Shanxi coal industry moving in green direction

Outdated facilities phased out to reduce environmental impact

Coking enterprises in Shanxi are using more advanced facilities to meet stricter pollution-control requirements. PROVIDED TO CHINA DAILY

中国山西 China Shanxi

By YUAN SHENGGAO

Production on a coking furnace at Sanxing Coal Gasification in Taiyuan, Shanxi province, was closed on Nov 10. It marked the phaseout of the company's outdated facility to meet stricter environmental requirements.

"It's time to say goodbye to this coking furnace, which had been working for thousands of days," said Xiong Youwen, a Sanxing executive in charge of the furnace.

"We see the furnace as an 'old friend' of ours, as we have worked with it from the very beginning."

According to Xiong, Sanxing is one of the advanced coking gas producers in Taiyuan. The company was among the first to use the processes of desulfurization and denitrification in Shanxi to make sure that its waste gas discharge met environmental standards of the times.

However, Taiyuan's industry and information technology bureau as well as environmental protection bureau released a joint regulation at the beginning of the year to require the shutdown of coking furnaces with a coking chamber height of less than 4.3 meters. The new measures meant companies like Sanxing would need to meet even stricter pollution-control standards.

"By the end of November, all the 4.3-meter-and-below coking furnaces in Taiyuan had been shut down, eliminating outdated capacity totaling 5.21 million metric tons a year," said Cui Junlin, chief of Taiyuan's industry and information technology bureau.

In Shanxi as a whole, outdated coking furnaces with an annual capacity totaling 11.92 million tons were shut down in 2019. And the number has reached 10.79 million tons to date this year, according to the Shanxi Provincial Department of Environmental Protection.

The coking industry has been an economic pillar in Shanxi province, which is known for its rich coal resources. However, it has been a major source of air pollution in the province over the past decades.

In recent years, Shanxi authorities have required local coking enterprises to raise pollution-control standards by phasing out outdated facilities and promoting more environmentally friendly manufacturing.

According to insiders in the coking industry, the height of the coking chamber is a determining factor in pollution control. A higher furnace means a larger volume in the coking chamber, which allows for full combustion of coal and leads to better coking efficiency and less emissions.

In China, the height specifications for coking chambers are 4.3, 5.5, 6 and 7.65 meters.

"About 70 percent of the coking chambers in China are 4.3 meters at present," said Liu Junwei, a researcher at Jinhuan Keyuan, an environmental protection research company based in Taiyuan.

Coking furnaces with higher coking chambers have been increasingly used in Shanxi in recent years.

According to Liu, 5.5-meter-and-above furnaces accounted for 25.5 percent of the province's total by the end of 2017. The ratio increased to 38 percent by the end of 2019. He predicted the number will rise to 50 percent by the end of this year.

"The phaseout and replacement of outdated coking furnaces is of great significance in the green development in Taiyuan and in Shanxi as well," Liu said.

However, local officials said closing and replacing outdated facilities is not the ultimate goal. It is a means for the industrial transformation and green growth in Shanxi.

Back at Sanxing Coal Gasification, employees are not worried about whether they will retain their jobs.

The entire company will be relocated to the Qingxu Fine Chemicals Industrial Park in the suburbs of Taiyuan, Xiong said, in hopes of engaging in an industry with higher added value and lower emissions.

Like Sanxing, Gengyang Investment, a Taiyuan-based company, has also moved its coking-related operations to the park.

"We used to produce coke tar that could sell at about 2,000-3,000 yuan ($300-$460) per ton," said Mi Jingxuan, vice-president of Gengyang. "Now at Qingxu park, we have installed new facilities to produce needle coke products, which can sell at 20,000-30,000 yuan a ton."

Longhui Coal Gasification is another company that recently moved to Qingxu park. It will maintain its coking operation at a much more advanced level.

A coking furnace of 7.65 meter, which represents the highest level in the world, will soon be completed at the company's new site. Longhui executives said they are confident that the company can become a role model for advanced, clean coking production in Shanxi and in China.

