

## INSIGHTS

## Global Stocktake: Climate Action Cannot Wait

## Opinion

Edited by TANG Zhexiao

With a resounding call to accelerate collective climate action, the 28th meeting of the Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) kicked off on November 30 in Dubai.

COP28 marks the conclusion of the "Global Stocktake," the first assessment of global progress in implementing the 2015 Paris Agreement.

Countries already know what the global stocktake will say: they are not on track, BBC reported in September. The world is not on track to limit a temperature rise to 1.5°C by the end of this century.

The stocktake does recognize that countries are developing plans for a net-zero future, and the shift to clean energy is gathering speed, but it makes clear that the transition is nowhere near fast enough yet to limit warming, said UNFCCC.

Actions to address climate change cannot wait. "We don't have any time to waste," said COP28 president Dr. Sultan Al Jaber, adding that we need to take urgent action now to reduce emissions. At COP28, every country and every company will be held to account, guided by keeping 1.5°C within reach.



Delegates arrive at the venue of the COP28 United Nations climate summit in Dubai on November 30, 2023. (PHOTO: VCG)

United Arab Emirates (UAE) has the presidency for COP28. On the eve of COP28, construction of the China-built Al Dhafra PV2 Solar Power Plant in the UAE was fully complete. As the world's largest single-site solar power plant and an important project of Belt and Road cooperation in green energy, it covers an area of 20 square kilometers of desert area with more than four million photovoltaic (PV) modules. At its full designed capacity, the plant can supply power for 200,000 households, and reduce 2.4 million tonnes of carbon emissions per year, according to officials.

China is a doer in advancing global climate governance, said Foreign Ministry Spokesperson Wang Wenbin. "We have not only built the world's largest clean power generation network, but also provided support and assistance in this regard to other developing countries to the best of our capability."

Aside from the UAE's Al Dhafra PV2 Solar Power Plant, China has undertaken other clean energy projects, such as the Sachal wind power project in Pakistan, the Noor III solar-thermal power plant in Morocco, the Al Kharsaah PV power station in Qatar and the Garissa

PV power plant in Kenya.

All these are vivid examples of China acting on the vision of green development, supporting the green and low-carbon construction and operation of infrastructure and enhancing international cooperation in climate response, said Wang.

China declared it would develop green and low-carbon energy and halt financing and construction of new coal-fired power plants overseas at the 2021 United Nations General Assembly. Two years later, research at the Green BRI Center in the International Institute of Green Finance showed that the proportion of renewables in China's Belt and Road energy sector projects surpassed fossil fuels, and the country made no overseas coal power investments in 2021 and the first half of 2022.

Apart from clean energy transitions, China also achieved results in soil erosion, ecological restoration, as well as farmland construction. In the last two decades, China has moved from the back seat to the front seat on everything related to green development, according to Erik Solheim, former executive director of the United Nations Environment Programme.

As Al Jaber said, all parties should prepare to deliver a high-ambition decision in response to the global stocktake that reduces emissions while protecting people, lives, and livelihoods.

## Voice of the World

## Smooth Sailing for China's Shipbuilding Prowess

Edited by QI Liming

Industry data shows that while the market share of China's shipbuilding industry continues to expand, a large number of high-tech shipbuilders are emphasizing the quality development of China's shipbuilding industry through optimizing types of ship. It is therefore entirely possible that the shipbuilding industry will become an ace up the sleeve of China's exports.

**Taking the lead spot in new global orders**

According to the data from global market researcher Clarksons Research Service on November 29, South Korean shipbuilders are expected to lag far behind their Chinese counterparts in new global orders, to place second worldwide in the industry this year amid a demand decline.

Clarksons data showed that South Korean shipyards won a combined 9.55 million compensated gross tonnages (CGTs) in new orders in the first 11 months of this year, down 39 percent from a year earlier.

Chinese shipyards outperformed their South Korean counterparts, clinching 21.89 million CGTs in new orders. South Korean shipbuilders obtained orders to construct 201 vessels, compared to China's 995 ships.

