

## **Leading in carbon neutrality with innovation**



BEIJING: China is expected to take the lead in achieving carbon neutrality worldwide, not only because the country has taken the helm in renewable energy installed capacity but also due to the government's relentless efforts in technological innovation, industry experts say.

With its goals to peak carbon emissions by 2030 and achieve carbon neutrality by 2060, China will be the main battlefield for massive technological innovation and application scenarios, said Zou Ji, CEO and president of Energy Foundation China.

The technological innovations will play a central role in tackling climate change and achieving decarbonisation goals in China and the whole world, while further stepping up market transformation and upgrades, Zou said.

China's exploration and utilisation of renewable energy remains the world's largest so far, laying a strong foundation for the country's transition to green and low-carbon energy.

China's installed clean energy capacity reported rapid growth in the January-November period in 2020, with the country's installed wind power capacity soaring 29% year-on-year to 300 million kilowatts and its solar power capacity reaching 290 million kW, up 24.1% from a year earlier, the National Energy Administration said.

Utilising technological innovation to support energy conservation and reduce emissions is increasingly recognised as an indispensable tool in achieving carbon neutrality, said He Kebin, deputy director of the National Experts Committee on Ecological Protection, an academician of the Chinese Academy of Engineering, and a professor with the School of Environment at Tsinghua University.

“China has technological advantages in wind and solar power, and its advantages in ultra-high voltage power transmission might also contribute to global carbon neutrality,” said He.

The gradual increase of renewable energy, including wind, solar, hydro and nuclear power, and the fading need for fossil fuels boost technological innovation in China and support the nation in providing more solutions in the sphere, he added.

However, as the country’s carbon emissions in sectors including thermal power, steel and cement have been growing rapidly during the past three decades, achieving carbon peak and neutrality still requires a lot of effort, experts said.

Zhang Qiang, a professor with the Department of Earth System Science of Tsinghua University, said the challenge for carbon neutrality in China still exists, as thermal power, steel and cement sectors, which have supported economic and social development during the past 30 years, have also brought about massive carbon emissions.

Thermal power, for example, still has new capacities in the country’s energy bases including Shanxi and Shaanxi provinces, the Inner Mongolia autonomous region, as well as coastal regions in East China, Zhang said during a recent release of a report on global energy infrastructure carbon emissions by the Tsinghua University Institute for Carbon Neutrality in Beijing.

He said that governments should reverse the inertia of investment in high-carbon energy infrastructure, while accelerating the upgrade and orderly phasing out of energy infrastructure, improving technology and efficiency to lower the intensity of carbon emissions.

Zhang also suggests the increase of research and development of emerging low-carbon technologies, demonstration and application of hydrogen steelmaking, and carbon capture, utilisation and storage to push forward the development of renewable energy. — China Daily