

2022 WNEVC

China, UK Collaborate to Achieve Climate Target

By QI liming & LONG Yun

The global sales volume of new energy vehicles (NEVs) reached 6.89 million in 2021, a massive increase of 110 percent year-on-year — and that's not all.

China's exports of automobiles and NEVs have set new records, with exports to developed countries increasing significantly, according to 2022 World New Energy Vehicle Congress(WNEVC).

"China is driving the global green transition in the transport sector no doubt, from NEVs and the entire supply chain. China makes contributions towards meeting climate change and should be thanked and proud of that," John Edwards told *Science and Technology Daily* on August 26, while attending the congress.

Growth exceeds expectation

As the UK Trade Commissioner for China, Edwards believed that the most important future trend of the NEV market in China and the UK is that the transition speed has been greatly underestimated.

"China's target is to make NEVs account for 20 percent of the entire automobile market by 2025 and as of the first half of this year, the number is already 22 percent, three years ahead of schedule. Hybrids are a transitional step towards pure NEVs, but Britain may not see such a rapid change. The sales of NEVs accounted for one in nine new cars in the UK in 2021. Sales of pure NEVs are outpacing those of conventional hybrids. As a result, the development of pure NEVs in the future may be faster than expected," he said.

Edwards said that another shows China and the UK working together on setting up an NEV policy, regulation and standard, particularly carbon accounting and carbon footprints.

More trade and investment from China

Trade and investment are the areas that China and the UK should focus on specifically, said Edwards.

"Firstly, we should expand the existing China-UK collaboration and cooperation. Many Chinese car brands have set up R&D facilities in the UK, and we hope that more companies will invest in the UK. It is hoped that more end-to-end supply chains will take root in the



John Edwards is reading the English edition of Science and Technology Daily. (PHOTO: Science and Technology Daily/Zhou Weihai)

UK."

"Secondly, the UK is hoping to attract more Chinese original equipment manufacturers (OEMs) in the UK. It is the Chinese OEMs that will dominate the electric vehicle markets. Eighty-five percent of cars produced in the UK are exported to Europe. Brexit makes no difference, and there are no tariffs and barriers around British cars. So, setting up factories and manufacturing cars in the UK can better promote Chinese enterprises to go global."

"If China's automobile manufacturers want to achieve international green production, then it should consider the carbon emissions generated during the sale of cars. If a manufacturer sets up a factory in Asia, and they travel long distances to sell their products in Europe, part of the emissions from car production are produced during the shipping."

"Finally, it is the next generation technologies, which is the particular area we are focusing on. The UK is the first country to bring out a national hydrogen strategy and China has also drawn up its own hydrogen strategy. Both the two countries share the same topic to exchange."

The UK has some of the best companies in the world in the whole hydrogen industry chain. He hopes to explore the development of hydrogen energy in the field of transportation, which will lead to further cooperation between China and the UK.

Tackling climate change with joint efforts

In the context of global low-carbon development, new energy plays a vital role in tackling climate change. Edwards considers that reasonable cooperation on climate change is the only way forward.

"It is not just China and the UK, but the whole world's responsibility to tackle climate change, which brings not only opportunities, but also necessities. The UK and China work really closely together. For example, the UK spent almost ten years working on the design of China's carbon markets, which is now

the largest in the world," he said, adding that policy, technology and capital are three main areas that collaboration should focus on.

On policy, one aspect on which the two countries can work together is the electricity market reform. The UK has a very developed electricity market and China's electricity market still needs to make the transition to a green electricity system.

When it comes to finance, the most important area is on green accounting standards. When issuing green bonds or shares, Edwards believes it needs to make sense globally and green accounting standards are crucial to green finance.

Then comes to technology, "I have talked about hydrogen already and now I would like to talk about carbon capture, utilization and storage (CCUS), which can produce blue hydrogen. Without CCUS, it is hard to meet net-zero emissions, something China takes very seriously. This is another area that we could collaborate on," he said.

China's Leading Role in Scientific Research

Voice of the World

By QI Liming

China has overtaken the U.S. as the world leader in both scientific research output and "high impact" studies, according to three different reports released this year.

Dominating in scientific research output

A report, published by Japan's National Institute of Science and Technology Policy (NISTP) in August, found that China has now published the largest number of scientific research papers annually, followed by the U.S. and Germany.

The figure was based on average data between 2018 and 2020, and drawn from the analytics firm Clarivate.

NISTP's report also found that Chinese research comprised 27.2 percent of the world's top-1 percent most-frequently-cited papers, the U.S. accounted for 24.9 percent, and UK research was third at 5.5 percent.

China publishes a yearly average of 407,181 scientific papers, pulling ahead of the 293,434 of the U.S. and accounting for 23.4 percent of the world's research output, the report said.

