

## INSIGHTS

## U.S. in No Position to Blame China on Climate

Clear Voice 

By LIANG Yilian &amp; HU Dingkun

At a recent UN Security Council meeting on climate and security, U.S. representative Dan Negrea criticized China over its carbon emissions, disregarding China's large population and development needs.

Geng Shuang, China's deputy permanent representative to the UN, responded to the allegations, saying that China, with a population of 1.4 billion and the second-largest GDP in the world, "is contributing annually more than 30 percent to the world economic growth, and its per capita emission is not among the highest in the world."

Geng critiqued the U.S. for undermining global efforts by withdrawing from the Paris Agreement twice and urged collaboration instead of blaming others.

In recent years, the U.S., the country with the biggest historical responsibility for the current climate warming, has dithered on its climate policy and reversed many significant decisions.

This year, Washington withdrew from the Paris Agreement — for the second time — and issued multiple executive orders to lift restrictions on domestic coal development while expanding oil and gas production.

An analysis led by researchers from Princeton University suggests that this reversal of climate policies will cause the U.S. to emit an additional 470 million tonnes of greenhouse gases annually



The drone photo taken on April 8 shows the Hami-Chongqing UHV direct current transmission line project. (PHOTO: XINHUA)

over the next decade.

On the issue of climate, the U.S. has not only let the world down by refusing to shoulder its share of the responsibilities but also deliberately obstructed the efforts of others.

According to Politico, the U.S. government is leveraging its trade influence to coerce the EU, Japan and others into purchasing American oil and natural gas. It is also deliberately deploying diplomatic tools to prevent other countries from reducing the use of fossil fuels.

During the International Maritime Organization meeting in October, the U.S. delayed the implementation of a proposed global carbon tax on shipping by threatening and pressuring the negotiators from other countries.

According to a commentary in *npj Climate Action*, an open-access journal

published by Nature, U.S. climate actions not only undermine decades of progress in transitioning to clean energy, but also pose a direct threat to the global community's ability to limit global warming to 1.5–2°C.

The commentary, published in July, was authored by Carlos Garcia-Soto, a senior researcher at the Spanish National Research Council.

Unlike the U.S., China is firmly advancing the transition to renewable energy and improving climate governance. It is also exporting clean energy technologies and products and leading the global decarbonization process.

According to the global energy think tank Ember, China is the world's largest investor in clean energy, with an investment of 625 billion USD in 2024, accounting for 31 percent of the world's total.

In 2024, clean energy accounted for 84 percent of China's electricity growth, and clean energy generation in the first half of this year increased by 27 percent year on year.

From 2022 to 2024, China's installed capacity of wind and solar power surged from 635 GW to 1,408 GW.

In 2025, the total installed capacity of China's wind and solar power will surpass coal power.

According to a study by the Brussels-based economic think tank Bruegel, China is vital especially for renewable energy products, manufacturing 92 percent of the world's solar modules and 82 percent of wind turbines as of 2024. China's production of green energy technologies not only meets its own rapid renewable energy installation needs but is also expected to meet the production capacity required for global decarbonization.

In sub-Saharan Africa, China's clean-energy exports in 2024 alone are set to cut annual emissions by around three percent per year, and by around 4.5 percent in the Middle East and North Africa region.

Responding to the climate crisis is a global consensus, and developing clean energy represents the trend of the times. The international community can clearly see who is taking responsible action and who is shifting responsibility, who is seeking cooperation and who is making trouble on the issue of climate change.

China's clean energy technology has provided certainty for global climate governance. The U.S., perceived as a trouble-maker and responsibility-shirker in global climate actions, has no support and is in no position to blame China.

Voice of the World

## Innovative China Draws the World

By LI Linxu

Innovation is a buzzword in China's 15th Five-Year Plan recommendations for the period from 2026 to 2030.

China's rapid rise as a global innovation hub is reshaping industries worldwide, attracting multinational corporations like ZEISS, Vale, and Caterpillar to collaborate and invest in its dynamic ecosystem.

These partnerships demonstrate how China's innovative prowess is not only transforming its domestic market but also influencing global sci-tech and sustainable development trends.

ZEISS, a technological pioneer in the optics and photonics field, has embraced China's innovation potential and deepened its roots in the country through localized innovation and partnerships.

"China offers a vast market, an open business environment, favorable policies, abundant talents and resources, and sophisticated supply chains. This unique combination makes China an ideal destination for business," Martin Fischer, president and CEO of ZEISS Greater China, said. He emphasized that ZEISS is continuously advancing local innovation in China, and strives to become an integral part of the country's innovation ecosystem.