According to the *Korea JoongAng Daily*, given their track record, Chinese shipyards are expected to take the top spot in new global orders for the third straight year in 2023, with South Korea likely to place second.

According to data from the maritime industry professional services firm Lloyd's Register, in 2022, China accounted for 48 percent of global shipyard output, with South Korea at 25 percent and Japan at 15 percent.

Decades after China began its concerted efforts to build competitiveness in the global shipping industry, 2022 was the first time that Chinese shipbuilders exceeded the combined market share of Japanese and South Korean shipyards. Ships delivered to new owners by Chinese shipyards in 2022 totaled 14.6 million CGT, or nearly half of the

30.8 million CGT delivered globally, said *The Maritime Executive*.

China's market share has been growing consistently over the past 20 years. In 2000, Clarksons calculated they held less than 10 percent of the market, but in 2009 emerged as the market leaders.

As *South China Morning Post* reported, China has become the world's go-to country for shipbuilding after a boom of overseas orders. "China becoming a major world shipbuilding center may cause other countries to consider it to fill immediate needs for orders where other yards are already at full capacity," said Tom Ramage, economic policy analyst with the Washington-based Korea Economic Institute of America.

**Seeking diverse ship building capacity**

"Chinese shipyards' success has been achieved by maintaining a leading position within dry bulk ships and, more recently, establishing themselves as the premier location for building container ships," said Niels Rasmussen, chief shipping analyst at the Baltic and International Maritime Council (BIMCO).

"They also hold a large share of orders for most other ship types, but have yet to establish themselves as key players within the gas carrier sector," noted Rasmussen. However, BIMCO expects that it is possible that China could make inroads also into this sector, just like they gradually attracted orders for ultra large container ships.

In 2022, Chinese shipyards won 45 LNG tanker orders worth an estimated 9.8 billion USD, about five times their 2021 order values. Three Chinese shipyards won nearly 30 percent of 2022's record orders for 163 new gas carriers, according to Clarksons.

Meanwhile, S&P Global Commodity Insights said Chinese shipyards have accumulated their largest number of LNG new-build orders till this September, positioning them in coming years as an alternative to South Korean yards. In the first half of 2023, Chinese yards received 14 large LNG carrier orders, accounting for 35 percent of global orders for the period, as Xinhua News Agency reported this August.



China's first large cruise ship is delivered on November 4, 2023. (PHOTO: VCG)

## China Becomes the Global Renewables Leader

## Research Box

Over the last decade, China has become the world's renewables leader. Currently on target to reach a record-breaking 230 gigawatts (GW) of wind and solar installations this year, China leads the global renewables market. This is more than double the number of US and Europe installations combined.

While some other markets are moderating renewables targets, China has pushed up its 2025 wind and solar outlook by 43%, or 380 GW, since it first announced its 2060 carbon neutrality target in September 2020.

China has become a leader in grid-

connected energy storage, with capacity doubling from 2020 to hit 67 GW in 2023 and an outlook to expand to 300 GW by 2030. The share of coal in power generation has been continuously falling, down 10 percentage points in the last five years to about 55% today. About 80% of the reduction was replaced by renewables and the rest mostly by nuclear power.

The share of coal in power generation has been continuously falling, down 10 percentage points in the last five years to about 55% today. About 80% of the reduction was replaced by renewables and the rest mostly by nuclear power.

*How China became the global renewables leader, Wood Mackenzie, 11-20-2023*

## Science Museums Should Play Vital Role in Shaping Sustainable World

By GONG Qian

*Editor's note: The opening ceremony of the 2023 International Symposium on the Development of Natural Science Museums Under the Belt and Road Initiative (BRISMIS) was held in Beijing on November 29. Two keynote speakers, Wang Xiaoming and Shahbaz Khan, were on hand to share their insights on the role of science museums in conducting science education, promoting public engagement, and bringing about action and change.*

It is universally accepted that understanding science and technology begins with curiosity and imagination. Science and technology museums, also referred to as natural science museums, are therefore important spaces to nurture human curiosity, especially among the younger generation, and to shape public awareness and action, thus build-

ing an inclusive and sustainable world.

