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## Blueprint to Fast Track 'Beautiful China'

By ZHONG Jianli

The goal of building a "Beautiful China" will be basically achieved by 2035, when green ways of production and life will be broadly adopted and the country's ecological environment will improve fundamentally.

This is the tenor of a guideline recently issued by the Communist Party of China (CPC) Central Committee and the State Council to comprehensively promote the development of a "Beautiful China."

The document says that by 2027, China will see a continuous decrease in the total discharge of major pollutants and improvement in its ecological environment. A "Beautiful China" in all respects will be built by the middle of the century.

The concept of building a "Beautiful China" was first put forward at the 18th National Congress of the CPC in 2012. Since then, the local governments of provinces have begun work on building a beautiful land with blue sky, green land and clear water.

As some structural and long-term pressures on ecological and environmental protection have yet to be resolved, the guideline stresses the need for maintaining determination to enhance ecological civilization while pursuing a path of balanced and sustainable development.

It provides an extensive roadmap and specific policy measures to comprehensively advance building a "Beautiful China" and expedite modernization that harmonizes humans with nature.

Key to the proposed plan is accelerating the transition to environment-friendly development practices. The guideline advocates deep integration of digitalization, and intelligent and low-carbon strategies within industries, noting that by 2027, the proportion of new energy vehicles among all new automobiles should reach 45 percent.

The document outlines a comprehensive plan to implement a step-by-step carbon peaking action. By 2035, non-fossil energy is expected to constitute an increased proportion of total energy consumption, and the creation of a more effective, dynamic and globally influential carbon trading market is on the agenda.

In the sustained and intensive efforts to combat pollution, by 2027, the national average concentration of fine particulate matter should decrease to below 28 micrograms per cubic meter, and the target for 2035 is below 25 micrograms per cubic meter.

The document also proposes establishing demonstration areas for building a "Beautiful China," such as the Xiong'an New Area, Yangtze River Economic Belt and Guangdong-Hong Kong-Macao Greater Bay Area.

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## New Graphic

### Goals of Comprehensively Promoting the Building of a Beautiful China

By 2027

• A continuous decrease in the total discharge of major pollutants.