Currently, ZEISS has three R&D centers located in Shanghai, Suzhou, and Guangzhou, and holds 89 impactful patents in China. It is also engaging and collaborating with academic and research institutions to drive the transformation from scientific breakthroughs into industrial applications.

"ZEISS has been a trusted partner in China since 1957, coinciding with the country's first Five-Year Plan period. As the 15th Five-Year Plan period is approaching, both ZEISS and China are poised for new beginnings," Fischer said, vowing to expand the company's investment and presence in China.

The Chinese market has become the largest market for ZEISS since 2021. Over the past decade, the company's revenue increased six-fold in China.

## Transparent Jellyfish Robot for Underwater Probe

Hi-Tech

By LIANG Yilian

A research team led by Professor Tao Kai from the School of Mechanical Engineering at Northwestern Polytechnical University in Shaanxi, northwestern China, has developed a fully transparent, jellyfish-shaped bionic robot capable of intelligent underwater exploration and real-time environmental monitoring.

Dubbed the "Underwater Phantom," the robot becomes nearly invisible to the naked eye when submerged, blending seamlessly into its surroundings. Measuring just 120 millimeters in diameter and weighing 56 grams, it is powered by an electrohydraulic artificial muscle actuator and innovative hydrogel electrode materials independently developed by the team.

These technologies precisely replicate the vortex-ring propulsion mechanism of the real jellyfish, enabling the robot to achieve efficient, almost silent, movement underwater.

With an ultra-low power consumption of only 28.5 milliwatts, the robot demonstrates strong potential for long-term, covert underwater operations.

The researchers have also integrated

Brazilian mining giant Vale recognizes significant strengths in China's innovation ecology, and has deepened its innovation cooperation with China.

Tracy Xie, CEO of Vale China, said: "Chinese-style innovation prioritizes resource integration and shared development, leveraging the nation's extensive industrial infrastructure and collaborative culture." She cited Vale's expanded innovation network as a prime example, including its joint laboratory with the Central South University in Changsha in central China.

Established last year, the 3,000-square-meter facility, equipped with 100+ cutting-edge instruments, focuses on low-carbon and hydrogen metallurgy research. Open to researchers industry-wide, it aims to advance theoretical breakthroughs and pioneering technologies in sustainable metallurgy.

Caterpillar, a U.S. manufacturer of heavy equipment, also views China as a strategic location. In its 50-year presence in China, the company has built a complete value chain including local R&D, manufacturing, and supply networks.

It is focused on long-term opportunities in economic growth in China, where innovation is aligned with infrastructure development and sustainability goals.

"In the coming years, we will be continuously committed to China," Alan Yang, Caterpillar's senior vice president, said. Caterpillar remains dedicated to future innovation through investments in AACE technologies — autonomy, alternative fuels, connectivity and digital, and electrification — to meet evolving customer needs.

These cases underscore China's ability to attract and co-create with global leaders. From ZEISS's optics to Vale's sustainable metallurgy and Caterpillar's smart solutions, China's innovative ecosystem offers technology innovation, transfer, scale, and policy synergy, making it an indispensable partner for multinationals.

As the world watches, "Innovative China" continues to draw the world — not just as a market, but as a collaborator in shaping the future.

## Wuzhen Summit Highlights Open Source, Global Collaboration

Opinion

By Staff Reporters

"In the past two years, Chinese open-source contributions have earned deep respect globally," said Wang Jian, founder of Alibaba Cloud and moderator of the "Six Little Dragons" Wuzhen Dialogue, at the 2025 World Internet Conference that recently concluded in Wuzhen in east China. "The international developer community now recognizes that China is making substantial, high-quality contributions to the foundation of AI."

A new consensus emerged among China's leading tech innovators: The country's growing influence in global technology stems not from closed systems, but from active participation in and contributions to open-source ecosystems and international co-creation.

During the same dialogue, the founders of six cutting-edge Chinese companies underscored that open collaboration has become central to their development strategies. Their message was clear: China is no longer just a user of

global open-source tools. It is now a key builder of them.

Nowhere is this shift more evident than in AI. Wang pointed to two landmark achievements from Hangzhou, the city in east China where the Alibaba Group is headquartered: Alibaba's Qwen large language model and DeepSeek's open-weight AI models. Both have gained adoption by developers worldwide and were honored at the Wuzhen conference.

Chen Deli, senior researcher at DeepSeek, confirmed this trend. The company, founded in 2023 with the goal of advancing toward artificial general intelligence (AGI), has released its models openly from day one.

"We practice the concept of a community with a shared future in cyberspace, advocating openness, cooperation and mutual benefit," Chen said. "By open-sourcing our models, we enable global developers to use, test, and improve them. In return, we receive invaluable feedback that accelerates our own progress. This two-way exchange has become a core competitive advantage."

