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WEEKLY EDITION

## International Cooperation

### Green Energy Key to Addressing Climate Change

By HONG Hengfei & JIANG Yun

Summer 2022 has seen many countries wilting under unprecedented heat waves, as extreme weather conditions happen with increasing frequency. In the face of the growing impact of climate change and environmental degradation, the global community is seeking consensus on green, low-carbon, and sustainable development.

Liu Qibao, vice chairman of the National Committee of the Chinese People's Political Consultative Conference, emphasized that international cooperation is urgently required given the increasing impacts of climate change.

"As a developing country, China has actively pushed for the signing of the Paris Agreement on climate change and has continuously honored its pledges," said Liu, speaking during the China-Europe-Africa Green Energy Development Forum, held in Hangzhou, Zhejiang province, on September 7 and 8.

He said that China, Europe and Africa share a lot of views on climate change and green development. He called for joint efforts made by the three parties to pursue green, low-carbon and sustainable development.

When pursuing a green energy transition, different countries are confronted with multiple challenges. Andreas Loschel, a famous German economist and an elected member of the German National Academy of Science and Technology, said Germany has adopted a series of measures to develop green energy to reduce the dependence on fossil fuel imports.

Bertie Ahern, the former Irish Prime Minister and current Chair of the World Carbon Neutrality Forum (WCNF), has mentioned that, "Cooperation and globalization are the only way forward" and that China, the European Union, and Africa should boost their cooperation in innovation and technology, market exchanges, and green investment. See page 4

### Partnership Deepens Between China and LAC

By Staff Reporters

Held online on September 2, the 14th Forum of Science, Technology and Innovation of China - Community of Latin American and the Caribbean States welcomed multiple ministers from Latin America and the Caribbean countries (LAC) and China, to discuss collaboration on science and technology.

All participants from LAC expressed their wishes to renew their collaboration with China, highlighting several on-trend technological realms, including clean energy, agricultural technology, and communications and satellite, testifying to the long history of collaboration between the two regions.

"This forum has become one of the most important platforms for China and LAC to understand the development gaps on both sides, helping reach a consensus, while tightening our ties," said Wang Zhigang, China's minister of science and technology, adding that China is willing to deepen the science and technology collaboration with LAC through exploiting mutual advantages, and expand collaborative areas by adopting a more inclusive attitude in the face of increasingly serious global challenges. See page 4



The 8th Bangladesh-China Friendship Bridge opens to traffic in Pirojpur, Bangladesh on September 4. (PHOTO: China Railway Major Bridge Reconnaissance & Design Institute Co., Ltd.)



A high-speed train made for the Jakarta-Bandung HSR is in trial in Qingdao, Shandong province. (PHOTO: XINHUA)

## Editor's Pick

### China's High-speed Rail Makes Monumental Advances

#### 10 Years Review

By WANG Xiaoxia

China's high-speed rail (HSR) has undergone a process from acquisition, adoption and re-innovation to independent innovation and now China has risen to be the world leader in HSR technology.

From over 9,000 km in 2012 to more than 40,000 km at present, China's HSR tops the world in terms of the operating length of HSR, projects scale under construction, the number of electric multiple unit (EMU) trains in operation and the speed of commercial operation in the world.

#### Independent innovation in HSR technology

In the past decade, China developed an advanced HSR technology system with independent intellectual property rights, covering the three major fields including equipment manufacturing, project construction and operation management.

The Fuxing bullet train was rolled out in September 2017. The train, which contains more than 2,500 sensors to simultaneously collect some 1,500 real-time indicators from all carriages, was the result of five year's effort from more than 30 institutes and companies, said Zhang Bo, researcher at the China Academy of Railway Sciences.

The sheer size of China and its diversity of terrain, geology and climate have presented the country's engineers with incredible challenges, pushing them to break bottlenecks and achieve technological breakthroughs.

Fuxing bullet trains are being continuously upgraded to be faster, safer, greener and more intelligent. On April 21, the train reached a world record-breaking relative speed at 870 km/h on the Puyang-Zhengzhou section of Jinan-Zhengzhou HSR.

New technology such as autonomous train operation has also been introduced. The driverless bullet trains connecting Beijing and Zhangjiakou in Hebei province can reach a speed up to 350 km/h,

making them the world's fastest autonomous trains.

After a decade's demonstration, China's HSR technology was well received around the world and was adopted in overseas projects, such as the Jakarta-Bandung HSR and the China-Laos Railway.