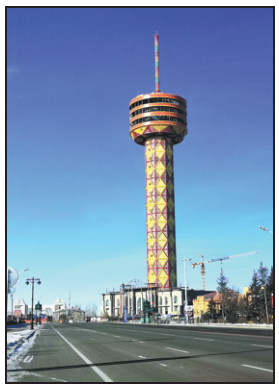
Guo Yanjie contributed to this story.

Colorful spectacle at the waterfall

As the temperature fell to below zero in early December, water spray and mist formed icy walls on both banks of the Hukou Waterfall section of the Yellow River, which serves as the boundary of Jixian county in Shanxi province and Yichuan county in Shaanxi province. The charm of the tourist attraction is enhanced by a rainbow appearing in the sunshine and water spray. Hukou Waterfall was formed where the Yellow River flows through Shanxi-Shaanxi Grand Canyon. The width of the Yellow River narrows from more than 400 meters to about 50 meters at this site, making the flow more forceful during its 40-meter drop. LYU GUIMING / FOR CHINA DAILY

Towering achievement aims to boost tourism

By YUAN SHENGGAO



The 208-meter Pearl of the Northern Frontier tower is a new landmark in Manzhouli. WANG YE / FOR CHINA DAILY

In the early morning of Nov 30, when the temperature was below -20 C in the border city of Manzhouli in the Inner Mongolia autonomous region, hundreds of people were waiting near a construction site to witness an engineering miracle.

The crowd's eyes were fixed on a tower measuring about 150 meters in height. At 7:30 am, a gigantic cylinder-shaped steel structure said to weigh 1,350 metric tons, rose slowly up the tower with the help of a heavy-duty crane. The structure was finally placed at the top of the tower.

The huge steel cylinder is to be a revolving restaurant on top of the Pearl of Northern Frontier tower, a new landmark in the city of Manzhouli that is close to the China-Russia border.

The tower is being built by Shanxi Construction Investment Group, one of the leading civil engineering companies in Shanxi province.

"We have been working on the Pearl of Northern Frontier for more than 500 days and today is the most exciting moment," said Liu Kegong, a SCIG manager responsible for the construction project.

"We are capable of lifting a steel structure with a weight of 7,000 tons to designated positions. But it is the first time we've put such a huge revolving restaurant at a height of more than 150 meters," Liu said.

"Despite all the difficulties, we were fully prepared for the mission and we made it."

Situated in an area that neighbors Russia and Mongolia, the Pearl of Northern Frontier is the highest tower in China's border regions.

The Pearl of Northern Frontier will be a major tourist attraction in the border city, said Wang Zejun, an executive of tower owner and operator Manzhouli Land Port Tourism Group. It will combine catering, sightseeing, relaxation, recreation and shopping.

With a total investment of 180 million yuan ($27.5 million), the 25-story tower has a total floor space of 19,143 square meters.

To ensure the success of the project, SCIG has used 15 patented technologies during construction, including super-large structure lifting and welding in extremely low temperature.

Construction on the Pearl of Northern Frontier tower is scheduled to be complete in 2021.

Guo Yanjie and Wang Ye contributed to this story.

Students given help to stay in school longer

By YUAN SHENGGAO

Education is the fundamental solution to poverty alleviation. That idea is a consensus reached by education officials, teachers and students in Shanxi province.

To make sure students are educated, teachers and officials will not allow any student to drop out of school.

At the No 4 Middle School in Shouyang county, teachers and school officials noticed that one student, Du Wenhui, had not attended for several days after the new semester began in September.

They realized something had happened with her. So they drove to Baiyun, Du's home village some 40 kilometers away.

During their visit, the teachers were told that Du is from an impoverished family, which cannot afford to support the schooling of its two children.

In Shouyang, as well as the rest of the country, tuition is free. However, students need to pay for their meals, lodging, extracurricular books and commute.

They were told that Du offered to work so that her younger sister could continue her education.