This philosophy extends beyond software to hardware and robotics. Wang Xingxing, founder, CEO and CTO

of Unitree Robotics, explained that the recent leap in humanoid and quadruped robots from lab prototypes to agile, real-world machines was made possible by global open-source collaboration.

"It's not the achievement of any single nation," he said. "Developers around the world share algorithms, simulation environments, and control frameworks on open platforms. That collective effort is why robots today can walk, dance, and operate in complex environments."

He added that Chinese companies are not only benefiting from this ecosystem but enriching it. Unitree, for instance, has open-sourced the key components of its robot control stack, enabling researchers and startups globally to build upon its work.

Huang Xiaohuang, founder of Qunhui Technologies, emphasized that China's role in the global digital economy has always been interconnected.

"China's Internet era generated massive public data and user scenarios," he said. "This accumulation didn't just support domestic AI — it also provided foundational training material for global models, including those developed by companies like OpenAI. Now, we're giving back

through open models, transparent research, and collaborative development."

Even in creative industries, openness fuels innovation. Feng Ji, CEO of Game Science, commented that Chinese game developers have long relied on global platforms like Steam to reach audiences, gather feedback, and iterate.

"Last year, four of the world's top 10 highest-grossing games were created by Chinese teams," he said. "That success was built over more than a decade of engaging with a global player base and talent pool not in isolation."

The emphasis on open source reflects a broader strategic shift. As Wang observed, the past decade, the period since China proposed building a community with a shared future in cyberspace, has seen China evolve from a technology adopter to a co-architect of global digital infrastructure.

The participants agreed that in an era of rising technological fragmentation, open collaboration offers a more sustainable path forward. Their work demonstrates that innovation thrives not behind walls, but in shared spaces where code, ideas, and ambition flow freely across borders.

## Thorium-uranium Conversion Makes Breakthrough

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There is no need for huge pressure vessels or a large amount of water for cooling. It's like generating electricity by flowing 'nuclear fuel' through 'high-temperature salt,' which is both safe and efficient," according to researchers of the Shanghai Institute of Applied Physics, CAS.

Because there is no need of water as a coolant, the TMSR is expected to enable the construction of safe and highly efficient nuclear power plants in inland areas.

According to researchers, when a reactor needs to add nuclear fuel, conventional pressurized water reactors need to be shut down regularly and the top cover

of the pressure vessel needs to be opened to replace the nuclear fuel. However, the TMSR uses liquid fuel. The nuclear fuel is uniformly dissolved in the molten salt coolant and circulates along with it, allowing for fuel replenishment without shutting down the reactor.

The TMSR also has many safety features. When the temperature of the TMSR inside the reactor exceeds the predetermined threshold, the bottom freezing plug will automatically melt, and the molten salt carrying the nuclear fuel will all flow into the molten salt storage tank, thereby terminating the nuclear reaction. Meanwhile, the reactor operates under a normal pressure environment,

with simple and safe operation. The fluoride salt coolant turns into a solid state after cooling, effectively preventing the leakage and spread of nuclear fuel, and also preventing it from interacting with groundwater and causing ecological disasters.

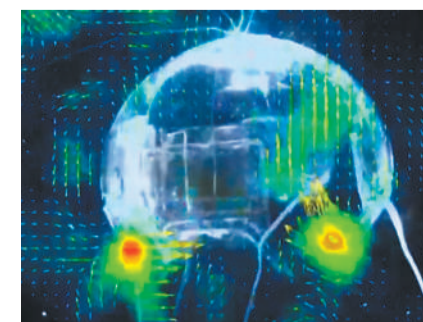
Tackling key tech barriers

In 2011, CAS initiated the TMSR nuclear energy system technology project, systematically overcoming a series of technical challenges such as the design of the experimental reactor, the development of key materials and equipment, installation and commissioning, as well as reactor safety. Ultimately, the overall self-made rate of the experimental reac-

tor exceeded 90 percent, and all key core equipment was domestically produced, establishing an independent and controllable supply chain system.

From the implementation of the project to its stable operation, the construction of the experimental reactor has been advancing steadily. In June 2024, it achieved full-power operation for the first time, and in October 2024, it completed the world's first molten salt reactor with thorium. It was the first in the world to build a unique MSR and thorium-uranium fuel cycle research platform.

Now, the research team is conducting systematic studies on the key scientific issues related to adding thorium, and aims to complete the construction of a 100-megawatt TMSR demonstration project, and begin operation by 2035.



A fully transparent, jellyfish-shaped bionic robot. (PHOTO: Northwestern Polytechnical University)