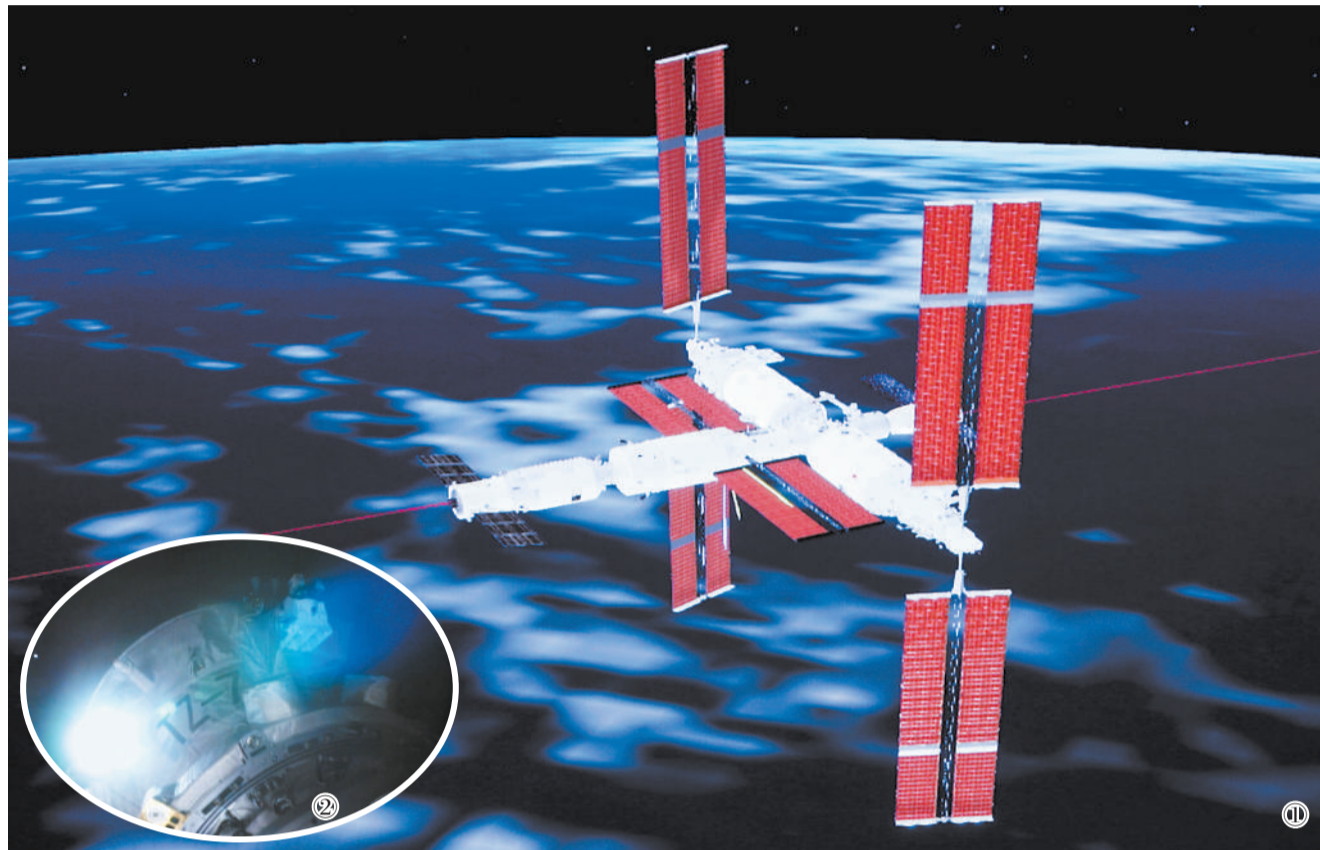
By 2035

• Carbon emissions will have peaked and be in steady decline.

By 2050

• Green development and lifestyles will have taken full shape, and the deep decarbonization of some key areas will have been realized.

Source: XINHUA Designed by LIN Yuchen / S&T Daily



① This simulated image captured at Beijing Aerospace Control Center on January 18 shows China's cargo spacecraft Tianzhou-7 having conducted a rendezvous and docking with the combination of the space station Tiangong. ② This screen image shows China's cargo spacecraft Tianzhou-7 approaching the combination of the space station Tiangong before docking. (PHOTO: XINHUA)

## Editor's Pick

## Ecological Monitoring Helps Scientific Protection

By Staff Reporters

Ecological monitoring is a basis for objectively and accurately understanding regional ecological conditions, as well as scientifically implementing ecological protection and restoration.

According to a work plan jointly issued by the Ministry of Ecology and Environment (MEE) and the Chinese Academy of Sciences (CAS), China will establish an ecological quality monitoring network, and has identified the first batch of 55 National Ecological Quality Comprehensive Monitoring Stations, including Xishuangbanna station (forest) in Yunnan province and Changzhou plain water network station (wetland) in Jiangsu province.

### Covering major types of ecosystem

At the crack of dawn, Shen Wei and his colleagues at the Changzhou plain water network station go out to collect samples from waters, before returning to the laboratory to analyze them.

"We have observed *Novaculina chinensis*, a national second-class protected animal, and it has been found several times in succession, which shows that the ecological condition of the lake is

gradually improving," said Shen, deputy head of ecology department of Changzhou environmental monitoring center.

"Listed as the first batch of the national monitoring station, our work has also ushered in an upgrade: from focusing on the plain water network to the comprehensive management of mountains, rivers, forests, fields, lakes and grasslands," said Pan Chen, director of Changzhou environmental monitoring center.

The first batch of 55 National Ecological Quality Comprehensive Monitoring Stations covers major ecosystem types, including key protection regions and urban agglomerations with intensive human activity. According to the MEE, ecological monitoring network takes biodiversity and habitats as monitoring objects, including the species composition, structure and function of the biological community, and aims to realize all-round monitoring of various ecosystems within 100 kilometers of the station.

### Integrated system

"Millions of pieces of monitoring data are collected every year, in terms of biology, meteorology, hydrology and soil," said Yuan Shengdong, a researcher at

CAS Xishuangbanna tropical rainforest ecosystem research station. Yuan added that it is hard to have new findings over a short period, and long-term data is necessary to figure out the dynamic changes in tropical rainforests.

After being selected as the national ecological quality comprehensive monitoring station, the work efficiency of the station is expected to improve. Advanced tools such as satellites, planes and unmanned aerial vehicles (UAV) will be used to coordinate with ground monitoring, thus constructing an integrated ecological monitoring technological system, according to the MEE.

