



Taiyuan, the provincial capital of Shanxi, has developed into a prosperous city with a friendly environment for living and doing business in recent years. LI ZHAOMIN / FOR CHINA DAILY

Progressive policies transform Taiyuan's industrial expertise



Emerging industries growing in historic commercial hub

By YUAN SHENGGAO

Taiyuan, the capital of Shanxi province, used to be one of the business hubs in North China because of its long history of commercial prosperity.

Shanxi is known for the commerce that was developed by the local merchants, or Jinshang. It is said that Jinshang merchants dominated commercial circles in North China for about several centuries, starting from the Ming Dynasty (1368-1644).

Taiyuan was an important hub for the business activities of those successful merchants.

However, the city faced severe challenges in its development in the last century as a result of the decline of the Jinshang merchants in the late Qing Dynasty (1644-1911) and decades of wars and conflicts during the first half of the 20th century.

Its reliance on traditional heavy industries like coal mining and the environmental deterioration caused by such industries further challenged Taiyuan's sustainable development.

In recent years, Taiyuan's authorities have been working to find solutions to such problems, in hopes of regaining the city's glory and building it back into a better place for business to thrive again.

One of their efforts is a plan to develop a modern industrial system by upgrading traditional industries and fostering new and high-tech sectors including advanced manufacturing, new materials, information technology and biomedicines.

Qingxu, a county in Taiyuan, is an example of the successful upgrade of traditional industries.

Coking from coal used to be a pillar industry in the county, but the sector's importance to the local economy has decreased steadily with the establishment of a refined chemicals industrial park.

In the park, a number of coking companies have shifted their operational focus to the more value-added and less polluting coal-based chemical industries, according to local officials.

The officials said Shanxi's authorities are encouraging coal industry players to strengthen collaborations with companies in the electricity and chemical sectors for developing a circular economy that makes coal production and related industries more environmentally friendly, more efficient and more profitable.

The traditional manufacturers are encouraged to use advanced technologies to upgrade their production.

Taiyuan Iron and Steel, the leading steelmaker in Taiyuan, for

instance, has climbed to the upper part of the value chain by enhancing research and development and developing a number of cutting-edge products.

One such product is super-thin stainless steel foil with a thickness of less than 0.02 millimeters.

According to Liao Xi, an engineer responsible for the product's development, Taiyuan Iron and Steel is the first company in China that is capable of producing the product variety at such a slim thickness.

Liao said the product is used to take the place of aluminum foil in similar industrial applications, like in the fields of aerospace, electronics, petrochemicals and automobiles.

"Compared with aluminum foil, the super-thin stainless steel foil performs better in resistance to erosion, moisture and heat," Liao said.

The emerging industries are among sectors maintaining the strongest growth in Taiyuan.

Despite the COVID-19 pandemic, the emerging sectors reported a year-on-year increase of 4.7 percent in 2020, according to the Taiyuan statistics bureau.

Taiyuan plans to develop five emerging industries — next-generation IT, advanced manufacturing, new composite materials, green energy and upmarket consumer goods — into new drivers for the province's high-quality development.

More than 1,000 large projects, with a combined investment of 224.9 billion yuan (\$35 billion),

will be launched in the advanced manufacturing, new materials, new energy and IT sectors this year, which will further consolidate Taiyuan's development in emerging sectors.

The government has played an important guiding role in the transformation of Taiyuan's economy.

Taiyuan is the pilot of Shanxi's economic transformation as it is home to the Shanxi Transformation and Comprehensive Reform Demonstration Zone, which is the trial area for the new, innovative policies and practices relating to macroeconomic reform, improving the business environment and attracting investment.

Taiyuan's efforts to improve the business environment include simplifying approval procedures, opening e-government platforms and creating a service-oriented government.

According to the city government, Taiyuan has cut 58 approval procedures in recent years and more than 87 percent of the approval procedures can be dealt with online, which means a 65 percent decrease in handling time.

To implement an innovation-driven strategy, Taiyuan has set aside 3.5 billion yuan a year in special funds to support corporate R&D, talent cultivation, industrial transformation and upgrading.

