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WEEKLY EDITION

## CDF: China's Economy Rebounds

By Staff Reporters

With the theme "Economic Recovery: Opportunities and Cooperation," the China Development Forum (CDF) 2023 was held in Beijing from March 25-27. The economic growth of China was the focus of attendees.

Zheng Shanjie, chairman of the National Development and Reform Commission (NDRC), said that China has been witnessing a continuous recovery and growth momentum of its economy.

Market vitality has seen an obvious recovery. Based on data from the National Bureau of Statistics, the total retail sales of social consumer goods in January and February increased by 3.5 percent year-on-year, a reversal from negative growth. The catering revenue also went up by 9.2 percent compared with that of last year, a big rise from the negative growth in December 2022.

The increase coincided with the speech of Kristalina Georgieva, managing director of the International Monetary Fund (IMF). She said that China's economy, "is seeing a strong rebound," adding that the IMF suggested in its January forecast that China's GDP growth will be at 5.2 percent this year, a sizeable increase of more than two percent from the 2022 rate.

Such a "Robust rebound means China is set to account for around one-third of global growth in 2023," said Georgieva.

China's Finance Minister Liu Kun suggested that China will further improve fiscal and tax policies, emphasizing the support for micro, small and medium-sized enterprises, individual businesses and industries in dire straits. *See page 4 (See page 3 for related report)*



The photo shows the first batch of Geely Geometry C electric vehicle exported to overseas markets. (COURTESY PHOTO)

## Editor's Pick

## China's Vehicles Take on Global Market

By Staff Reporters

Wolfgang Lange and his family, living in Berlin, bought a China-made electric vehicle in 2019. Since their purchase, they have been more than satisfied with the car.

Not only is it the Langes who are buying China-made vehicles, but they are becoming an option for more global consumers. In 2022, China surpassed Germany to become the second largest vehicle exporter, most notably of its new energy vehicles (NEVs).

### Technological innovation

So why is it that people outside the country are buying Chinese cars? They are affordable and energy-saving, Lange told *Science and Technology Daily*, pointing out that the power generated from the solar panels on his house are enough to charge the car.

A lower price is not the key to the overseas market, on the contrary, it usually conveys poorer quality from the perspective of consumers. It is advanced technology that drives the long-term growth of overseas sales, said an overseas market manager from Geely Automobile Group. Applying one of the most efficient modular building platforms in China, Geely has exported over 450,000 cars and led the world in terms of NEVs exports last year.

Another vehicle giant, Chery, has employed more than 10,000 engineers and scientists from various fields, such as styling design, automatic driving, chip, software, operating system and smart cockpit, including the former top designers of Mercedes-Benz.

As pioneers of electric vehicle R&D, the BYD brand has been committed to

NEVs technology for more than 20 years, and handled core technologies along the entire industrial chain such as battery, engine and control system, said Luo Hao, BYD brand and PR assistant manager.

China's automobile enterprises are striving for technological innovation to produce high-quality and reliable products, said Ye Shengji, chief engineer from the China Association of Automobile Manufacturers (CAAM), noting that the country's automobile sector is embracing the emerging technologies including electrification, intellectualization and network of automobiles.

### Resilient supply chain

At the users center of NIO in Berlin, visitors are amazed by the electric sports-car on display, and show great interest in this luxurious NEV brand from China.

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## Global Warming Undermines Wetland Carbon Sinks

By MIAO Qing & LIN Yuchen

Pristine wetlands are a crucial means of greenhouse gas sink. However, their capacity to do so is being compromised by global warming. According to a new study, published in *Nature Climate Change* on March 20 and led by scientists from the Institute of Atmospheric Physics of the Chinese Academy of Sciences, the wetlands' capacity to act as a carbon sink will decline by more than half (about 57 percent), in response to an average temperature increase by 1.5-2 centigrade.

Wetlands only occupy six percent of the Earth's surface, but they store one-third of global soil organic carbon. This can be attributed to the fact that plants in wetlands convert carbon dioxide into organic carbon in soil through photosynthesis. Moreover, the anaerobic nature of wetlands slows the rate of organic carbon decomposition.

In this study, researchers have combined data from 167 independent wetland sites over a period from 1990 to 2022, measuring carbon dioxide, methane, and nitrous oxide responses to experimental warming. They have found that the dominant plant types of wetlands can provide significant insight into the uncertainty of greenhouse gas sink, or source, in each warming experiment.