**Equal education and science communication**

In his speech at the ceremony, Wang Xiaoming, tenured professor of East China Normal University and vice president of Chinese Association of Natural Science Museums, said natural science museums promote equal and inclusive informal education by building an open, flexible and non-systematic education system, so that everyone has equal educational opportunities. They also help to establish a lifelong learning society and promote all-round development of people.

Natural science museums should be a venue for science popularization exhibitions of historical and current scientific and technological achievements, a place where the global deficit of science and technology can be reduced and a shared place with no thresholds, no discrimination, no boundaries, for all ages,

according to Wang.

Science museums should also serve as a science education and science culture communication platform that integrates science and art, filled with imagination, attraction and affinity, said Wang.

Furthermore, Wang said science museums could bridge domestic and international communication, enabling different groups to share their innovative ideas and achievements in the field of science and technology.

**Addressing global challenges**

In his keynote speech, Shahbaz Khan, director of the UNESCO Office in Beijing, said that in an era marked by profound climate and ecological challenges, the role of science museums and centers in fostering global sustainability has never been more crucial.

He said that science museums, traditionally repositories of knowledge and culture, are now pivotal in addressing

the complex nexus of climate change, ecological balance, and sustainable living. They are uniquely positioned to educate and inspire the public, especially the younger generation, about the intricacies of our environment and the critical need for its preservation.

Khan highlighted the fact that some science museums around the world such as the Science Museum Group in the UK and the California Academy of Sciences in the U.S. are making strides in reducing carbon emissions, and engaging communities in biodiversity and climate change initiatives.

Similarly, professor Wang stressed that natural science museums could promote the preparation of citizens to participate in joint responses to global issues, and achieve objective expression of new technologies, policies and emergencies such as the COVID-19 pandemic through vigorous debates and doubts.

## 3D Printing System Efficiently Aids Trauma Treatment

By TANG Zhexiao

An orthopaedic device that can be used to stabilize long bone fractures after emergency trauma, produced by an intelligent 3D medical high-speed printing (3D-HSP) system, was recently launched by the West China Pitech.

The external fixation brace printed by this 3D-HSP could be used for emergency trauma and postoperative external fixation covering the bones and

joints of the limbs, such as wrist and knee joints, as well as the spine.

The system has achieved a number of core technological breakthroughs, with its efficiency being 20 times higher than that of traditional 3D printing technology, according to the inventor.

Combined with a control system driven by AI to direct the printing trajectory, this 3D-HSP can replace traditional plaster fixation to provide a printed external fixation. After real-time

scanning of an injured body, the 3D-HSP can accurately print a fixed brace in about 30 minutes, whereas it originally took five to seven hours to print a similar brace.

The system has been put into clinical application in China and is continuing to be upgraded, in order to be able to print more complex curved surfaces such as shoulder joints, helping doctors treat patients' affected areas quickly and efficiently.

## Hi! Tech



## Water Technology Helps Build Sustainable Future

From Page 1

The turf is a crucial part of a football pitch and can affect a match's outcome. The technology, developed by College of Resources and Environment of Ningxia University, can irrigate with sea water or recycled water directly onto the grass, stabilizing water control and making it appropriate for tropical and sub-

tropical zones like Qatar.

This technology is what northwest China's Ningxia Hui autonomous region, which is surrounded by sand on three sides and has an arid climate, contributes to Arab countries with similar natural environments while improving water resource utilization.

Developed by Changjiang Design

Group (CDG) and applied in more than 30 water infrastructure projects, the video and sonar integrated leakage detection technology is called a "magic tool."

With the help of this technology, the location of abnormal leakage areas can be determined quickly. Moreover, the penetration point can be accurately located through the underwater robot

high-definition tracking. The flow rate and detection accuracy are 100 times higher than the previous technology version, with the detection water depth exceeding 150 meters, according to CDG.

Fu Ni, deputy director of the international department of CDG, said these technical achievements of international cooperation in water conservancy are expected to promote exchanges and cooperation in water-related fields and the company will continue to promote Chinese technology globally.