Taiyuan is currently home to 80 key provincial laboratories and 78 engineering research centers, offering strong technological support for local enterprises.

Yang Yu contributed to this story.

Day lilies a flourishing source of city revenue

By YUAN SHENGGAO

Yang Qi, a farmer in the village of Tangjiapu of Datong, Shanxi province, has increased his income by growing day lilies.

The flower of the plant is a popular food ingredient nationwide.

"Day lily flowers are collected from late May, and I already foresee a good harvest based on the current growth status," Yang said.

What makes him happier is that large orders have already come in for his produce from across the country.

Yang is a member of Tangjiapu Village Economic Development, a local cooperative for the growing, production and sales of day lilies.

In 2020, the cooperative, which operates more than 30 hectares of day lily farms and a processing factory in Tangjiapu, sold more than 1,300 metric tons of day lily products, an increase of 60 percent from the previous year.

"The booming sales last year brought an additional revenue of nearly 3 million yuan (\$467,000) to the village, or 1,000 yuan to each household involved," Yang said.

"The market demand keeps growing and the prices are steady. Farmers' enthusiasm for growing the plant is further enhanced as the cooperative has helped to ease their worries in terms of sales."

According to Yang Jinyuan,

head of the day lily industry association in Datong, it has only been in recent years that day lily production has become an industry big enough to boost the local economy.

"Although day lilies in Datong have historically been known for their quality, there were still a number of problems to be solved in terms of scaling up the industry," Yang Jinyuan said.

Solutions to these problems included technologies to improve output and farming efficiency, better irrigation systems and more enterprises engaged in processing day lily flowers.

According to Yang Jinyuan, Datong is currently home to 175 enterprises engaged in processing day lilies, including 34 companies and 141 cooperatives. "Their processing capacity can meet the demands of all day lily growers in the city."

In 2020, Datong reported a revenue of 2 billion yuan for the day lily industry, making it an important pillar in the local rural economy.

According to a development plan for the industry, Datong's day lily growing area is expected to reach 20,000 hectares in 2022. And the output value of the industry and related sectors is estimated to surpass 10 billion yuan by 2025.

Wu Jia contributed to this story.



Farmers collect day lily flowers in one of the plantations in Datong. LIU LUJIN / FOR CHINA DAILY

Family built feng shui village over centuries

By YUAN SHENGGAO

The Yellow River was a crucial transport route for the renowned Jinshang merchants who are said to have created nearly 500 years of prosperity for Shanxi since the Ming Dynasty (1368-1644).

One of the important trade hubs along the river is the ancient town of Qikou in Linxian county, Shanxi province. From Qikou, cargoes were shipped to Baotou in the Inner Mongolia autonomous region and went all the way to Russia. Home to more than 400 companies during Ming and Qing (1644-1911) dynasties, Qikou was known as the "No 1 town by the Yellow River".

Nowadays, with highways and railways taking over from the river as the major means of transport, commerce declined in Qikou. The town has developed into a destination for tourists.

Among all the attractions in Qikou, Xiwan village is a must-see sight because of its history related to the Jinshang merchants, groups of old buildings and an ancient village built according to the traditional feng shui theory.

Chen is the dominant family name in the village and Xiwan is said to have been developed by the ancestors of the family in the late Ming Dynasty.

The family's history book says that the founder of the village was Chen Xianmo, a migrant from the neighboring Fangshan county. Chen began his business as a porter at one of the Yellow River harbors.

After the family accumulated its

fortune by transporting cargoes over several decades, its third generation began the massive construction of their homes. The construction work continued for more than 200 years, creating a building complex consisting of seven courtyards.

The village continued to expand as the family branched out and other families came in.

Despite the expansion, the village is developed strictly according to the feng shui theory.