#### Wider railway network boosts regional development

The HSR construction in China has made rapid progress since 2008, when the first Beijing-Tianjin intercity railway with a designed speed of 350 km/h was put into operation. Since 2012, a large number of HSRs have been put into operation, with an annual rail line increase of 3,500 kilometers. To date, the HSR lines has connected 93 percent of cities with a population of 500,000 or more, boosting regional development.

Gaoyou, a city located in Jiangsu province, had no railway until the end of 2020, when Lianyungang-Zhenjiang HSR was opened to traffic, integrating the town into the fast-track development of Yangtze River Delta region. See page 4

### New Kinetic Energy Boosts China's Economic Development

By Staff Reporters

The new kinetic energy index of China's economic development reached 598.8 in 2021 (was 100 in 2014), increasing by 35.4 percent compared with that of the previous year, according to data published by the National Bureau of Statistics recently.

This index refers to the statistical indicator system with new industries, new business formats and new business models as the main contents. Five sub indexes are included, namely network economy, economic vitality, innovation driven, knowledge capability, and transformation and upgrading.

Soaring by 48.4 percent than that of the previous year, the network economy index saw the largest growth among all the sub indexes, contributing the most to the overall index surge.

In particular, data traffic via mobile Internet hit 221.6 billion GB in 2021, climbing by 33.9 percent year-on-year.

Life service e-commerce, such as online shopping, online food delivery and remote health service, has been developing continuously and rapidly, and Internet enterprises have further expanded to offline business, accelerating the digital transformation and upgrade of traditional business formats, according to He Qiang, statistician at a research institute

of the National Bureau of Statistics.

New business forms in the network economy blossomed as well last year. By the end of 2021, the number of Cellular Internet of Things users via China Mobile, China Unicom, and China Telecom reached about 1.4 billion, with a net increase of 264 million users. The innovation driven index also enjoyed growth with a rate of 20.5 percent year-on-year.

The other three sub indexes all witnessed upsurge at different degrees. The new kinetic energy has realized steady growth, continuously injecting new force to drive the high quality development of the economy, He said.

### AI Empowers International Communication

By ZHAO Boyuan & ZHONG Jianli

Literate robots, intelligent translation machines, media brains, virtual anchors — today, AI has been applied to many aspects of international communication, making the production of relevant content more accurate and smart.

On September 7, the Forum on Artificial Intelligence and International Communication, sponsored by the China International Communication Group (CICG) and Pengcheng Laboratory was held in Beijing. With the theme of enabling international communication to use new technologies, the forum discussed new technologies such as AI to promote international communication. Nearly 100 experts and scholars from scientific research institutes, media institutions, high-tech enterprises and other organizations attended the forum.

According to statistics, in 2021, the scale of the global AI industry had reached 361.9 billion USD, of which China accounts for 58 billion USD. With the continuous development of relevant science and technology, the application scenarios of AI have expanded.

"A new round of sci-tech revolution and industrial transformation led by AI is going on," said Du Zhanyuan, president of CICG, noting that seizing new opportunities brought by new tech such as AI and strengthening the international communication capacity are major tasks related to national development.

At the forum, the Intelligent Translation Laboratory of the Academy of Translation and Interpretation of CICG was founded. This laboratory aims to provide a platform for cooperation and exchange for experts and scholars in the fields of international communication, technology application and translation practice.

"AI will become the new engine of economic development," said Li Huian, vice president of Science and Technology Daily, adding that it also provides a broad stage for the media to improve their global reporting capacity.

Pengcheng's multilingual translation platform — "Silk Road 2.0" was also released at the forum. It aims to break language barriers between different countries and nations, providing translation services for different application scenarios through accurate and reliable data construction, and also serve the development of the Belt and Road Initiative.

## WEEKLY REVIEW

#### New Technology to Produce Hydrogen from Air

Hydrogen can be directly made from the air with electrolysis technology by absorbing moisture in the air, instead of using liquid water, according to a study published in the journal *Nature Communications*.

#### New Lunar Mineral Discovered by Chang'e-5 Mission

Chinese scientists have discovered a new lunar mineral through research on the samples retrieved from the Moon by China's Chang'e-5 mission and named it Chang'esite-(Y), the China National Space Administration and the China Atomic Energy Authority announced on Sept. 9.

#### Maglev Car Tested on Highway

A car, modified from a traditional vehicle, ran above a highway in east China's Jiangsu province. The road was installed with permanent magnet array and good conductor rail that allowed the car to levitate, according to the technology developed by the Chengdu-based Southwest Jiaotong University.

#### Long March-2C Rocket Celebrates 40th Anniversary

Since its maiden flight on Sept. 9, 1982, the Long March-2C rocket has undertaken all of China's retrievable satellite launches in the following decades. It becomes China's longest-serving carrier rocket.

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