and innovation across multiple sectors.

Unlike the traditional post-holiday work resumption with bursting firecrackers and performing lion dances, Dongguan Guangliang Holding Group Co., Ltd. started the new year with a high-tech ceremony: a drone-delivered "red envelope rain."

Starting out as a geographic surveying firm, the company has leveraged its strength in data resources to expand into two emerging business sectors: AI plus and low-altitude economy plus.

"This year, the government has stepped up efforts to promote the commercialization of application scenarios, which gives us the perfect stage to fully demonstrate our capabilities," Liu Xianqing, vice president of the group, said.

Home to more than 220,000 industrial enterprises, including 14,000 industrial enterprises above the designated size, Dongguan boasts world-class industrial clusters in electronic information and high-end equipment manufacturing, as well as numerous "hidden champions" in niche segments.

Cross-sector exploration, built on enterprises' existing production capabilities, is driving a new round of supply-side upgrading in the manufacturing hub.

In the workshop of Shini Plastics Technologies (Dongguan), Inc., injection molding machines, die-casting machines and automated production lines are running at full capacity to meet orders.

"We also plan to step into the low-altitude economy and humanoid robot sectors, developing more businesses tailored to new consumer demands," Wu Junrui, general manager of the company, said.

Despite global market fluctuations and weakening demand, Dongguan's manufacturing sector demonstrated strong resilience in 2025. The city's annual GDP crossed the new threshold of 1.2 trillion RMB, with the total output

value of industrial enterprises above the designated size exceeding 2.6 trillion RMB, a milestone driven by the transformation of local manufacturers.

Dongguan Finecables Co., Ltd. is another enterprise that has grown through continuous innovation. On the first day of work resumption, the company landed overseas orders worth nearly 10 million RMB, with its production schedule packed until June.

Low-altitude economy products have to be lightweight, waterproof and highly stable. The company's core strategy is developing high-performance connectors to meet evolving consumer needs.

Forward-looking planning and cross-sector breakthroughs have made Dongguan enterprises highly popular among domestic and foreign buyers alike. In 2025, the city's total foreign trade volume hit a record high of 1.58 trillion RMB, up 13.8 percent year on year. It marked 21 consecutive months of positive growth with improvements in both scale and quality.

During the 2026 Spring Festival holiday, the HKIA Dongguan Logistics Park maintained round-the-clock operations, handling 42 import and export flights. They carried about 800 tons of goods worth over 150 million RMB.

Mo Meixin, deputy general manager of Dongguan Port Industrial Investment Co., Ltd., said the proportion of high-end manufacturing and cross-border e-commerce goods, which have high air freight service requirements, has risen significantly. The park is now connected with more than 60 countries and regions, with a growing share of shipments bound for Europe and Belt and Road Initiative partner countries.

The park plans to increase the frequency of charter flights to India, Spain and Belgium. Over 90 percent of the wharf is set to be completed this year and its full operation is scheduled for next year.

By breaking industrial barriers on supply sides and seizing new opportunities from composite consumer demands, Dongguan's manufacturing enterprises are embracing 2026 with strong confidence and clear growth expectations.



A view of Dongguan Port Terminal in Dongguan, Guangdong province. (PHOTO: VCG)

# New Regulation Unveiled for Great Wall Protection

By LIN Yuchen

The Great Wall, one of the most iconic symbols of Chinese civilization and a UNESCO World Heritage site, represents both a historical monument and a living cultural landscape. In recent years, a shift in cultural heritage conservation has emerged placing an increasing emphasis on preventive protection, scientific restoration and sustainable management.

To align with this shift, the Standing Committee of the 16th Beijing Municipal People's Congress adopted the Beijing Great Wall Protection Regulation, effective from March 1, establishing a comprehensive institutional framework aimed at safeguarding the Great Wall through stronger governance, technological innovation and regional cooperation.

Central to the regulation is the concept of "holistic protection." Rather than

focusing solely on the Great Wall's physical structure, protection includes related cultural relics and the surrounding environmental landscape in which the Great Wall exists. This shift toward integrated heritage conservation recognizes that the historical authenticity and integrity of the Great Wall depends not only on the masonry but also on its broader ecological and cultural context.

In terms of conservation practices, the regulation emphasizes the principles of maintaining the original state of cultural relics and minimum intervention. This means authorities will adopt tailored protection measures such as routine maintenance, emergency reinforcement, restoration work or the installation of protective facilities, depending on the preservation status of different Great Wall sections.

One of the regulation's great innovations is the application of technological tools in heritage protection. Authorities

encourage the use of digital monitoring systems, electronic fencing, and other technological means to detect risks, issue warnings, and discourage illegal climbing on unrestored or "wild" sections of the Great Wall. Complementing more traditional manual patrols, the technologies enable more efficient and proactive management.