The satellite remote sensing, as the main means of ecological supervision, covers a large scope all day, which can find surface changes and problems in a timely manner. The UAVs are more flexible and respond rapidly. Equipped with visible infrared, hyperspectral, lidar and other payloads, they can help verify the problems found by satellites. Ground monitoring, mainly through cameras and patrols, can also detect and prevent human interference activities in a timely manner.

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## 'Lobster Eyes' Telescope to Observe Universe

By TANG Zhexiao

Adopting cutting-edge space science technology, including "lobster eyes" telescope and CMOS sensors, China launched its new X-ray astronomical satellite Einstein Probe (EP) on January 10.

The EP, shaped like a double-petaled lotus flower blooming in space with 12 petals, was designed to detect outbursts in the universe at X-ray wavelengths, and capture traces of fleeting phenomena. The "petal" is a special X-ray telescope carrying 36 microporous imagers, each containing nearly a million

square holes narrower than a strand of human hair.

The EP was developed by scientists inspired by the functioning of lobster's eyes. Made up of numerous tiny square tubes, lobster eyes allow light from all directions to reflect in the tubes and point to the same spherical center on the retina, which gives the lobster a large field of view.

Scientists mimicked the lobster eye to develop the large-field X-ray imaging telescope, aiming to efficiently observe and detect mysterious outbursts in the universe.

The previous X-ray telescopes only had a field of view roughly the size of the Moon as seen from Earth, while "lobster eyes" telescope is capable of covering a celestial region about the size of 10,000 Moons, said Ling Zhixing, a scientist of the National Astronomical Observatories of the Chinese Academy of Sciences.

According to the research team, the European Space Agency and the Max Planck Institute for Extraterrestrial Physics in Germany jointly participated in the EP project, and the French Space Agency provided very high frequency antennas for the EP.

## International Cooperation

## Container Terminal Deepens Sino-Egyptian Ties

By LIN Yuchen

The bustling Abu Qir Marine Port Container Terminal in the Egyptian coastal city of Alexandria witnessed a historic moment when the Chinese cargo vessel Zhonggu Jilin docked at the terminal on January 10. It marked the official inauguration of the terminal, constructed by China Harbour Engineering Company (CHEC).

Located on the Mediterranean coast, Alexandria is the second largest city in Egypt. Its geographical position makes it a part of international shipping routes, as well as a key hub for maritime trade. The ambitious container terminal initiative undertaken by CHEC is poised to redefine the region's maritime landscape and foster international cooperation.

Duan Kun, head of CHEC Egypt, highlighted the achievements of the project management team. He said the team overcame numerous challenges to maintain an impressive construction pace, ensuring the project's completion without any safety, quality or environmental incidents.

The first phase of construction encompassing the 600-meter quay and supporting facilities was completed in October 2023, making the terminal ready to operate. In the second phase, additional infrastructure is being built, such as embankments, fence, electrical systems, communication networks and other facilities.

The Abu Qir Container Terminal is contributing significantly to the local community. Since construction started, the project has generated over 2,000 direct employment opportunities for the local workforce. When it becomes fully operational, the terminal is anticipated to have an annual throughput capacity of two million standard containers. It is expected to catalyze the growth of Egypt's maritime trade industry with sustained development of the industrial chain.

This landmark cooperation between China and Egypt not only showcases the success of international cooperation, but also underscores the positive impact on Egypt's economy and the broader maritime trade landscape.

## WEEKLY REVIEW

### Origin Wukong a Hit with Global Users

As of Jan. 15, Origin Wukong, the China-developed third-generation superconducting quantum computer, had completed over 33,800 quantum computing tasks for global users since it became operational on Jan. 6.

### New Strategy to Improve Solar Cell Performance

Researchers from Kunming University of Science and Technology have proposed a new strategy to significantly improve the photoelectric conversion efficiency and lifetime of the battery, the university said on Jan. 14.

### Formation Process of Primitive Star Clusters Revealed

An international team led by Peking University has unveiled their findings on the formation process of high-mass protostellar clusters, by using large radio telescopes to undertake high-definition observations. The results were recently published in concerned academic journals.

### Ultra-low Temperature Achieved in Supersolid Candidate

Chinese scientists have achieved ultra-low temperature refrigeration — below minus 273°C — in a recently synthesized supersolid candidate, without the use of liquid helium, a conventional material that has long been used in ultra-low temperature refrigeration, according to a paper recently published in *Nature*.

WECHAT ACCOUNT



E-PAPER