The study reveals that: regardless of the dominant plant species, the warming will promote methane emissions from wetlands. Meanwhile, wetlands will act as either a carbon dioxide sink or source after warming, depending on the dominant plant functional type. Moreover, although nitrous oxide efflux from wetlands is usually low, a slight increase in its emission could have a significant impact on global warming.

Furthermore, the study said that the net emissions of methane and nitrous oxide in permafrost wetlands will increase more significantly than in other regions due to global warming, which could have positive feedback on global warming.

## International Cooperation

## Chinese Hydropower Lights up Zambia

By Staff Reporters

On March 24, unit 5 of the Kafue Gorge Lower Hydropower Station in Zambia began full operation. Built by Power Construction Corporation of China (POWERCHINA), the hydropower station has an installed capacity of 750 MW.

Zambia's President Hakainde Hichilema thanked Chinese people for their support on his social network, saying that, "[This is a] phenomenal engineering achievement which will help job creation & go a long way in ending load-shedding."

According to a hair salon owner in Lusaka, the capital and largest city in Zambia, power blackouts would last for several hours every day before the hydropower station went into operation, which had a huge impact on her business, as her customers had a long wait before getting service.

The hydropower station has greatly improved the situation, and the hair salon is beginning to flourish, along with several new shops opening up on the same street. *See page 4*

## New Graphic



## LOOP Allows Long-term Deep-sea Observation

By Staff Reporters

Developed by the Institute of Oceanology, Chinese Academy of Sciences (IOCAS), a long-term ocean observation platform (LOOP) has been deployed on several occasions in a cold seep area of the South China Sea since 2016, realizing the in-situ and continuous data acquisition such as high-definition videos and chemical and physical parameters in this area.

The latest status of the system running and research findings were recently published in the journal *Deep Sea Research Part I: Oceanographic Research Papers* online.

LOOP has been updated several times since it was placed in the area for the first time. The research team has tackled key technical problems like corro-

sion resistance and power management.

The total deployment time of LOOP was 1,070 days, and the longest continuous deployment for a single mission was 659 days, with 414 days of valid working time.

Such long-term observation is essential to research changes and evolution of chemosynthetic communities in the cold seep and hydrothermal vents area and their interaction with the surrounding environment, as they all happen over a long period. The short-term and random expedition, conducted by manned submersibles and remotely operated vehicles, cannot meet the need for long-term and continuous observation, according to researchers from IOCAS.

Different from a free-fall mode lander, LOOP is developed as a real-time vid-

eo-guided lander, using the coaxial cable of the research vessel for communication. When LOOP is deployed underwater, the high-definition camera installed on it can observe the landing position in real-time and control the deployment spot relatively concisely in coordination with the research vessel.

Even when LOOP is landed, the observation parameters can be adjusted based on real situations via the coaxial cable, to guarantee the best observation result. The recovery of LOOP is also conducted directly via the coaxial cable.

In general, LOOP provides an innovative and controllable deploying and recovery mode, and could be a universal underwater observation platform for in-situ, long-term, and continuous data acquisition.

## WEEKLY REVIEW

### Shenzhou-15 Astronauts Complete 3rd Spacewalk

China's Shenzhou-15 crew completed the third spacewalk on March 30, according to China Manned Space Agency. Four crews have carried out a total of 10 spacewalks since the Shenzhou-12 manned mission in 2021.

### Implantable Battery to Help Kill Tumors

Researchers from Fudan University have developed an implantable and self-charging saltwater battery that helps kill tumor cells by regulating the very environment supporting a tumor's growth. The study was published on April 1 in the journal *Science Advances*.

### LAMOST Telescope Reaches New Milestone

The Large Sky Area Multi-Object Fiber Spectroscopic Telescope (LAMOST) released more than 22 million spectra to domestic users and foreign partners on March 31, exceeding the number of spectra released by all other international sky survey telescopes combined by 2.9 times.

### New Carrier Rocket Launched

TL-2 Y1, a new carrier rocket, made its maiden flight in China on April 1, sending a satellite into its planned orbit. The satellite will be used in remote sensing imaging experiments and other technical verifications.

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