The regulation also introduces stricter measures against activities that may damage the Great Wall. These include outlawing removing bricks or soil, carving graffiti, lighting fires, or driving vehicles across the Great Wall. Planting trees that could weaken its structure is also banned. Violators face penalties, providing clearer legal grounds for enforcement agencies.

While implementing more stringent regulations, there is also the need to balance protection with public access and cultural transmission. Sections of the Great Wall will therefore only be opened

to visitors after thorough assessments evaluating preservation conditions, feasibility of opening and visitor carrying capacity.

In addition, the regulation encourages cultural interpretation and public engagement. Authorities will develop thematic interpretation systems, promote digital exhibitions, and support activities such as cultural performances, heritage education programs, and cultural creative industries related to the Great Wall. International exchanges and cooperation are also encouraged to deepen global understanding of the Great Wall's historical and cultural significance.

Experts note that technological empowerment is one of the most significant highlights of the new regulation. This will lead to more scientific and effective protection efforts while also benefiting the public more directly from conservation management.

# Openness Momentum Remains Strong

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With genomic selection, haplotype analysis and other technologies, Danyal and his colleagues are shortening breeding cycles and enhancing precision. They are dissecting the genetic architecture of zinc accumulation and using marker-assisted selection to pyramid beneficial alleles.

The result is improved wheat lines that enhance nutritional quality without sacrificing yield.

Danyal expressed strong confidence in China's ability to attract and empower global talent.

After completing his Master's in Pakistan, he moved to China to work on modern genomics with practical breeding objectives. He emphasized the bilateral nature of their work: "Importantly, our breeding strategy serves both countries."

International collaboration, particu-

larly between China and the U.S., remains pivotal.

"From an American scholar's perspective, China's sci-tech advances are no longer peripheral to global progress. They are structurally embedded in it," Denis Simon, a senior fellow at the Quincy Institute, an American foreign policy think tank, told *Science and Technology Daily*.

He identified three key areas where China contributes globally: scale-based solutions, scientific output and the provision of global public goods.

Regarding scale, Simon said in sectors like renewable energy, battery production and electric vehicles, "China's scale lowers global cost curves. This accelerates global decarbonization, even for countries politically distant from China."

Furthermore, China has become one of the largest producers of high-

quality STEM research, often setting the pace in fields such as materials science and applied engineering.

He also highlighted China's role in shaping alternative innovation pathways for the Global South through digital infrastructure and health cooperation. "If this promotes more global integration, it is a good thing."

However, he has questions about the future: "The critical issue is whether knowledge flows remain bidirectional in the midst of geo-political tensions."

Simon has been studying sci-tech cooperation between China and the U.S. for a long time. Despite competitive dynamics and security concerns, he believes that a complete technological decoupling is neither likely nor desirable, a view supported by policy signals from the Two Sessions.

China's development strategy, Simon said, still assumes continued par-

ticipation in global scientific networks. Climate change and clean energy serve as prime examples where cooperation is essential.

"Both China and the United States have strong incentives to cooperate in advancing renewable energy systems, battery innovation and carbon-reduction technologies," he said. Public health and biotechnology also represent valuable areas for collaboration, particularly in disease surveillance and vaccine development.

Simon concluded with a reminder of the enduring value of partnership: "Even in basic science, collaboration between Chinese and American researchers has historically produced some of the most influential research outcomes. While security concerns are creating new constraints on such partnerships, the underlying scientific incentives for cooperation remain strong."

# Sci-tech Central to Consumption Upgrades

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Current smart home products are evolving toward autonomous control through "perception + reasoning, decision-making + execution," Cao noted. As big data and AI large model technologies become more widespread, smart home products will transition from "individual smart devices" to "whole-home intelligence."

The technology shift is also influencing the domestic service industry. Large models enabling precise matching of nannies to "maid robots" are already handling basic tasks and providing emotional companionship. Meanwhile, digital intelligence technologies such as AI are quietly reshaping diverse family service scenarios — from childcare to eldercare — unlocking new forms and frontiers in domestic service consumption.

In the transportation sector, tech-

nology is providing robust support for services such as self-driving tours. Integrated "photovoltaic-storage-charging" service stations across the country offer tourists more convenient and efficient charging services.

Liu Dong, deputy director general of the Department of Comprehensive Planning of the Ministry of Transport, said that efforts will be made to advance the construction and upgrading of charging facilities at highway service areas, increasing the number of high-power charging stations.

Over 10,000 charging guns are planned to be installed nationwide at highway service areas in 2026, with high-power charging guns accounting for no less than 25 percent of the total. This initiative aims to significantly enhance the reliability and capacity of charging services.