

Hami attracting large-scale projects

Xinjiang city's rich natural resources get close attention from investors

By LI JIAYING in Beijing and MAO WEIHUA in Urumqi

As a number of high-tech and large-scale projects in emerging sectors are taking shape, Hami in the Xinjiang Uygur autonomous region is harnessing its abundant natural resources to spearhead an industrial transformation driven by new growth engines.

Situated in the foothills of the eastern Tianshan Mountains, Hami boasts abundant wind and solar resources. However, despite its status as a key new energy hub in eastern Xinjiang, the region lacked a photovoltaic silicon industry until recently, as a monocrystalline silicon wafer production project has entered the commissioning phase.

With an annual production capacity of 60,000 metric tons of industrial silicon already established, the first phase of the monocrystalline silicon wafer production project, which includes 10 gigawatts of production capacity, is currently in trial operations, said Qingdian Silicon Industry Co Ltd, the project's operator.

Once fully operational, the project is expected to have an annual production capacity of 60 GW of photovoltaic silicon wafers, which are essential materials for solar panels, and the final products will be supplied both within Xinjiang and across China, the manufacturer said.

Monocrystalline silicon products sit upstream in the photovoltaic industrial chain. By employing state-of-the-art monocrystalline furnace technology to process silicon materials — including melting, crystallization, slicing and cleaning — the end result is the production of solar cells, which are then assembled into photovoltaic panels of various specifications.

An integrated silicon-based industrial chain is a development target in Hami, which extends from raw material production — such as silicon rods and wafers — to photovoltaic cells and modules. With accelerated efforts to capitalize on its abundant wind and solar energy resources, the city aims to turn its energy advantage into a manufacturing edge.

"Xinjiang's rich natural resources and electricity cost advantages have enabled us to establish a complete silicon-based industrial chain here," said Qin Xiandong, senior manager at Qingdian Silicon's R&D department.

"We've completed the installation and testing of 456 monocrystalline furnaces, with a total of 800 units to be in place by the end of the year. By 2026, we aim to reach an annual capacity of 40 GW with 3,000 furnaces," Qin said.

Hami will continue to accelerate development of the new materials industry by advancing major project construction, driving full-chain development through leading enterprises, and upgrading existing manufacturing technologies and processes, said Dou Rencai, deputy director of Hami's bureau of industry and information technology.



An employee operates a production line of monocrystalline silicon rods at a Qingdian Silicon Industry Co Ltd plant in Hami, Xinjiang Uygur autonomous region, in August. LI JIAYING / CHINA DAILY



A technician inspects the operation of an integrated computing center in Hami. PROVIDED TO CHINA DAILY

try and information technology.

"Our goal is to establish Xinjiang's major new materials industrial cluster here," Dou said.

Silicon is not the only new material that Hami is betting its future development on. Rich in mineral resources, the city ranks first in Xinjiang in terms of reserves of copper, nickel, titanium, magnesium, vanadium and molybdenum. Among

them, the estimated 2 billion tons of vanadium-titanium magnetite places the city third nationwide and makes it the only complete titanium industrial chain in Xinjiang.

Since its establishment in 2013, Hami-based Xinjiang Xiangrun New Material Technology Co Ltd has built a comprehensive titanium industrial chain, covering titanium ore, titanium sponge, titanium pro-

cessing and relevant finished products. In 2023, it produced over 33,000 tons of titanium sponge and about 19,500 tons of titanium materials, both placing it second in the country.

The company's new 30,000-ton titanium and titanium alloy project is expected to begin production by the end of this year. Once fully operational, its annual capacity for tita-

nium sponge will exceed 100,000 tons, and for titanium and titanium alloys, it will surpass 50,000 tons, said Liu Honggui, the company's deputy general manager.

"It is expected to make us the world's largest titanium producer by then," Liu said.

Hami Vice-Mayor Li Jianyong highlighted the city's strategy to capitalize on its abundant local resources, saying that the city has already developed annual capacities of 20,000 tons of titanium and titanium alloy, 35,000 tons of magnesium and 60,000 tons of industrial silicon.

"Moving forward, we will focus on integrating new materials with green electricity consumption, aiming to build a new materials industry cluster worth over 30 billion yuan (\$4.26 billion), centering around titanium, magnesium, silicon and copper," Li said.

Li added that the city will also attach more importance to other new growth drivers such as computing prowess for high-quality development.

Hami's integrated computing center in Yiwu county has established a landmark breakthrough for the region, he said. Its computing project has created a computing power network connecting Zhengzhou in Henan province, Qingyang in Gansu province and Hami, representing "a leap from zero to one" for the city's computational capabilities.

To date, the center has built eight

intelligent computing servers, 100 general-purpose computing servers and 80 supercomputing nodes, with a total computing power of approximately 150 petaflops. It has also established cross-regional data transmission networks connecting Hami with Urumqi, Zhengzhou, Beijing and Chongqing. More than 10 domestic enterprises and research institutes are now using the high-speed computing infrastructure for artificial intelligence training, according to the center's data.

Computing power and electricity are symbiotic industries. Hami's vast wind and solar energy resources allow it to provide competitively priced green electricity. Given that electricity costs account for over half of computing companies' operational expenses, Hami's energy advantage has enabled it to cultivate a competitive edge in the computing power industry, said Li Chao, executive director of Hami's energy-computing power fusion research institute.