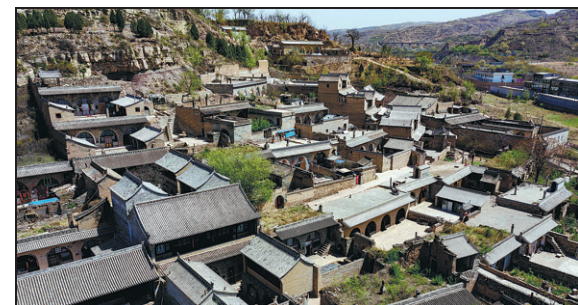
Feng shui is the ancient Chinese science of studying the environment in relation with a residence and people's fortune. When building a residence or a settlement, the ideal feng shui layout is to have four mountains and a waterway in its surroundings.

The village is surrounded by four mountains that are traditionally called "blue dragon" in the left, "white tiger" in the right, "red phoenix" in the front and "black tortoise" in the rear, creating an enclosed and safe environment. However, the waterway — the Qiushui River — offers passage to the outside.

The village is separated by five alleys, which echo the five feng shui elements of metal, wood, water, earth and fire and represent the five branches of the Chen family.

The village was built on a mountain slope and offers an imposing view of the Qiushui River, a branch of the Yellow River.

Peng Ke'er contributed to this story.



The ancient village of Xiwan is known for its design according to feng shui. LIU LIANGLIANG / FOR CHINA DAILY

Research begins to assist province's energy revolution

By YUAN SHENGGAO

A research project on the clean and efficient use of coal was recently launched by the Shanxi Coal-Based Chemicals Research Institute in Taiyuan on April 20, marking a new step for the carbon peaking and neutrality initiative in the province.

Another project launched by the institute for coal-liquefaction technologies and industrial applications was included on the Ministry of Science and Technology's list of key research and development projects. It was eligible for funding of 60 million yuan (\$9.34 million) from the ministry.

"These projects are expected to play an important role in Shanxi's energy revolution and its carbon-neutrality initiative," said Zhang Kejun, deputy chief of the Shanxi Department of Science and Technology.

Carbon peaking and neutrality is a new concept of sustainability in China. Central authorities have recently proposed new targets for carbon reduction — to realize a carbon peak in 2030 and carbon neutralization in 2060.

As one of the biggest energy resource developers in China, Shanxi has paid close attention to the carbon neutrality strategy.

Han Dong'e, head of the energy economy research institute of the



Researchers at an institution in Taiyuan show a piece of composite material developed from coal. LIU TONG / FOR CHINA DAILY

Shanxi Academy of Social Sciences, said Shanxi should work harder than other provinces in China to reach its peak carbon output in 10 years.

"Although Shanxi is implementing an economic transformation to reduce its reliance on coal and diversify into multiple emerging sectors, its carbon dioxide emission is still among the largest in China," Han said. "This is a serious challenge for Shanxi to reach its carbon-peaking target."

The researcher said Shanxi should address three problems to reach the goal — growing demands for energy, a high ratio of coal compared with

other forms of energy and high energy consumption in industries.

"While the demand for energy keeps growing to meet Shanxi's rapid economic expansion, the province should shift its focus to new, clean energy resources while improving the efficiency of energy utilization," Han said.

Shanxi is urging coal-consuming enterprises to adopt new technologies for the efficient and clean use of coal. It also calls for the diversified use of coal — from fuel to producing chemicals and other industrial ingredients.

The project for the research on

clean and efficient use of coal, for instance, will focus on producing coal-based chemicals. This includes kerosene and lubricant oil using the latest coal-liquefaction technologies.

Taiyuan University of Technology, a renowned local establishment, has formed a team devoted to the research on technologies to improve the combustion efficiency of coal.

Its most recent move is a project developed in cooperation with local electricity company Xipo Power Generation.

"Improving coal combustion efficiency is crucial to lowering emissions of carbon dioxide and other polluting gases," said Jiang Ping, an engineer in charge of the project. "Our project aims to help hundreds of coal-fired power plants in Shanxi improve their economic and environmental benefits."

Han of the Shanxi Academy of Social Sciences said a radical transformation of Shanxi's energy industry is required to reach the carbon-neutrality target.

"We should get rid of our reliance on fossil fuels including coal and petroleum and increase investment in clean energy like solar and wind power," Han said. "The transformation is feasible as Shanxi is rich in solar- and wind-power resources."

Li Shu contributed to this story.