The school's management held a meeting to discuss assistance to Du. The school and the local government later offered a tailored financial support program for Du and she soon returned to school.

In Zuoquan county, a student called Cao Ruyue was faced with a dilemma similar to Du's. She was enrolled at Zuoquan Middle School in 2017 but decided to give up because her family could not financially support her education.

Once local poverty relief officials learned about her situation, they offered Cao financial assistance to support her three-year high school expenditure.

With the help of the government, Cao entered Shanxi University of Finance and Economics this summer.

In Shanxi as a whole, the province has mapped out multiple measures to help impoverished students continue their education.

For instance, there is a provincial education loan program to help students in all its 117 counties, cities and districts to pursue their education from preschool to postgraduate study.

Between 2016 and 2019, the province granted a total of 9.5 billion yuan ($1.46 billion) in loans to nearly 1.5 million students.

In Shanxi, education-related poverty-relief measures are not limited to school education.

Local universities and vocational schools in the province are using their resources in professionals and technology to help rural residents get out of poverty.

Shanxi Agricultural University, for instance, recently signed an agreement with Lyuliang city to help local farmers modernize agriculture.

In Lyuliang's Linxian county, SAU professor Gao Peifang recently launched a recycled economy park. Featuring integral operation of farming, orchards and animal husbandry, the project is expected to add an average annual income of 1,000 yuan to each farmer involved.

Li Yali contributed to this story.

Chang Mingchang (center), a professor from Shanxi Agricultural University, teaches farmers in Linxian county how to grow edible fungi. JIA LIJUN / FOR CHINA DAILY

Home of Di Renjie attracts more visitors to Taiyuan

By YUAN SHENGGAO

The address of fictional detective Sherlock Holmes, 221B Baker Street, is a popular tourist destination in London for fans of the legendary super sleuth.

In Taiyuan, the provincial capital of Shanxi, Tanghuai Park in Dicun village is somewhat the local equivalent of 221B Baker Street, because of its connection to Tang Dynasty (618-907) detective and judge Di Renjie.

Di started his political career as a detective and was later promoted to a high-ranking judge and finally the prime minister of the country during the reign of Empress Wu Zetian (624-705).

Di is a household name in China due to the TV series *Celebrated Judge Di*. In the TV drama, Di is portraited as a detective capable of dealing with all kinds of difficult cases.

According to historical documents, in the first year of his position as an imperial judge, Di presided over thousands of cases involving some 17,000 people. His judgment was so righteous and accurate that there was not a single complaint from those involved, it is said.

The ancient building in Tanghuai Park in Taiyuan is said to be the former residence of Di Renjie. DU JINDONG / FOR CHINA DAILY

Di's talent was not limited to judicial affairs. As prime minister he helped to build a prosperous period in ancient China.

Dicun, named after Di, is said to be the birthplace of this renowned official. And Tanghuai Park, which is said to be home to Di's former residence, was renamed Di Renjie Culture Park on Dec 1 in a hope to attract more tourists.

Previously a farming community, Dicun has become part of the city as Taiyuan has expanded in recent years.

Surrounded by high-rising buildings, the park is the among the few quiet places in the city.

Local residents in Dicun village still see Di Renjie Cultural Park as a place for relaxation and exercise.

It is a routine for Gou Ronghua to practice tai chi every morning in the park. He enjoys the martial art with the accompanying ancient music playing on his mobile phone. After the exercise, he is more relaxed and enjoys talking with visitors, sharing his knowledge about the area's "real history" — by real he means not from the TV drama — of Di Renjie, and his insight about the architecture in the park.

The elderly local said most of the buildings were built in a Tang Dynasty residential style.

His view is shared by Yang Bin, an official of the park. Yang pointed to a lush Chinese scholar tree, saying that it has a history of about 1,300 years and is said to have been planted by Di's mother.

"With an area of only 6,600 square meters, the small park is one of the places that can help people learn about the history of Taiyuan," Yang said.

Guo Yanjie contributed to this story.

This page is sponsored by the Shanxi provincial government.