"We're converting Xinjiang's renewable energy advantage into affordable electricity prices, which in turn fuels computing power development," Li said, adding that a slew of State-owned enterprises, tech firms and investors are flocking into Xinjiang to invest in renewable energy and computing power.

"The green computing power produced here is expected to serve businesses across China and international partners," he said.

With a total infrastructure investment of 765 million yuan, the second phase will feature computing power facilities tailored to diverse sectors such as large model inference, energy sector and smart city operations. These developments will support smart governance, digital economy growth, and cross-regional data backup services for cities in Central and East China, Li added.

"The county is working full steam ahead on our computing power economy park, which will house two buildings covering 35,000 square meters and include 2,650 server racks. With expected full completion by the end of the year, Yiwu is poised to become Xinjiang's most competitive computing power base," said Peng Peng, head of the county's Party committee.

Dou of Hami's bureau of industry and information technology further elaborated on the city's plans.

"We will deepen our cooperation with cities like Chongqing, Zhengzhou and Beijing to enhance computing power dispatch and testing, and at the same time, expedite the expansion of computing applications into sectors such as culture, transportation, education and healthcare. The aim is to foster coordinated development by promoting the computing industry with real-world applications."

Wang Xinran contributed to this story.

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Northwest region embracing wind power advantages

By LI JIAYING in Beijing and MAO WEIHUA in Urumqi

With rapidly expanding wind manufacturing capacity backed by abundant natural resources, Hami in the Xinjiang Uygur autonomous region is poised to become a cornerstone in China's renewable energy landscape.

At Sany Renewable Energy's megawatt-grade smart wind power equipment industry park in Barkol Kazakh autonomous county, Hami, two high-capacity production lines run at full speed. This year, the park's newly launched facility began producing the region's longest onshore wind turbine blades, marking a milestone for the local manufacturing and solidifying Hami's status as a key hub for Xinjiang's wind energy sector.

Spanning 675 mu (45 hectares) and with a total investment of 1 billion yuan (\$142 million), the park primarily produces onshore wind turbines and ultra-long blades, which are destined for local wind power projects across Xinjiang.

With construction completed at

the end of last year, the plant's blade production base is designed for an annual capacity of 1,200 units, and operations commencing in July, with 28 wind turbine blades already completed so far.

"We currently have two blade production lines operating, producing 112-meter and 95-meter blades," said Zhang Tengfei, a manufacturing management specialist at the company.

As turbine blades become larger and more diverse in design, the company is focusing on process innovation, particularly in key technologies such as material preforming, component prefabrication and assembly tasks, Zhang said, adding that research and development efforts have helped drive some 10 pioneering manufacturing techniques, improving the overall efficiency and quality of blade production.

Similarly, at Hami CRCC New Energy Motor Co Ltd's production line, manufacturing of advanced wind turbine components is in full swing. Since setting up operations in Hami in 2015, the company has seen rapid growth, continually

upgrading its product portfolio through innovation.

"We've evolved from small-megawatt turbines to producing large-scale 6 MW and 10 MW units," said Tang Lanhai, deputy general manager of the company.

"In August, we completed production of Xinjiang's first 10 MW doubly-fed wind turbine drivetrain, and by the end of this year, the production line is expected to fulfill an order of 170 units," Tang said.

Tang added that by leveraging the region's well-developed industrial supply chain, the company now handles more than 400 orders annually.

"The wind turbines produced here are shipped to regions such as Gansu province, the Inner Mongolia autonomous region and Qinghai province. We also have export orders to Central Asia, underscoring the region's expanding global reach in wind energy manufacturing," he said.

In recent years, Hami, often referred to as Xinjiang's "eastern gateway," has emerged as a major player in wind power equipment manufacturing. The city's bureau of

industry and information technology said it is now home to 14 large-scale equipment manufacturers, including major industry players like Goldwind, China State Shipbuilding Corp, CRRC Corp and Sany Group.

The manufacturing cluster has helped put Hami as Xinjiang's largest and most comprehensive wind power equipment manufacturing base, with a localization rate of over 70 percent. It is now recognized as China's sixth-largest wind power manufacturing hub and the most complete one in the country's northwestern region, said Dou Rencai, deputy director of Hami's bureau of industry and information technology.

Hami's natural wind resources have played a crucial role in driving the region's wind power boom. As one of China's most resource-rich areas for wind and solar energy, Hami's wind zones cover 66.3 percent of Xinjiang's land area, with a technically exploitable wind energy potential of 303 million kilowatts — accounting for 6 percent of the nation's total onshore wind resources.

Backed by bountiful wind resour-



A view of the Shisanjianfang wind farm in Hami, Xinjiang Uygur autonomous region. MAO WEIHUA / CHINA DAILY

ces, Hami is positioning itself as a leader in wind energy development by focusing on building, strengthening and extending its industrial chain, Dou said.

"Hami aims to become a research, manufacturing and distribution center for energy equipment, not only for Xinjiang, but for all of the western part of China. Our goal is to

establish a national-level innovation platform for the renewable energy manufacturing industry here," he said.

Wang Xinran contributed to this story.

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