"China is one of the top countries in the world in terms of both the quantity and quality of scientific papers," said Shinichi Kuroki from the Japan Science and Technology Agency.

Passing U.S. on several key science measures

China has passed the U.S. in global scientific leadership in several key areas, according to a report from the National Science Board released in January this year.

This year's *State of U.S. Science and Engineering* pointed out some areas where China has taken the lead, including numbers of papers published and patents awarded.

According to the report, six countries produce more than 50 percent of the world's peer-reviewed science and engineering publications, namely China (23 percent), the U.S. (16 percent), India (5 percent), Germany (4 percent), UK (4 percent), and Japan (3 percent).

From 2000 to 2020, countries such as the U.S., Germany, and UK, produced publications more slowly, with an output-rate increase of three percent, than countries such as China, Russia, and Brazil, with an average output increase of 11 percent.

China is also leading the U.S., Japan and EU in the number of patents. China's share of international patents jumped from 16 percent in 2010 to 49 percent in 2020. The U.S. share of patents during that time dropped from 15 percent to 10 percent, Japan's share dropped from 35 percent to 15 percent and EU countries' share dropped from 12 percent to 8 percent.

The report also found the U.S. lags China in contributions globally to research and development growth overall.

Dr. Caroline Wagner, a science policy and R&D investment expert at Ohio State University said, "The U.S. has tended to rank China's work as lower quality. This appears to have changed."

Excellent performance in Chemistry

According to Chemistry World, China is performing well in chemistry and related fields, said Xiaotian Chen, an electronic services librarian at Bradley University in Illinois.

He mentioned the 2022 Best Global Universities Rankings provided by the *U.S. News and World Report*. According to the report, two Chinese universities are ranked in the global top 10 for chemistry, six are top 10 for physical chemistry and eight are top 10 for chemical engineering. By another measure, Chinese chemistry development has overtaken the U.S. since 2017.

Taking Concrete Actions in Pandemic Protection

Comment

By QI Liming

2022 is the third year that the pandemic has swept across the globe, taking people on a journey of initial panic, to the "normal" life of mask-wearing, social distancing and sanitizing.

Though people still suffer from the pandemic, some countries have learned to live with the virus. However, the novel coronavirus is still mutating, and the number of new cases and deaths in many countries continues to increase. Therefore, the "let it go" attitude may not be the wisest way forward.

Meanwhile, in China, the country's dynamic zero-COVID policy has been blamed by a handful of Western observers for blocking the global supply chain, and even for escalating global inflation, saying more and more foreign companies are exiting China because of its stringent "lockdown" policy.

It's time to look at this in a more rational and comprehensive light. Bloomberg's Opinion articles commented that China's economy may be healthier than it looks, and while old industries weaken, new ones start to thrive. Industrial China is alive and well despite concerns of an economic slowdown, and investors need to use a new lens to assess the economy. China's economy has hidden pockets of strength.

During an interview with U.S. mainstream media recently, Chinese Ambassador to the U.S. Qin Gang further explained that the dynamic zero-COVID policy readjusts according to circumstances, particularly the degree of the

spread of COVID-19.

So, instead of focusing on attacking China's dynamic zero-COVID policy, it is better for the critics to rationally review its own country's pandemic prevention policy, put people's lives and property first, and minimize the damage caused by the pandemic.

On August 17, Dr. Rochelle P. Walensky, the director of the Centers for Disease Control and Prevention (CDC), delivered a sweeping rebuke of her agency's handling of the coronavirus pandemic, saying it had failed to respond quickly enough and needed to be overhauled.

"To be frank, we are responsible for some pretty dramatic, pretty public mistakes, from testing to data to communications," she said.

Walensky said CDC's future depended on whether it could absorb the lessons of the last few years, during which much of the public lost trust in the agency's ability to handle a pandemic that has killed more than one million Americans. "This is our watershed moment. We must pivot," she said.

She laid out her basic conclusion from the review of a report, which would soon be published. CDC must refocus itself on public health needs, respond much faster to emergencies and outbreaks of disease, and provide information in a way that ordinary people, the state and local health authorities can understand and put to use.

Dr. David Dowdy, an epidemiologist at Johns Hopkins Bloomberg School of Public Health, said messages to the general public need to be, "Very clear, very simple, very straightforward," not framed for scientists. "I do think that culture is changing, but we need it to change faster," he said.

Hi! Tech

- ①Foton shows a heavy truck loaded with hydrogen fuel cell engines.
- ②Contemporary Amperex Technology Co., Limited releases CTP3.0 Kirin battery.
- ③Hong Qi's E-HS9 car.

(PHOTO: Science and Technology Daily/Zhou Weihai)

